Persatuan Perinatal Malaysia

JKN Melaka

30th Regional Annual Congress of the Perinatal Society of Malaysia

Embracing SDGs:

ENGAGE, EDUCATE & EMPOWER

VISIT Melaka 2024

Courtyard by Marriott Melaka 2024

Table of Contents

PERINATAL SOCIETY OF MALAYSIA COUNCIL MEMBERS 2023/2024

President	:	Assoc. Prof. Dr Neoh Siew Hong
President Elect	:	Prof Dr Jamiyah Binti Hassan
Past President	:	Dr TP Baskaran
Secretary	:	Dr. Rozita Abdul Rashid
Assistant Secretary	:	Dr. Wong Chee Sing
Treasurer	:	Dr. Cheong Shu Meng
Councillors	:	Prof Dr Zaleha Abdullah Mahdy Matron Santhi Verasingam SN Norwahidatul Akmal Binti Ahmad
Co-opted members	:	Dr. See Kwee Ching (NRP) Dr. Ang Ee Lee (MNNR)

30TH PSM CONGRESS ORGANISING COMMITTEE

Chairperson	:	Assoc. Prof. Dr. Neoh Siew Hong
Co-Chairperson	:	Prof Dr Jamiyah Binti Hassan
Secretary	:	Dr. Rozita Abdul Rashid
Assistant Secretary	:	Dr. Wong Chee Sing
Treasurer	:	Dr. Cheong Shu Meng
Business	:	Dr. Irene Cheah Guat Sim Prof Dr Jamiyah Hassan Matron Santhi Verasingam
Social events/Helpdesk	:	Dr Cheong Shu Meng Matron Santhi Verasingam SN Norwahidatul Akmal Binti Ahmad
Logistics & Audiovisual	:	Dr. Wong Chee Sing Dr. Cheng Shu Meng
Souvenir Programme	:	Dr Rozita Abdul Rashid Dr. Irene Cheah Guat Sim
Websites	:	Dr Irene Cheah Guat Sim Dr Wong Chee Sing
Local Organising Committee	:	Dr Angeline Wan Seng Lian Dr Gan Eu Ann Dr Nuryuziliana Dolmat Dr Haireya Hafiz Dr Lee Chiu Xian Dr Irna binti Mohd Yusoff Dr Norzafirah binti Md Shapie Dr Lee Pei Zhi KJ Nasrul Hasney binti Hamdan

30TH PSM CONGRESS SCIENTIFIC COMMITTEE

Chairperson	:	Prof. Dr.Jamiyah Binti Hassan
Co-Chairperson	:	Assoc. Prof. Dr Neoh Siew Hong
Secretary	:	Dr. Rozita Abdul Rashid
Assistant. Secretary	:	Dr. Wong Chee Sing
Abstracts for Free Papers	:	Dr. Chye Joon Kin Assoc. Prof. Dr Azanna Ahmad Kamar Prof. Dr Zaleha Abdullah Mahdy
Committee Members	:	Prof. Emeritus Dr Boo Nem Yun Prof Dr Zaleha Abdullah Mahdy Prof. Dr. Cheah Fook Choe Prof Dr. Nazimah Idris Dr TP Baskaran Associate Prof Dr Chee Seok Chiong Dr Nazdratulaiman Wan Nordin Matron Santhi Verasingam

PATRON OF THE PERINATAL SOCIETY MALAYSIA

Y.T.M. Raja Dato' Seri Eleena binti Almarhum Sultan Azlan Muhibbuddin Shah Al-Maghfur-lah

WELCOME MESSAGE

-The Organising Chairman/PSM President

Dear colleagues and friends,

It is my pleasure to welcome all delegates to the 30th Regional Annual Congress of the Perinatal Society of Malaysia. To our overseas speakers, we wish you a warm “Selamat Datang”.

The congress this year is organized in collaboration with the Melaka State Health Department. It is a platform for perinatal healthcare professionals to engage in meaningful dialogue, exchange cutting-edge ideas, and build lasting networks that will drive the future of perinatal care.

Our theme this year, “Embracing SDGs: Engage, Educate and Empower,” aligns seamlessly with the United Nations Sustainable Development Goals. Our collective mission is to address and prevent maternal and neonatal mortality and morbidities. While we have achieved significant progress in these areas, our journey is far from complete, and this congress is a crucial step in our ongoing efforts.

The organizing committee has thoughtfully chosen Melaka, a city steeped in rich cultural heritage and history, as the venue for this year’s congress. This choice coincides with Visit Melaka Year 2024. We hope you take the opportunity to enjoy the cultural and historical treasures and savour the local Peranakan cuisines that Melaka has to offer.

We extend our deepest gratitude to our industry partners and sponsors, whose generous support has been instrumental in making this annual congress possible.

I wish all delegates an enjoyable and productive congress over the next few days. Let us engage, educate, and empower each other as we work towards our shared goal of improving perinatal health outcomes.

Thank you very much and best wishes,

Associate Professor Dr. Neoh Siew Hong
Organising Chairperson
30th Regional Annual Congress of the Perinatal Society of Malaysia
President of the Perinatal Society of Malaysia 2023/2024

WELCOME MESSAGE

- The Scientific Committee Chairperson

Dear Colleagues and friends,

On behalf of the organizing committee of the Perinatal Society of Malaysia, I am delighted to invite you to the 30th Regional Annual Congress, which is being held at the Marriott Courtyard Hotel Melaka from August 14th to 17th, 2024. The theme for this year's congress is Embracing SDGs: Educate, Engage, Empower. The recent COVID-19 pandemic has brought many challenges globally and highlighted the importance of working together, sharing resources, and effective communication without boundaries. Education and empowering our people are essential to leading to transformative changes for future generations.

The five "Ps" of the Sustainable Development Goals (SDGs) are "People, Planet, Prosperity, Peace and Partnerships." The committee has worked very hard to ensure the scientific program is comprehensive and aligned with the SDGs. I would like to take this opportunity to thank all the speakers who will share their expertise, experiences, and scientific ideas and innovations during the congress.

I believe the scientific content of this congress will be invaluable to all participants to engage, educate, and empower the rest of your colleagues and communities who did not have the opportunity to attend the congress. Together, we can embrace the changes and take the step to a better future.

I am excited to welcome you to the historic city of Melaka. Do not forget to make new friends, rekindle old ones, and check out the sights and sounds this city has to offer!

Prof Dr Jamiyah Hassan
Scientific Committee Chairperson
30th Regional Annual Congress of the Perinatal Society of Malaysia 2024

Congress International Faculty

Andrew Shennan
Professor of Obstetrics
King's College London

Arun Sett
Consultant Neonatologist
Joan Kirner Women's
& Children's Hospital
Sunshine Hospital Melbourne

Chan Shu Hui
Neonatal Nurse Specialist
KK Women's & Children's
Hospital Singapore

Chua Mei Chien
Associate Professor &
Consultant Neonatologist
KK Women's & Children's Hospital
Singapore

Patricia Woods
Consultant Neonatologist
King Edward Memorial Hospital
Perth

Serene Thain Pei Ting
Consultant Maternal
Fetal Medicine
KK Women's & Children's Hospital
Singapore

Socorro De Leon-Mendoza
Chairperson & President
Kangaroo Mother Care Foundation
Philippines

Stuart Hooper
Professor & Senior Principal
Research Fellow
National Health & Medical
Research Centre Australia

Tan Lay Kok
Associate Professor & Consultant
Maternal Fetal Medicine
KK Women's & Children's
Hospital Singapore

Congress Local Faculty

Aida Hani Mohd Kalok
Associate Professor & Consultant
Obstetrician & Gynaecology
Universiti Kebangsaan Malaysia

Azanna Ahmad Kamar
Associate Professor
Consultant Neonatologist
Universiti Malaya

Cheah Fook Choe
Professor of Paediatrics &
Neonatology
Universiti Kebangsaan Malaysia

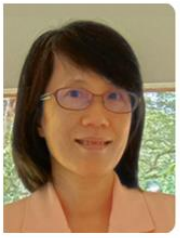
Chee Seok Chiong
Assoc Professor
Consultant Neonatologist
Taylor's University School of
Medicine

Choo Yao Mun
Associate Professor
Consultant Neonatologist
Universiti Malaya

Diana Chin Sow Wai
Matron
Hospital Sultan Abdul Halim
Kedah

Faizah Mohd Zaki
Associate Professor &
Consultant Paediatric Radiologist
Universiti Kebangsaan Malaysia

Fathi Ramly
Lecturer, Consultant
Obstetrician & Gynaecologist
Universiti Teknologi MARA



Foong Siew Cheng
Associate Professor &
Consultant Paediatrician
RCSI & UCD Malaysia
Campus

Foong Wai Cheng
Associate Professor &
Consultant Paediatrician
RCSI & UCD Malaysia
Campus

Gan Chin Seng
Professor & Consultant
Paediatric Intensivist
Universiti Malaya

Hafatin Fairos Tamaddun
Consultant Paediatric Surgeon
Hospital Tunku Azizah
Kuala Lumpur

Hamizah Ismail
Professor & Consultant
Maternal Fetal Medicine
International Islamic University

Jamiyah Hassan
Professor & Consultant
Maternal Fetal Medicine
Universiti Teknologi MARA

Jemilah Mahmood
Professor of Planetary Health
Sunway University

Koo Ho Wai
Paediatrician
Hospital Raja Perempuan Bainun
Ipoh

Mas Irfan Jaya Mahamooth
Lecturer, Obstetrician &
Gynaecologist
Universiti Teknologi MARA

Nadzratulaiman Wan Nordin
Senior Lecturer
Obstetrics & Gynaecology
Universiti Teknologi MARA

Nazimah Idris
Professor & Consultant
Obstetrician & Gynaecologist
IMU Healthcare

Ngu Lock Hock
Consultant in Clinical Genetics
& Inherited Metabolic Disease
Hospital Tunku Azizah

Congress Local Faculty (cont'd)

Noraihan Ibrahim
Neonatologist
Hospital Raja Perempuan Zainab II, Kota Bharu

Norfarahdina Ramli
Cardiologist
Hospital Sultan Idris Shah Serdang

Quek Yek Song
Consultant Obstetrician & Gynaecologist
Columbia Asia Hospital Iskandar Puteri, Johor

Rahana Abd Rahman
Associate Professor & Consultant Maternal Fetal Medicine
Hospital Tunku Muhriz
Universiti Kebangsaan Malaysia

Raman Subramaniam
Consultant Obstetrician & Gynaecologist
Fetal Medicine & Gynaecology Centre
Petaling Jaya

Roziah Husin
Consultant Maternal & Fetal Medicine
Hospital Tengku Ampuan Afzan
Kuantan

Sangita Dharshini Terumalay
Consultant Paediatric Neurologist
Thomson Hospital
Kota Damansara

Shareena Ishak
Associate Professor &
Consultant Neonatologist
Universiti Kebangsaan Malaysia

Siti Farah Alwani Mohd Nawi
Senior Lecturer in Medical Microbiology
Universiti Teknologi MARA

Tan Kai Ning
Neonatologist
Hospital Raja Permaisuri Bainun Ipoh

TP Baskaran
Consultant Maternal Fetal Medicine
Gleneagles Hospital
Kuala Lumpur

Voon Hian Yan
Maternal Fetal Medicine Specialist
Sarawak General Hospital
Kuching

Wong Chee Sing
Neonatologist
Hospital Raja Perempuan Bainun Ipoh

Yap Hsiao Ling
Consultant in Paediatric Emergency Medicine
Hospital Tunku Azizah
Kuala Lumpur

Zaleha Abdullah Mahdy
Professor of
Obstetrics & Gynaecology
Universiti Kebangsaan Malaysia

Zuraidah Abdul Latif
Consultant Neonatologist
Hospital Ampang

WORKSHOP 1
Neonatal Lung Ultrasound Workshop

Wednesday, 14 August 2024

Time	Programme	
0800 - 0830	Registration & Coffee	
0830 - 0900	Introduction: Lung Ultrasound in Neonatology	
0900 - 0930	Fun Physics!	
0930 - 1015	Hands-on Sessions:	
	Phantom Models: A lines, B lines, Hepatisation (Artifact Generation With Sponges/ Chest Models)	Hand-held Ultrasound Practice With Volunteers (Basic Identification of Anatomy, Pleural Sliding, Artifacts, Planes of Scanning)
1015 - 1045	Coffee Break	
1045 - 1130	Hands-on Sessions (continue)	
1130 - 1200	Acute Respiratory Conditions (Pneumothorax, ETT Position/Surfactant Replacement)	
1200 - 1230	Lung Aeration & Volume	
1230 - 1400	Lunch	
1400 - 1500	Hands-on Sessions:	
	Phantom Models: Pneumothorax Pleural Effusions Lung Aeration	Human Models: Lungs Airway/ Vocal Cords Diaphragms
1500 - 1600	Quiz Time	
1600 - 1630	Closing Remarks, General Discussion	

Instructors:
Dr Patricia Woods, Dr Arun Sett, Assoc. Prof Dr Faizah Mohd Zaki, Dr Yap Hsiao Ling, Dr Wong Chee Sing, Dr Tan Kai Ning

In Collaboration

CVS MEDICAL

INFINITY MEDICAL

TA Healthcare

WORKSHOP 2
Kangaroo Mother Care Workshop

Wednesday, 14 August 2024

Time	Programme	Speakers/Facilitators
0800 - 0830	Registration & Coffee	
0830 - 0845	Welcome Speech	Assoc. Prof. Dr Shareena Ishak
0845 - 0930	Introduction to KMC	Assoc. Prof. Dr Foong Wai Cheng
	Group Work	*All facilitators*
0930-1000	The Science Behind KMC	Dr Socorro Mendoza
	Group Work	*All facilitators*
1000-1030	Coffee Break	
1030 - 1130	Communication Fr Successful KMC	Assoc. Prof. Dr Foong Siew Cheng
	Group Work	*All facilitators*
1130 - 1300	The Practicals of KMC: Positioning With Wrap & Long Cloth, Diaper Changing, Phototherapy, Sitting & Standing Transfer	Assoc. Prof. Dr Foong Wai Cheng
	Group Work	*All facilitators*
1300 -1400	Lunch	
1400-1445	Kangaroo Nutrition: Establishing, Facilitating & Sustaining Breastfeeding	Assoc. Prof. Dr Foong Siew Cheng
	Group Work	*All facilitators*
1445 - 1515	Monitoring	Assoc. Prof. Dr Foong Siew Cheng
1515 - 1600	Bringing Everything Together: Scenarios For Decision Making	*All facilitators*
1600 – 1645	How We Can Make KMC Work In Our Ward	*All facilitators*
1645 - 1715	Closing, Group Photo Tea	

Facilitators:
Dr Socorro Mendoza, Assoc. Prof. Dr Shareena Ishak, Assoc. Prof. Dr Foong Siew Cheng, Assoc. Prof. Dr Foong Wai Cheng, Dr Noraihan Ibrahim, Dr Koo Ho Wai, Matron Diana Chin

WORKSHOP 3
Maternal Immunisation Workshop

Wednesday, 14 August 2024

Time	Programme	Speakers
1200-1330	Registration & Lunch	
1330-1340	Welcome Address	Prof Dr Jamiyah Hassan
1340-1400	The Rationale of Vaccination In Pregnancy	Dr Siti Farah Mohd Nawi
1400-1420	The Burden of Influenza In Pregnant Women and Young Infants	Dr Roziah Husin
1420-1440	Influenza Vaccination In Pregnancy: Safety, Immunogenicity, Effectiveness	Assoc Prof Dr Aida Hani Mohd Kalok
1440-1500	The Burden of Pertussis In Young Infants	Prof Dr Jamiyah Hassan
1500-1520	Pertussis Vaccination In Pregnancy: Safety, Immunogenicity, Effectiveness	Dr Fathi Ramly
1520-1540	The Burden of COVID-19 On Pregnant Women	Dr Voon Hian Yan
1540-1600	Tea Break	
1600-1620	COVID-19 Vaccination In Pregnancy: Safety, Immunogenicity, Effectiveness	Dr Voon Hian Yan
1620-1640	The Burden of RSV In Young Infants	Dr Raman Subramaniam
1640-1700	RSV Vaccine: Safety, Immunogenicity, Effectiveness	Prof Dr Jamiyah Hassan
1700-1715	Future Vaccine	Dr Raman Subramaniam
1715-1755	Discussions	All Panels
1755-1800	Closing	Prof Dr Jamiyah Hassan

In Collaboration

Obstetrical and Gynaecological Society of Malaysia

Our Sponsors

GSK Pfizer sanofi

Congress Scientific Programme Day 1

THURSDAY, 15 AUGUST 2024

Time/ Date	Programme	
0715-0800	Registration	
0800-0815	**MAIN BALLROOM** Welcome Address by President of PSM & Organising Chairperson	
0815-0900	**MAIN BALLROOM** **P1 : FAOPS PLENARY LECTURE** *Chairperson: Jamiyah Hassan* **Preterm Labour : Evidence and Practice** *Andrew Shennan*	
0900-1030	**BALLROOM 3** **Symposium 1** **Pre-eclampsia** *Chairperson: Jamiyah Hassan / Roziah Husin*	**MAIN BALLROOM** **Symposium 2** **Genetics & Metabolic** *Chairperson: Chee Seok Chiong / Wong Chee Sing*
0900-0930	**S1A** **Screening and Use of Biomarkers** *Andrew Shennan*	**S2A** **Genomics in Newborn Screening** *Ngu Lock Hock*
0930-1000	**S1B** **Early Onset vs Late Onset: Challenges in Management** *Voon Hian Yan*	**S2B** **Umbilical Cord Blood Screening for Infantile Onset Pompe Disease** *Cheah Fook Choe*
1000-1030	**S1C** **Pre-eclampsia and Cardiac Disease** *Tan Lay Kok*	**S2C** **Approach to Metabolic Emergencies** *Ngu Lock Hock*
1030-1100	**TEA BREAK & POSTER JUDGING**	
1100-1230	**BALLROOM 3** **Symposium 3** **Perinatal Mental Health** *Chairperson: Zaleha Abdullah Mahdy / TP Baskaran*	**MAIN BALLROOM** **Symposium 4** **Neonatal Nutrition** *Chairperson: Irene Cheah / Shareena Ishak*
1100-1130	**S3A** **Screening of Mental Health in Pregnancy** *Serene Thain Pei Ting*	**S4A** **Donor Human Milk for Preterm Infants** *Chua Mei Chien*
1130-1200	**S3B** **The Association of Stress and Adverse Outcomes in Pregnancy** *Jamiyah Hassan*	**S4B** **Models of Human Milk Sharing in the Islamic Communities** *Hamizah Ismail*
1200-1230	**S3C** **Postpartum Mental Stress Disorders** *Nadzratulaiman Wan Nordin*	**S4C** **Establishment of Regional Mother's Milk Sharing Centres** *Zuraidah Abdul Latif* **S4D** **Optimising Post-discharge Nutrition in Very Preterm Infants** *Chua Mei Chien*
1230-1400	**MAIN BALLROOM** **SANOFI LUNCH SYMPOSIUM** *Chairperson: Jamiyah Hassan* **Expert Forum on Maternal Immunization in Malaysia** *Voon Hian Yan and Fathi Ramly*	
1400-1445	**MAIN BALLROOM** **P2: PLENARY LECTURE 2** *Chairperson: Neoh Siew Hong* **Kangaroo Mother Care : From Science to Practice** *Socorro De Leon-Mendoza*	
1445-1615	**BALLROOM 3** **Symposium 5** **Optimising Pre-conception Health** *Chairperson: Rahana Abd Rahman / Nazimah Idris*	**MAIN BALLROOM** **Symposium 6** **Neonatal Surgical Conditions** *Chairperson: Rozita Abdul Rashid / Noraihan Ibrahim*
1445-1515	**S5A** **Optimising Preconception Health of High-risk Women** *Serene Thain Pei Ting*	**S6A** **Ultrasound Imaging of GI Problems in Neonates** *Faizah Mohd Zaki*
1515-1545	**S5B** **Effective Contraception** *Mas Irfan Jaya Mahamooth*	**S6B** **Optimal Timing for CDH Repair** *Hafatin Fairos Tamaddun*
1545-1615	**S5C** **Investigations of Stillbirths** *TP Baskaran*	**S6C** **Management and Challenges Post-CDH Repair** *Gan Chin Seng*
1615-1630	**AFTERNOON TEA**	
1630 - 1730	**Ballroom 3** **31st Annual General Meeting** Perinatal Society of Malaysia	

Congress Scientific Programme Day 2

FRIDAY, 16 AUGUST 2024

Time/ Date	Programme	
0715-0815	Registration	
0815-0900	**MAIN BALLROOM** **P3 : DATO' DR LIM NYOK LING MEMORIAL LECTURE** *Chairperson: Cheah Fook Choe* **Physiological Basis of Delayed Cord Clamping** *Stuart Hooper*	
0900-1030	**BALLROOM 3** **Symposium 7** **Infections in Pregnancy** *Chairperson: TP Baskaran/ Nadzratulaiman Wan Nordin*	**MAIN BALLROOM** **Symposium 8** **Haematology & Infections** *Chairperson: Angeline Wan / Cheong Shu Meng*
0900-0930	**S7A** **GBS Infection in Pregnancy** *Nazimah Idris*	**S8A** **Can We Avoid Blood Transfusion in Extremely Preterm Babies?** *Chee Seok Chiong*
0930-1000	**S7B** **Implications of GBS Infection in Newborns** *Choo Yao Mun*	**S8B** **Use and Misuse of Blood Products in Newborns** *Tan Kai Ning*
1000-1030	**S7C** **Use of Corticosteroids in High-risk Pregnancy** *Andrew Shennan*	**S8C** **The 4Ds of Antimicrobial Stewardship - A Decision Making Conundrum** *Azanna Ahmad Kamar*
1030-1100	**TEA BREAK**	
1100-1230	**BALLROOM 3** **Symposium 9** **High-Risk Pregnancies** *Chairperson: Hamizah Ismail / Aida Kalok*	**MAIN BALLROOM** **Symposium 10** **Helping Babies To Breathe** *Chairperson: Wong Chee Sing / Tan Kai Ning*
1100-1130	**S9A** **Cardiac Disease in Pregnancy** *Norfarahdina Ramli*	**S10A** **Lung Aeration at Birth: Does the "Open Lung" Concept Apply?** *Stuart Hooper*
1130-1200	**S9B** **Challenges in Adolescent Pregnancy** *Rahana Abd Rahman*	**S10B** **Beyond Ribs and Oxygen: Sonographic Estimation of Neonatal Lung Volume** *Arun Sett*
1200-1230	**S9C** **Obesity and Pregnancy: Obstetrician's Challenge** *Tan Lay Kok*	**S10C** **The Succession of Lung Ultrasound in Acute Respiratory Care** *Patricia Woods*
1230-1400	**MAIN BALLROOM** **ASTRAZENECA LUNCH SYMPOSIUM**	
1400-1615	**BALLROOM 3 & CM IV** **ORAL FREE PAPER PRESENTATIONS**	
1615-1630	**AFTERNOON TEA**	
1930-2230	**BANQUET DINNER** Tradition meets Elegance	

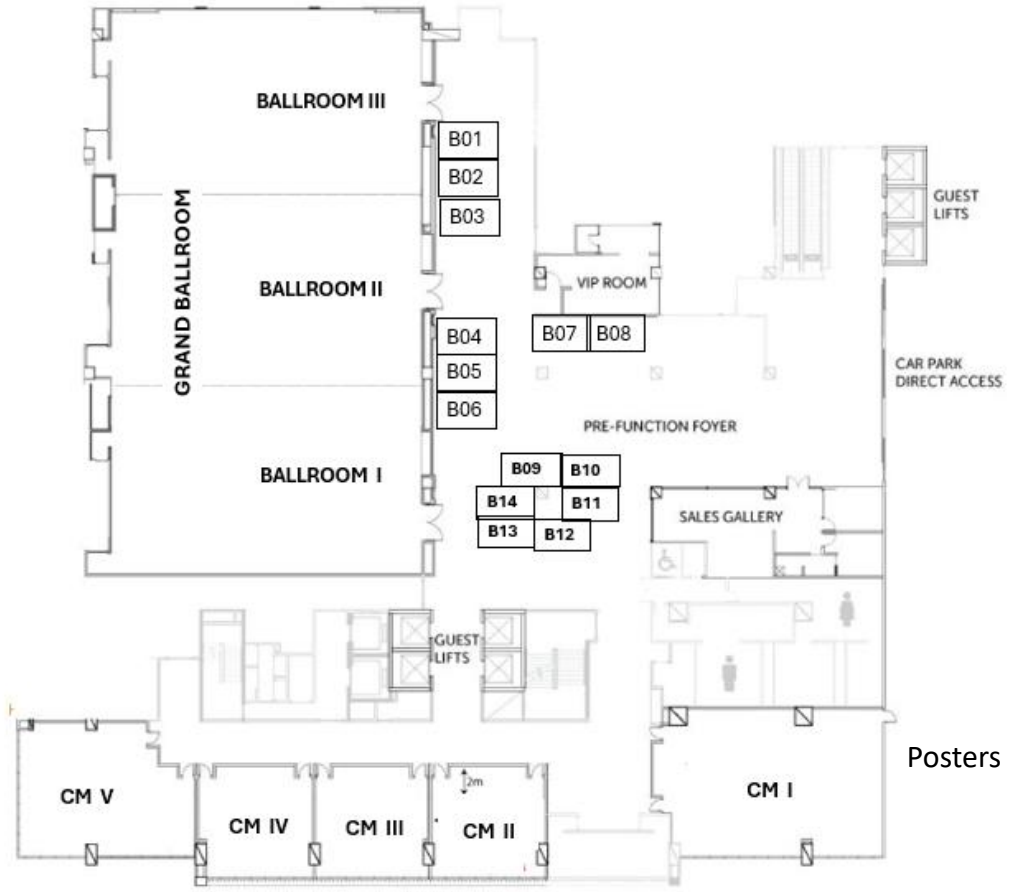
Congress Scientific Programme Day 3

SATURDAY, 17 AUGUST 2024

Time/ Date	Programme	
0715-0815	Registration	
0815-0900	**MAIN BALLROOM** **P4: PLENARY LECTURE 4** *Chairperson: Nazimah Idris* **The Current Landscape of Non-invasive Prenatal Testing** *Tan Lay Kok*	
0900-1030	**BALLROOM 3** **Symposium 11** **Artificial Intelligence (AI) in Obstetrics** *Chairperson: Rahana Abdul Rahman / Nadzratulaiman Wan Nordin*	**MAIN BALLROOM** **Symposium 12** **Neuroprotection** *Chairperson: Boo Nem Yun / Neoh Siew Hong*
0900-0930	**S11A** **Artificial Intelligence: New Paradigm in Obstetrics** *Quek Yek Song*	**S12A** **Antenatal & Intrapartum Neuroprotective Interventions** *Zaleha Abdullah Mahdy*
0930-1000	**S11B** **Validation of AI in Obstetrics** *Jamiyah Hassan*	**S12B** **Neuroprotective Bundle Care for Preterm Neonates** *Chan Shu Hui*
1000-1030	**S11C** **Improve Patient Monitoring with AI** *Fathi Ramly*	**S12C** **Pharmacological & Emerging Therapies in Neonates with Seizures** *Sangita Dharshini Terumalay*
1030-1100	**TEA BREAK**	
1100-1200	**MAIN BALLROOM** **FORUM** **Planetary Health:** **Impact on Maternal and Neonatal Wellbeing** *Moderator: Jamiyah Hassan* *Panelists:* *Tan Sri Jemilah Mahmood* *Tan Lay Kok* *Azanna Ahmad Kamar*	
1200-1400	**CLOSING CEREMONY** **LUNCH**	

Main Sponsors

CONGRESS LAYOUT – Courtyard by Marriot Melaka Ballrooms, Booths and Poster locations



Posters in CM I, II & V

LOCATION OF BOOTHS

	Company Name	Booth No.
1.	ARASY Medicare System	B01
2.	AstraZeneca(M) Sdn Bhd	B05
3.	CVS MEDICAL	B02
4.	Danmedik Sdn Bhd	B12
5.	Daya Cergas (M) Sdn Bhd	B08
6.	DRAEGER Malaysia Sdn Bhd	B06
7.	Fresenius Kabi Malaysia	B11
8.	Hospimetrix Sdn Bhd	B13
9.	Infinity Medical Sdn Bhd	B04
10.	Insan Damai Sdn Bhd	B10
11.	Pharm-D	B03
12.	Schmidt BioMed Tech	T2
13.	SY Medik Sdn Bhd	B09
14.	TOYO ADTEC Sdn Bhd	B07
15.	UNAM Pharmaceutical Sdn Bhd	B14

PLENARY LECTURE 1

FAOPS PLENARY LECTURE
15th August 2024, Thursday
Chairperson: Jamiyah Hassan

P1: Preterm labour: Evidence & Practice
Andrew Shennan

P1: Preterm labour: Evidence & Practice

Andrew Shennan

Preterm labour and early delivery is one of the worst health problems contributing to lost human capital in the world. In recent years we have improved our understanding of the multiple aetiologies of early birth and therefore our ability to address the problem. Risk factors are variable and require very different strategies to reduce their impact. The evidence base of prophylactic therapies is evolving, and there are now specific recommendations for using cerclage and progesterone, although the populations targeted need consideration. We now have tools that can accurately predict preterm delivery in both symptomatic and asymptomatic women. These range from cervical length to multiple biochemical markers. Modern technology can aid in calculating risk through apps. Simple reactive therapies can make a big difference, including antenatal steroids and magnesium sulphate. Delayed cord clamping, kangaroo care and breast feeding are important interventions to improve mortality in preterm babies and are underutilised. This talk will review the modern evidence base in this area.

PLENARY LECTURE 2

PLENARY LECTURE 2

16h August 2024, Friday
Chairperson: Neoh Siew Hong

P2: Kangaroo Mother Care: From Science to Practice
Socorro De Leon-Mendoza

P2: Kangaroo Mother Care: From Science to Practice

Socorro De Leon-Mendoza

Kangaroo Mother Care (KMC) is defined as a neonatal care intervention composed of three(3) essential elements: 1) Kangaroo position – skin-to-skin contact between mother and baby, held in upright position on the mother's chest, between her breasts 2) Nutrition by exclusive breast milk feedings 3) Ambulatory KMC - Early discharge from the hospital with close follow-up in outpatient settings &/or community.

KMC was originally a practice in Colombia (1978), before its scientific basis was investigated through systematic research and analysis almost 20 years later (1996). Today we have the privilege of appreciating the compelling scientific evidence to apply KMC as the standard of care for all high risk preterm and small babies.

Each element of the intervention is founded on a strong scientific & basic human physiology and biology not easily recognized (and accepted) in a technology-driven neonatal intensive care unit, managed by highly specialized medical and paramedical professionals. The Kangaroo position essentially provides the newborn with human warmth, auto-thermoregulation, audiologic and kinaesthetic stimulation, immunologic protection and recently, neurologic protection of the developing brain. It further supports the mother-baby bonding process, decreases maternal anxiety and fosters mental health and well-being for both mother and baby through neuro-endocrinologic processes. Breast Milk feedings provide the essential nutrients for growth, specific antibodies against common and nosocomial infections, and promotes appropriate feeding behaviours that impact on later life. Early Discharge from special care neonatal units empowers the family to overcome socio-economic issues related to prolonged hospital stay and allows engagement with community-support groups that is vital for continuation of ambulatory KMC. Detailed scientific evidence supporting all the above will be presented during the plenary session.

PLENARY 3

DATO' DR LIM NYOK LING MEMORIAL LECTURE
16th August 2024, Friday
Chairperson: Cheah Fook Choe

P3: Physiological Basis of Delayed Cord Clamping
Stuart Hooper

P3: Physiological Basis of Delayed Cord Clamping

Stuart Hooper

Debate about the timing of umbilical cord clamping (UCC) after birth can be traced back to Aristotle in ~300 BC and Erasmus Darwin in 1801. However, the physiological consequences of UCC have only recently been identified, largely due to a more detailed understanding of how infants transition to newborn life.

In adults, right ventricular preload is derived from venous return from the upper and lower body and its output is entirely directed through the lungs, which provides all of the venous return and preload for the left ventricle. In contrast, in the fetus the majority (~90%) of right ventricular output by-passes the lungs and left side of the heart by flowing through the ductus arteriosus (DA) into the descending aorta. Thus, fetal pulmonary blood flow (PBF) is low and pulmonary venous return provides only a small fraction of left ventricular preload. Instead, the fetus' left ventricle receives most of its preload from umbilical venous return which passes through the ductus venosus and foramen ovale to enter the left atrium. As the placenta receives 30-50% of fetal cardiac output, the sudden loss of umbilical venous return caused by UCC greatly reduces left ventricular preload and hence cardiac output. Cardiac output then remains low until the lung aerates and stimulates an increase in PBF to restore venous return and left ventricular preload. However, this loss of cardiac output can be avoided by aerating the lungs and increasing PBF before UCC. As a result, pulmonary venous return can immediately replace umbilical venous return as the primary source of preload for the left ventricle without any loss in supply.

The debate about delayed UCC has mostly centred around the question "how long should we wait?". However, from a physiological perspective, the relevance of time only relates to how long it takes for the lungs to aerate and PBF to increase. Thus, the focus has now shifted to "physiological based cord clamping", which suggests that UCC should be determined by the infant's physiology, rather than a stopwatch. While this is much more difficult for the caregiver, it can confer major benefits for the infants.

PLENARY LECTURE 4

PLENARY LECTURE 4
17h August 2024, Saturday
Chairperson: Nazimah Idris

P4: The Current Landscape of Non-Invasive Prenatal Testing
Tan Lay Kok

P4: The Current Landscape of Non-Invasive Prenatal Testing

Tan Lay Kok

The landscape of NIPT is diverse and widening. A disruptor in the prenatal diagnostic domain, cell free fetal DNA is par excellence the best performing screening test for trisomy 21 and boasts similarly impressive figures for trisomies 13 and 18. This extraordinary performance was the impetus for its widespread and unfettered use in clinical practice, almost usurping the practice of the combined First trimester screening test of nuchal translucency and maternal serum biochemistry in some centres.

Rates of invasive testing have dramatically fallen globally. Cautionary advice has been issued by many ultrasound and fetal medicine societies about the limitations of NIPT, debunking any misapprehension that is the Holy Grail of antenatal diagnosis, educating clinicians about the interpretation of inconclusive results, and timely reminders about the issues of confined placental mosaicism, vanishing twins, uniparental disomy, and the possibility on unearthing maternal tumours and malignancies. That NIPT has extended applications in screening for sec chromosomal abnormalities, 22q.11 microdeletions and a growing number of rare microdeletion and duplication conditions further compound the complexity for doctors who order the tests and the patients who have to be counselled on the implications of a screen positive test.

The importance of the provision of pre and post-test patient counselling cannot be overstated, as is the need to educate doctors on the principles of screening and the fundamentals of genetics and genomics, while always emphasizing the primacy of the role of ultrasound in antenatal screening. NIPT continues to evolve in both the platforms used and clinical applications, extending to monogenic conditions and maternal perinatal infections.

SYMPOSIUM 1:

Preeclampsia

15th August 2024, Thursday
Chairperson: Jamiyah Hassan/Roziah Hussin

S1A: Screening and Use of Biomarkers
Andrew Shennan

S1B: Early Onset vs Late Onset: Challenges in Management
Voon Hian Yan

S1C: Pre-eclampsia and Cardiac Disease
Tan Lay Kok

S1A: Screening and Use of Biomarkers

Andrew Shennan

A key component of pre-eclampsia management is recognition of those at risk, to enable appropriate surveillance and timely delivery. Although hypertension and proteinuria have been the hallmark of diagnosis in the past, they are not specific. Our understanding of the pathophysiology of pre-eclampsia is evolving and we now know angiogenic markers are fundamentally related to the disease process. These markers can be detected early and can be used to target prophylactic measures such as low dose aspirin. They are also useful in triaging in women with uncertain presentation. In low income setting they may even have a role in directing intervention. This talk will elucidate the role of biomarkers in managing hypertensive pregnancies and review the new point of care tests available.

S1B: Early Onset vs Late Onset: Challenges in Management

Voon Hian Yan

Early-onset and late-onset preeclampsia are essentially two sides of the same coin, two heterogeneous entities characterized by new-onset maternal hypertension diagnosed after 20 weeks of gestation, with associated end-organ damage involving one or more organ systems.

In addition to the timing of clinical presentation, contrasting hemodynamic and cardiovascular phenotypes have been described. Existing predictive models and corresponding preventive strategies advocated by several international societies have been more successful in the early-onset form.

Once they have occurred, the cornerstone in the management of early onset preeclampsia lies in the monitoring and optimization of the fetus prior to delivery while in late-onset preeclampsia, preventing severe maternal morbidity.

S1C: Pre-eclampsia and Cardiac Disease

Tan Lay Kok

Traditionally considered an intrinsically disordered placental condition associated with elevated maternal and perinatal morbidity and mortality and cured by delivery, preeclampsia casts a long shadow over its victims well beyond after delivery has been carried out.

There is abundant evidence that preeclampsia increases cardiovascular risks by 2 to 4-fold, equivalent to smoking. These risks include chronic hypertension, premature heart attacks, strokes and chronic renal disease. There is also a clear dose effect: those with preterm preeclampsia and recurrent preeclampsia in their subsequent pregnancies have significantly higher risks of cardiovascular deaths. Indeed, systolic impairment and accelerated atherosclerosis are observed as early as 8 years post-delivery. Interestingly, there is now a growing body of opinion that preeclampsia has an underlying maternal cardiovascular aetiology, and indeed preeclampsia and cardiovascular disease share the same risk factors.

Regardless, pregnancy outcomes therefore provide important information for cardiovascular risk assessment for both obstetricians and primary care physicians as well as opportunities for early interventions.

SYMPOSIUM 2:

Genetics & Metabolic

15th August 2024, Thursday
Chairperson: Chee Seok Chiong/ Wong Chee Sing

S2A: Genomics in Newborn Screening
Ngu Lock Hock

S2B: Umbilical Cord Blood Screening for Infantile Onset Pompe Disease
Cheah Fook Choe

S2C: Approach to Metabolic Emergencies
Ngu Lock Hock

S2A: Genomics in Newborn Screening

Ngu Lock Hock

The increasing Newborn screening (NBS) programs are considered among the most important public health programs. It facilitates the identification of newborns with genetic and inherited metabolic diseases as quickly as possible after birth and helps improve the quality of life through early intervention.

Recent dramatic reductions in the timeframes in which genomic sequencing can deliver results, as well as the price, mean its application in time-sensitive screening programs such as NBS is becoming a reality. Genomic newborn screening provides a single assay for the testing of many genetic conditions that would benefit from detection in infancy, but which do not have biochemical markers measurable by traditional NBS methodologies.

Therefore, integrating genomic sequencing into NBS programmes would enable screening for a much broader range of conditions, while also providing the flexibility to quickly add more conditions at low incremental cost. However, the use of genomic sequencing does not come without ethical dilemmas. Trust around sequencing data protection and long-term storage as well as the potential non-health–related uses by governmental agencies, police, crime investigation, etc. are being cited as public concerns. Some parents have also expressed concern for knowing about their child's genetic conditions that are not currently manifested or conditions that do not have a treatment.

Lastly, there are concerns that enrolments in these genomic NBS programs may be skewed towards certain race and ethnic groups, which could exacerbate health disparities and inequalities.

S2B: Umbilical Cord Blood Screening for Infantile Onset Pompe Disease

Cheah Fook Choe

Infantile-onset Pompe Disease (IOPD) is an autosomal recessive inherited glycogen storage disease (type II), resulting in severe cardiac involvement with progressive cardiorespiratory failure and death. Early diagnosis through newborn screening (NBS) enables prompt enzyme replacement therapy. The NBS involves assay of dried blood spot test (DBST) from heel prick of infants, usually taken at day 3 after birth.

A successful model is reflected in the Taiwanese national programme that was first implemented in 2005 where 132538 (45%) screened newborn infants captured 3 who were diagnosed with IOPD <1 month, compared to the control group (n=3), only diagnosed later at 3-4 months. The assay detects the level of lysosomal acid a-glucosidase (GAA), which is severely deficient in IOPD, causing glycogen accumulation in muscle cells and damage.

Umbilical cord blood (UCB) sampling for NBS is practised in many countries, such as Malaysia, but has not been validated to screen for IOPD. Screening using UCB is a pragmatic approach alternative to heel prick because it is quick, easy and already implemented. The UCB sample is spotted on paper to make a DBST that can be kept for long periods before assay or for further validation. Our pilot study determined if UCB would be comparable to heel-prick blood sample (PBS) on DBST assay of GAA level. The DBST samples were assayed using the UPLC-MS/MS method. The UCB from 4059 infants born at term gestation showed a median GAA level of 9.45 (IQR 5.00) microM/h. The GAA levels of UCB (n=3949) were similar to day 3 PBS (n=5332); 9.96 (IQR4.05) versus 10.18 (IQR 4.23) microM/h. The GAA levels from UCB were stable when samples were kept in EDTA tubes at 4 degrees Celsius and assayed 48h later. A novel pathogenic bi-allelic variant, c.2005_2010del (p.Pro669_Phe670del) and c.1123C>T(p.Arg375Cys) was discovered in a baby girl with extremely low GAA (0.38 microM/h).

Umbilical cord blood GAA levels on DBST can be successfully incorporated into NBS to screen for IOPD. This method could be a primer in expanding the range of diseases that Malaysia should consider in advancing our nationwide NBS programme than just for G6PD and congenital hypothyroidism.

This project was supported financially through an investigator-initiated study funded by Sanofi-Aventis, FF-2021-264, and the Universiti Kebangsaan Malaysia matching grant, DPK-2022-003.

S2C: Approach to Metabolic Emergencies

Ngu Lock Hock

Inherited Metabolic Disorders (IMDs) are a heterogeneous group of diseases in which an enzymatic defect leads to blockade in the metabolic pathway resulting in either accumulation of toxic substrate proximal to the block or deficient energy production and utilization or disturbed cellular transport.

Patients with certain IMDs may present with acute neonatal emergency. Collectively, acute illness in these neonates is mainly related to four underlying metabolic processes that require prompt management: hyperammonemia, metabolic acidosis, leucine encephalopathy or hypoglycaemia. Ammonia in high concentration is a potent neurotoxin. An acute rise in blood ammonia levels leads to encephalopathy, which is reversible if recognized and treated earlier. Acute metabolic acidosis in IMDs is associated with an increased anion gap due to the accumulation of metabolites such as organic acids, keto acids and lactic acid. Correction of acidosis is a major goal in these disorders. Acute encephalopathy in patients with maple syrup urine disease is the hallmark of a rapid rise in the blood leucine levels above a threshold (~400 µmol/l), leading to cerebral edema, and death if not treated promptly. Hypoglycaemia is seen in neonates with energy and carbohydrate metabolism disorders and may result in seizures if unrecognized.

Administration of glucose at the rate of hepatic glucose production forms the basis of treatment. Emergency laboratory evaluation should cover all differential diagnoses that are therapeutically relevant and should always include ammonia, glucose, lactate and acid-base status as well as testing the urine for ketones. According to the clinical situation and biochemical derangement, special metabolic investigations must be initiated in parallel. These include acylcarnitine profiling with tandem mass
spectrometry (in dried blood spots) and analysis of amino acids in plasma and of organic acids in urine.

Early recognition and effective treatment of acute neonatal metabolic emergencies prevent potentially disastrous consequences for these babies and their families.

SYMPOSIUM 3:

Perinatal Mental Health

15th August 2024, Thursday

Chairperson: Zaleha Abdullah Mahdy/ TP Baskaran

S3A: Screening of Mental Health in Pregnancy
Serene Thain Pei Ting

S3B: The Association of Stress and Adverse Outcome in Pregnancy
Jamiyah Hassan

S3C: Postpartum Mental Stress Disorders
Nadzratulaiman Wan Nordin

S3A: Screening of Mental Health in Pregnancy

Serene Thain Pei Ting

Mental health during pregnancy is an important determinant of maternal and fetal wellbeing, yet it remains underrecognized and undertreated in clinical practice. Pregnancy can be a time of heightened emotional and psychological stress, making it essential to screen for common mental health conditions such as depression, anxiety, and perinatal mood disorders.

These are conditions that can significantly impact maternal health, prenatal care adherence, and fetal development, and are also associated with adverse outcomes including preterm birth, low birth weight, and developmental delays.

This talk will focus on the importance of systematic screening for mental health issues in pregnant women, emphasizing the need for early identification and intervention to improve outcomes for both mothers and their infants.

S3B: The Association of Stress and Adverse Outcome in Pregnancy

Jamiyah Hassan

Stress will increase the production of cortisol in response to injury or inflammation and help the body to fight against adverse condition. However, when there is an absence of injury or inflammation, cortisol increase in response to stress will create a miscommunication between hypothalamic-pituitary-adrenal axis and immune system. This can result in physical and mental symptoms including headache, gastrointestinal disturbances, difficulty in sleeping, eating disorders and depression. Increase stress levels can also increase the blood pressure. Pregnant women are more susceptible to stress during pregnancy and stress during pregnancy can increase maternal mental health disorders, maternal adverse pregnancy and birth outcome. High level of cortisol in pregnancy has been shown to be associated with adverse pregnancy outcome including pre-eclampsia, preterm birth premature rupture of membranes, low birth weight and increase neonatal morbidity.

Emotional health of pregnant women is often neglected, and psychological stress can cause similar adverse outcome in pregnancy. Chronic stress can affect many systems including respiratory, cardiovascular, musculo-skeletal, gastrointestinal, nervous and reproductive. Adverse intrauterine environment may have an impact in fetal programming. Studies has shown that this can impact the long-term health of the newborn increasing the risk of non-communicable diseases in later life.

S3C: Postpartum Mental Stress Disorders

Nadzratulaiman Wan Nordin

Postpartum period is generally perceived as a period full of rewarding and joyful moments for parents. It is however an overwhelming phase with demanding physical, biological, psychological and social changes for women. These changes coupled with multiple uncertainties during this period make them susceptible to plenty of psychiatric disorders including postpartum mental stress disorder. This disorder comprises a wide range of severity with the mildest form, postpartum blues, anxiety to depression and the most severe form, psychosis. Until today, it remains under-diagnosed and under-treated despite increasing effort to improve management of perinatal mental health diseases.

Globally, WHO reported that the incidence of postpartum mental disorders is 13% and up to 19.8% in developing countries. Locally, the prevalence of postnatal depression is 10.4% based on National Health and Morbidity Survey (NHMS) 2022. The impact of this disorder is particularly huge as it involves not only the women, but it can lead to severe ramifications and affects the dynamic of the family especially the infant, partners and the other siblings. The factors identified as higher risk to developing these disorders are noted to be lower socioeconomic status, single mothers, adolescent age mothers as well as women with underlying or family history of mental illness.

The key to managing these problems will be to identify the early symptoms such as lack of interest, excessive worrying and sleep disturbances. Prompt diagnosis using screening tools such as Edinburgh Postnatal Depression Scale and appropriate clinical evaluation accompanied by early referral to psychiatric units can be the determining factor to help with early intervention. The options of treatment available include therapeutic interventions such as cognitive-behavioural therapy and interpersonal therapy. Other options are pharmacological treatments, lifestyle changes and most importantly adequate and solid support systems for the women. Education and empowerment efforts from relevant government and health stakeholders are equally important.

SYMPOSIUM 4:

Neonatal Nutrition

15th August 2024, Thursday
Chairpersons: Irene Cheah/Shareena Ishak

S4A: Donor Human Milk for Preterm Infants
Chua Mei Chien

S4B: Models of Human Milk Sharing in the Islamic Communities
Hamizah Ismail

S4C: Establishment of Regional Mother's Milk Sharing Centres
Zuraidah Abdul Latif

S4D: Optimising Post-Discharge Nutrition in Very Preterm Infants
Chua Mei Chien

S4A: Donor Human Milk for Preterm Infants

Chua Mei Chien

The use of human milk optimises health outcomes in preterm infants with protective effects against necrotising enterocolitis (NEC), sepsis, chronic lung disease (CLD) and severe retinopathy of prematurity. It has also been shown to reduce mortality in peri-viable and extremely preterm infants and improve neurodevelopmental outcomes.

When mothers' own milk (MOM) is not available, donor human milk (DHM) from a safe source is preferred over the use of specialised preterm formula. While the use of donor milk clearly reduces the risk of NEC and may be protective against CLD, it does not reduce severe infections nor improve neurodevelopment. These differences in clinical outcomes can be explained by the changes in the immunological and nutritional properties of DHM when subjected to pasteurization and repeated freezing and thawing cycles.

While the use of DHM is largely beneficial with increased probability of using MOM and overall medical costs savings, it is associated with higher risks of growth failure. Timely nutritional fortification is therefore a must and close monitoring of growth is imperative when feeding with DHM.

Ultimately, the use of DHM only serves as a bridge to an exclusive human milk diet and there should be active support to help mothers establish their own milk supply. To ensure equal access to DHM, issues such as cost consideration and milk kinship may need to be addressed.

S4B: Models of Human Milk Sharing in the Islamic Communities

Hamizah Ismail

The challenge of milk sharing and donor milk banking within the Muslim community is the concept of milk kinship that prohibits future marriage between the milk siblings that also extends to all other unrelated infants who receive milk from the same woman.

Few models of milk sharing in Muslim communities are practiced worldwide:

1) An unregulated peer -peer milk sharing model outside of a hospital setting, is practiced in many Islamic countries. Milk sharing happens on mutual agreement. Concerns include safety of the unpasteurized donated milk, and the religious implications of milk sharing.
2) Pooled donors - many recipients donation model (conventional milk banks) adopted by Iran where infants are fed with pasteurized donated expressed breastmilk (PDEBM) pooled from multiple donors. No milk kinship establishment as no direct breastfeeding according to Shia Law.
3) One donor - one recipient donation model is practiced in Bangladesh and Kuwait. The PDEBM from one donor is given to only one baby, where milk kinship will be established. In Bangladesh, even a single drop of milk given is considered to develop kinship. In Kuwait the recipient family is free to find the donor themselves first and if not available the lactation unit will suggest a suitable donor from their registry. As for Malaysia's first sharia-compliant human milk bank.
4) One donor - one recipient donation model combined with a defined satiety amount for preemies: the Halimatussaadia Mother's Milk Centre (HMMC) @IIUM, adopts the Shafi'i School of Law whereby milk kinship is established with five full satiety feedings. For parents not keen to establish a milk kinship relationship, one preemie is fed only three times the calculated satiety amount of PDEBM from one mother.
5) One anonymous donor - multiple recipients' model – by the United Kingdom Association for Milk Banking (UKAMB) recommends record keeping longer than the current standard of 30 years and shares information on steps that can be taken by Muslim families who are concerned about the implications of the possible milk kinship establishment. The milk kinship issue should not lead to withholding of donor human milk from vulnerable infants. Different modalities acceptable to local Islamic fatwa should be used, and a long-term record of milk from donor to recipient should be made traceable.

S4C: Establishment of Regional Mother's Milk Sharing Centres

Zuraidah Abdul Latif

The breastfeeding promotion program has been in place in the country since the early 1970s. Breastmilk, endorsed by the WHO and the Ministry of Health Malaysia, is considered the best nourishment for infants. It is recommended that infants be exclusively breastfed for the first six months, followed by continued breastfeeding for up to two years along with the introduction of complementary foods. Apart from direct breastfeeding, breastmilk can also be provided through expressed milk, milk from a healthy wet nurse, or milk from a human milk bank. It is especially important to provide milk from a milk bank for infants in the Neonatal Intensive Care Unit who are unable to consume their mother's milk due to various circumstances. This ensures that they receive the benefits of breastmilk while avoiding the risks associated with breastmilk substitutes or formula. Establishing a milk bank will complement the existing program, targeting a specific group of infants.

Breastfeeding can help reduce the mortality rate for infants. In 2020, the neonatal mortality rate dropped to 3.9 deaths per 1,000 live births from 16 deaths in 1970. Infant and under-five mortality rates also decreased to 5.9 and 7 deaths per 1,000 live births, respectively. At present, milk banks have been established in five hospitals across the country, while awaiting the implementation of an in- house milk banking system by the Ministry of Health.

S4D: Optimising Post-Discharge Nutrition in Very Preterm Infants

Chua Mei Chien

Despite advances in the nutritional management of preterm infants, the prevalence of extrauterine growth restriction remains high. It is estimated that between 80-97 % of infants born at less than 30 weeks had weight less than the 10th centile at 36 weeks.

While it is important to provide adequate nutrition to encourage growth post-discharge, controversies remain as to what constitutes optimal catch-up. Excessive rapid weight gain may predispose to long term metabolic health issues including higher risks of type 2 diabetes, hypertension, and cardiovascular disease in adulthood. On the flip side, failure to exhibit catch-up growth in early childhood has been associated with worse neurodevelopmental outcomes.

Current evidence suggests that early catch up, within 4 to 6 months corrected age, with meaningful linear growth is important for best neurodevelopmental outcomes without increased risks of obesity and compromised cardiometabolic health later in life.

Thus, nutritional strategies to support growth targets must be individualized, with careful monitoring to help fine tune nutritional management, so as to achieve the best growth and long-term health outcomes. The use of mothers' own milk should be encouraged. Post discharge formula does promote better weight gain, but it may compromise breastfeeding success. The use of human milk fortifiers post-discharge is not only costly, it also does not confer long-term benefit.

SYMPOSIUM 5:

Optimising Preconception Health

15th August 2024, Thursday
Chairperson: Rahana Abdul Rahman/Nazimah Idris

S5A: Optimising Preconception Health of High-Risk Women
Serene Thain Pei Ting

S5B: Effective Contraception
Mas Irfan Jaya Mahamooth

S5C: Investigation of Stillbirths
TP Baskaran

S5A: Optimising Preconception Health of High-Risk Women

Serene Thain Pei Ting

Preconception health is a critical component of maternal and fetal wellbeing, particularly for high-risk women who are at higher risk of adverse pregnancy and perinatal outcomes. High-risk women encompass those with chronic conditions, advanced maternal age, lifestyle challenges, and socioeconomic barriers.

Effective optimisation of preconception health for these individuals can help to mitigate risks and promote healthier pregnancies. This talk will explore strategies to enhance preconception care for high-risk women by addressing key risk factors, including chronic diseases such as diabetes and hypertension, and lifestyle issues like smoking and poor nutrition.

S5B: Effective Contraception

Mas Irfan Jaya Mahamooth

I hope to provide a comprehensive overview of effective contraception methods, emphasizing their importance in family planning and reproductive health.

It will explore various contraceptive options, including hormonal methods (e.g., birth control pills, patches, injections), intrauterine devices (IUDs), barrier methods (e.g., condoms, diaphragms), and permanent solutions (e.g., sterilization).

Additionally, the presentation will address common misconceptions and provide guidance on selecting and using contraception effectively to prevent unintended pregnancies and promote overall well-being.

S5C: Investigation of Stillbirths

TP Baskaran

Stillbirth is defined as a fetal loss which occurs after the 20th week of gestation in developed countries and at 28th weeks and beyond as defined by the WHO. Loss of the fetus is a devastating experience for the expectant mother and her family. Hence there is a need to identify the cause of the feal loss.

Often, this loss is attributed to poor antenatal care or worse; due some presumed maternal contribution. There are multiple causes which may result in a stillbirth. These may be broadly grouped under the heading of: Maternal, Fetal and Pregnancy related. Most obstetric units will investigate the cause of the loss and inform the patient so that she has a closure of the event. Yet, in practice the cause of the loss is often documented as ‘unknown’ or conveniently placed under: ‘normally formed macerated stillbirth’. Perhaps, it's timely to revisit the manner in which stillbirths are investigated.

The current practice appears to be heavily weighted to looking at the antenatal care process including the number of antenatal visits instead of the quality of these visits. There needs to be a shift and greater focus on working up the case after the loss by way of clinical, tissue and postmortem diagnosis. A standardized investigation protocol needs to be initiated and be entrusted to a senior clinician. In the absence of such renewed initiative, we will not succeed in our efforts to reduce the national stillbirth rates.

It would be prudent to remember ‘Dead babies speak more than live babies’; but are we listening? This lecture attempts to shed some light in terms of investigations of the stillbirths within the limitations of our heterogenous cultural limitations.

SYMPOSIUM 6:

Neonatal Surgical Conditions

15th August 2024, Thursday
Chairperson: Rozita Abdul Rashid/Noraihan Ibrahim

S6A: Ultrasound Imaging of GI Problems in Neonates
Faizah Mohd Zaki

S6B: Optimal timing of CDH repair
Hafatin Fairos Tamaddun

S6C: Management and Challenges Post CDH repair
Gan Chin Seng

S6A: Ultrasound Imaging of GI Problems in Neonates

Faizah Mohd Zaki

Ultrasound imaging plays a pivotal role in the diagnosis and management of gastrointestinal (GI) problems in neonates. This lecture will provide an overview of the applications, techniques, and diagnostic criteria for using ultrasound in this population.

We will explore common GI conditions in neonates, including hypertrophic pyloric stenosis, necrotizing enterocolitis, and intestinal atresia, highlighting the sonographic features that are crucial for accurate diagnosis. Additionally, we will discuss the benefits of ultrasound, such as its non-invasive nature and real-time imaging capabilities, which make it an ideal modality for neonatal care.

Case studies will be presented to illustrate typical findings and to demonstrate the practical application of ultrasound in clinical scenarios. By the end of this lecture, participants will gain a comprehensive understanding of the utility of ultrasound in identifying and managing GI problems in neonates, ultimately improving patient outcomes through timely and accurate diagnosis.

S6B: Optimal timing of CDH repair

Hafatin Fairos Tamaddun

Congenital diaphragmatic hernia (CDH) is a serious congenital defect characterized by an abnormal opening in the diaphragm, allowing abdominal organs to migrate into the chest cavity, which impairs lung development. The timing of surgical repair for CDH is critical and can significantly impact outcomes. Historically, immediate repair after birth typically performed within 24 hours of life was standard, but this approach has been reconsidered due to associated risks and complications, leading to increased morbidity and mortality.

Later, previous evidence suggests that delaying surgical repair until the neonate's condition stabilizes leads to better outcomes. This approach known as delayed repair, typically involves waiting a few days to weeks. This timing allows for better preoperative stabilization, leading to improved perioperative hemodynamics and less stress.

However, recently there is a study suggesting that windows of opportunity are between 24 to 48 hours after birth to achieve normal pulmonary arterial pressure, satisfactory oxygenation and ventilation in minimal settings. Furthermore, the duration of respiratory care (especially after the surgery) was shortened significantly due to early improvement of pulmonary and cardiac functions.

In summary, no exact optimal time for CDH repair but I would suggest that the window of opportunity after optimising and stabilising the CDH neonates is 24 to 72 hours after birth.

S6C: Management and Challenges Post CDH repair

Gan Chin Seng

Congenital diaphragmatic hernia (CDH) occurs 1: 2000- 5000 livebirth worldwide. CDH has congenital defect in the diaphragmatic with herniation of abdominal organs into the thorax further compromising the hypoplastic lung and pulmonary vasculature development. However, CDH has heterogeneous presentation because of its complex pathophysiology which leads to varying clinical outcomes.

With advances in ventilation strategies, increased prenatal diagnosis, standardised postnatal management guideline, & referral to high-volume specialized centres, the overall survival has improved over the past 3 decades ranging 60-70% and 80-90% in high volume centres in high income countries with extracorporeal membrane oxygenation (ECMO) support. With lower mortality, there are more survivors with morbidities and management challenges especially in more severe cases post-CDH repair. These include ventilatory weaning and support while waiting for the resolution of intrathoracic air/fluid collection and re-expansion of the affected hypoplastic lung, chronic pulmonary dysfunction, persistent pulmonary hypertension secondary to abnormal reactivity of the pulmonary vascular bed, gastro-oesophageal reflux with feeding intolerance, failure to thrive, intestinal obstruction, recurrence CDH, chest wall asymmetry with scoliosis, hearing impairment and neurodevelopment.

To overcome these challenges related to the complex multisystem comorbidities, it requires dedicated multidisciplinary team involvement in care at the levels of in-hospital as well as out-patient clinics setting. The successful management of these post CDH repair challenges may have positive impact on the quality of life (QoL) in CDH beyond the neonatal period through childhood, adolescence and adulthood. However, CDH survivors represent a growing cohort, the complex multidisciplinary long-term follow-up care though it is important and ideally should have been done so, it may not be always possible especially in low- middle income countries but it is certain should receive more attention and priority.

SYMPOSIUM 7:

Infections in Pregnancy

16th August 2024, Friday
Chairperson: TP Baskaran/Nadzratulaiman Wan Nordin

S7A: GBS Infection in Pregnancy
Nazimah Idris

S7B: Implications of GBS Infection in Newborns
Choo Yao Mun

S7C: Use of Corticosteroids in High-risk Pregnancy
Andrew Shennan

S7A: GBS Infection in Pregnancy

Nazimah Idris

Group B Streptococcus (GBS) remains the leading cause of newborn infection. Maternal colonization rates of GBS during pregnancy are between 10-30%.

Approximately 50% of mothers who are colonized with GBS will transmit it to their newborns, resulting in 1-2% of infected newborns developing early-onset GBS (EOGBS) in the absence of intra-partum antibiotics prophylaxis (IAP), with fatality rate of approximately 14%. IAP reduces EOGBS by 80% but it has no effect on late-onset infections. Intravenous penicillin is the agent of choice for intra-partum antibiotic prophylaxis.

Use of prophylactic antibiotics in other obstetric scenarios and the role of routine screening for GBS in pregnancy will be discussed.

S7B: Implications of GBS Infection in Newborns

Choo Yao Mun

Group B Streptococcus (GBS) infection is a significant concern in the neonatal population, with potential implications ranging from mild morbidity to severe mortality. This lecture aims to provide a concise overview of the various implications associated with GBS infection in newborns, drawing upon recent literature and clinical insights.

Despite advances in intrapartum antibiotic prophylaxis, GBS infection continues to pose a considerable risk, particularly in preterm and low birth weight infants. The clinical manifestations of neonatal GBS infection vary widely, encompassing early-onset disease (EOD) and late-onset disease (LOD). EOD typically manifests within the first 24-48 hours of life, presenting as sepsis, pneumonia, or meningitis. In contrast, LOD may occur up to several weeks postnatally, often presenting with similar clinical features but with a higher incidence of meningitis and associated neurological sequelae.

The consequences of GBS infection in newborns extend beyond immediate morbidity, with potential long-term neurodevelopmental sequelae in survivors of neonatal meningitis. These Include cognitive impairment, motor deficits, and sensory impairments, highlighting the need for vigilant monitoring and early intervention strategies.

The management of neonatal GBS infection encompasses a multifaceted approach, involving prompt recognition, antimicrobial therapy, supportive care, and neurodevelopmental follow-up. Timely initiation of appropriate antibiotics is crucial in reducing mortality and minimizing long-term morbidity, underscoring the importance of early clinical suspicion and diagnostic testing.

In conclusion, neonatal GBS infection continues to present significant implications for newborn health, with a spectrum of clinical manifestations and long-term sequelae. Continued research efforts are warranted to optimize preventive strategies, enhance diagnostic capabilities, and improve clinical outcomes for affected infants.

S7C: Use of Corticosteroids in High-risk Pregnancy

Andrew Shennan

The use of antenatal corticosteroids is a hallmark of evidence-based practice in obstetrics. Their correct use is associated with significant improvements in neonatal outcomes. However, if given too early (more than a week before delivery) their efficacy is far less. In addition, numbers needed to treat are high as threatened preterm labour is common, and actual delivery is rare. Steroids are known to be detrimental to neuronal growth and have been linked to intellectual impairment. Practice could therefore be better, and antenatal steroids targeted more appropriately. This talk will review the evidence of benefit and harm and discuss changes in practice that could improve outcomes while reducing harmful effects.

SYMPOSIUM 8:

Haematology & Infections

16th August 2024, Friday
Chairperson: Angeline Wan/Cheong Shu Meng

S8A: Can We Avoid Blood Transfusion in Extremely Preterm Babies
Chee Seok Chiong

S8B: Use and Misuse of Blood Products in Newborns
Tan Kai Ning

S8C: The 4Ds of Antimicrobial Stewardship- A decision making Conundrums
Azanna Ahmad Kamar

S8A: Can We Avoid Blood Transfusion in Extremely Preterm Babies

Chee Seok Chiong

Red blood cell (RBC) transfusion remains one of the most frequent interventions in extremely preterm neonates. 64% of extremely low birth weight neonates will require at least one blood transfusion during their NICU stay.

Neonates often require RBC transfusions because of significant anaemia due to acute blood loss or to treat chronic anaemia due to anaemia of prematurity. Anaemia of prematurity is caused by physiological anaemia, blood loss by phlebotomy and delayed erythropoiesis. The decision for transfusion must be weighed against its risk. In addition to the established risks associated with transfusions (including infection, transfusion reaction, volume overload and various immunologic consequences), in preterm neonates RBC transfusions are associated with an increased risk of death, necrotizing enterocolitis, extension of intraventricular haemorrhage, retinopathy of prematurity and neurodevelopment impairment although high-quality evidence for a causal relationship is lacking.

Target haemoglobin and haematocrit have been used universally as clinical indicators for RBC transfusion in neonates due to chronic anaemia. Current evidence based on multicentre trial suggests that a restrictive (lower) haematocrit threshold rather than a liberal (higher) haematocrit threshold results in less exposure to transfusions, with no increase in mortality or serious morbidity. Transfusion guidelines are associated with decrease in the number of transfusions. Other factors considered in many transfusion guidelines are gestational age, postnatal age and the clinical status of the neonate. There are three strategies to minimize transfusions in neonates: start with a greater volume of blood, decrease phlebotomy, and stimulate red cell production.

Placental transfusion or delayed cord clamping and measures to limit phlebotomy blood are important preventive strategies. Long-term iron supplementation improves iron status and reduces iron deficiency and anaemia in preterm infants. Erythropoiesis stimulating agents such as erythropoietin and darbepoetin in extremely preterm neonates increased red cell mass, decreasing the need for RBC transfusion and donor exposure. However, evidence for neurodevelopment benefits is mixed.

Combining preventive strategies, implementation of transfusion guidelines and restrictive transfusion strategies constitute the best approach to reduce the need for RBC transfusions and lead to improved long-term outcomes in extreme preterm neonates.

S8B: Use and Misuse of Blood Products in Newborns

Tan Kai Ning

Transfusion of blood products is one of the commonest therapeutic interventions in the NICU setting. Almost all extremely low birth weight babies would receive at least one red cell transfusion during their stay in the neonatal unit. Platelet is the second most commonly transfused blood product in neonates, mostly with the aim to prevent bleeding, as prophylaxis.

Though transfusion is lifesaving in some situations, it is not without risks. Blood products are not biologically inert. Red blood cell transfusions may be pro-inflammatory and cause endothelial activation, hence potentially influence the risk of neonatal diseases, such as bronchopulmonary dysplasia, necrotising enterocolitis and retinopathy of prematurity. Platelets are known to have both hemostatic and immune functions. Neonatal platelet transfusion might lead to detrimental effects due to alternations in the neonatal hemostatic balance or abnormal immune response induced by the presence of adult platelets.

Following recent publications of large neonatal transfusion trials such as ETTNO, TOP and PlaNeT-2, restrictive RBC and platelet transfusion thresholds are recommended. However, there is still much variation in individual and centre practice of transfusion thresholds in neonates. The presentation will focus on justifying use of blood products, based on current evidence to propose best practice recommendations for the safety of neonates receiving blood transfusion.

S8C: The 4Ds of Antimicrobial Stewardship- A decision making Conundrums

Azanna Ahmad Kamar

Antimicrobial resistance rates in neonates are rising, with reports of up to 80% in several regions in Asia for specific organisms. The main organisms include Extended-Spectrum Beta-Lactamase (ESBL) organisms, Methicillin-Resistant Staphylococcus aureus (MRSA) and Coagulase-negative Staphylococcus (MRCONS), as well as Vancomycin and Carbapenem-resistant enterococci (VRE, CRE). Recently, the pattern of resistance is not only seen as hospital-acquired late-onset sepsis (LOS) in neonates with prolonged hospital stay but also among the maternal microbes isolated. This leads to the transmission of resistant organisms causing difficult-to-treat early-onset neonatal sepsis (EOS).

The 4Ds of antimicrobial stewardship - Right Diagnosis & Right Drug, Right Dose, Right Duration, De-escalation, are generally considered useful principles in NICUs. However, their application in NICUs can be challenging due to the difficulty in diagnosing infections in neonates, the rapidly changing pharmacokinetics during the neonatal period, as well as the limited neonatal-specific clinical trial data.

(1) Make the Diagnosis - Choose the Right Drug, or None at All

Commencing antibiotics often leads to significant dilemmas for the clinician as early signs are subtle and non-specific. Choosing broad versus narrow-spectrum antibiotics, as well as choosing immediate effective treatment against the long-term risks of antimicrobial resistance, fungal infections, and disruption of the developing microbiome is difficult. A combination of risk factors, clinical manifestations and laboratory tests including the use of rapid diagnostic tests and the development of more specific biomarkers can be used to support the diagnosis. The use of clinical prediction models and sepsis calculators such as the Kaiser Permanente Neonatal Early-Onset Sepsis Calculator (Kuzniewicz, et. al. 2017) have additionally been increasingly used to guide decision-making in this aspect.

(2) Cultures and Select the Right Dose for Empiric Therapy

Standardised dosing can be challenging in neonates due to their rapidly changing physiology, varying gestational ages and limited pharmacokinetic data. This is apparent especially among extremely preterm neonates with impaired renal function and haemodynamic instability. Ensuring the development of real-time dosing algorithms specific to this age group may be the way forward with many ongoing research such as the DosOpt algorithm developed for vancomycin in neonates (Frymoyer,et al.2019).

(3) Determine the Right Duration

The duration of antibiotics is typically determined based on the organism and the site of infection, whether local or systemic. The optimal duration is uncertain because, despite serial measurement monitoring, the end points are often difficult to determine, especially in chronically ill neonates.

(4) Stop or De-escalate

Cessation and de-escalation of antibiotics should be done in a timely manner upon review of sepsis parameters and the blood cultures. This may be a difficult decision due to the persistence of several non-specific signs despite negative cultures. Although the use of serial blood count, immature to total neutrophil (IT) ratio, c-reactive protein (CRP), procalcitonin, cytokines (e.g. IL-6, TNF-α), and other biomarkers e,g, Presepsin (sCD14-ST) have been studied, limited evidence is readily available. Clear documentation of baseline or “acceptable vitals” is suggested to ensure that chronically ill patients are not being treated as “persistent sepsis”.

There is no perfect combination of clinical and laboratory parameters that can definitively rule in or rule out sepsis in all cases. This leads to variations in practice between different units and clinicians. Antimicrobial stewardship using the 4D principles requires a concerted effort from all individuals. Directing the future to combat antimicrobial resistance head-on by taking leadership, integrating research to review novel approaches for personalised medicine, as well as innovating improved methods to educate family members to be aware of this complication via family-integrated care as well as ensuring awareness of every healthcare worker is much needed.

SYMPOSIUM 9:

High risk pregnancies

16th August 2024, Friday
Chairperson: Hamizah Ismail/ Aida Kalok

S9A: Cardiac Disease in Pregnancy
Norfarahdina Ramli

S9B: Challenges in Adolescent Pregnancy
Rahana Abdul Rahman

S9C: Obesity and Pregnancy: Obstetrician's Challenge
Tan Lay Kok

S9A: Cardiac Disease in Pregnancy

Norfarahdina Ramli

Cardiac disease in pregnancy is a significant clinical challenge that requires careful multidisciplinary management to ensure optimal outcomes for both the mother and the fetus.

This review explores the prevalence and types of cardiac conditions that can complicate pregnancy, including congenital heart disease, acquired heart disease, and cardiomyopathies. Risk assessment and stratification are crucial components of pre-pregnancy counselling and ongoing prenatal care, utilizing tools such as the modified WHO classification to identify high-risk patients.

Maternal cardiac disease poses considerable risks, including heart failure, arrhythmias, and increased maternal mortality, while fetal complications can include preterm birth, low birth weight, and intrauterine growth restriction. Effective management strategies are essential and should be individualized based on the type and severity of the cardiac condition. Multidisciplinary care, involving cardiologists, obstetricians, anaesthesiologists, and neonatologists, is critical in optimizing outcomes.

Medication management during pregnancy must balance the benefits to the mother with potential risks to the fetus, necessitating careful selection and monitoring of pharmacological treatments. In some cases, surgical interventions may be required, with timing and approach tailored to minimize risks.

Recent advances in clinical guidelines and case studies highlight the importance of early detection and continuous monitoring. Despite the inherent risks, with appropriate management, many women with cardiac disease can achieve successful pregnancy outcomes.

This review underscores the need for heightened awareness, comprehensive care plans, and ongoing research to further improve the prognosis for this vulnerable patient population**.**

S9B: Challenges in Adolescent Pregnancy

Rahana Abdul Rahman

Adolescent pregnancy presents complex challenges in obstetrics management, encompassing medical, psychological, and social dimensions. Particularly the maternal health risks include hypertension and anaemia.

The fetal issues are preterm birth and low birth weight in the newborns. A comprehensive approach and knowledge on the obstetrics risks is imperative in order to achieve good outcomes.

S9C: Obesity and Pregnancy: Obstetrician's Challenge

Tan Lay Kok

Obesity in society and the pregnant population has reached epidemic proportions particularly in Southeast Asia. Obesity lies at the root of many a gestational syndrome, not only gestational hypertension, preeclampsia, gestational diabetes, but also vitamin D deficiency and mental health conditions.

The fetal impact inflicted by maternal obesity is wide ranging: from increased rates of birth defects to preterm birth, macrosomia, shoulder dystocia, NICU admissions and stillbirth.
There are also many management challenges universally impacting all areas of care, including suboptimal ultrasound scan scanning, higher rates of inconclusive NIPT results, difficult caesarean sections, postpartum haemorrhage, venous thromboembolism, wound complications and maternal death. Class 3 obesity mandates a multidisciplinary management, particularly anaesthesia. There are FIGO guidelines on the management of Obesity in pregnancy.

Postnatal care must also include continued engagement by primary care medicine as these women are at risk of chronic medical conditions including cancers.

SYMPOSIUM 10:

Helping Babies to breathe

16th August 2024, Friday
Chairperson: Women Chee Sing/ Tan Kai Ning

S10A: Lung Aeration at Birth: Does The "Open Lung" Concept Apply?
Stuart Hooper

S10B: Beyond Ribs and Oxygen: Sonographic Estimation of Neonatal Lung Volume
Arun Sett

S10C: The Succession of Lung Ultrasound in Acute Respiratory Care
Patricia Woods

S10A: Lung Aeration at Birth: Does The “Open Lung” Concept Apply?

Stuart Hooper

Lung aeration at birth is the primary event that triggers the transition to newborn life. It not only allows air to enter the lung to initiate pulmonary gas exchange, it also triggers the increase in pulmonary blood flow to facilitate gas exchange and provide preload for the left ventricle. Over the last two decades we have learnt much about how the lungs aerate and transition to air-breathing at birth.

Before birth, the lungs are liquid-filled and at birth this “airway liquid” must be cleared to allow the entry of air. As the volume of this liquid (35-40mL/kg) is substantially greater than the end-expiratory air volume (FRC; 20-25mL/kg) after birth, the concept that the fetal lungs are collapsed and the airways “open” at birth is wrong. Indeed, lung liquid maintains the fetal lungs in a hyper-expanded state which is critical for lung growth, whereas lung deflation causes severe fetal lung hypoplasia. While the origin of the “open lung” concept is unclear, it is reinforced by the observation that the chest wall expands after birth, but as discussed below, this occurs for a very different reason.

For many years we were taught that airway liquid clearance results from Na reabsorption, but imaging studies have shown that the majority (>95%) of airway liquid clearance after birth is due to hydrostatic pressure gradients generated by the infant inhaling or by positive pressure inflations. These pressures move the liquid distally through the airways and across the distal airway wall into lung tissue. While this allows air to enter the lungs after birth, as the airway liquid has moved into lung tissue, it has not left the chest and so the chest wall must expand to accommodate both the incoming air (to form an FRC) and the liquid. Thus, while the chest wall appears to expand after birth, this is not because the lung is “opening” or “expanding”. Instead, the lung partially deflated after birth due to the loss of the expanding influence of lung liquid and to the generation of surface tension at the air/liquid interface.

S10B: Beyond Ribs and Oxygen: Sonographic Estimation of Neonatal Lung Volume

Arun Sett

Neonatal clinicians lack reliable tools to estimate lung volume at the bedside. Although frequently used, chest x-rays expose babies to ionising radiation and are not an accurate measure of lung volume.

As a result, we are reliant on indirect markers of lung function to guide respiratory support. Lung ultrasound is rapidly gaining traction in neonatal intensive care and accurately diagnoses common neonatal respiratory disorders.

Lung ultrasound may play a useful role in measuring lung volume at the bedside, and thus may be useful in guiding respiratory support. In this session, Dr Arun Sett will discuss his pre-clinical research on the use of lung ultrasound to measure lung volume in neonatal patients.

S10C: The Succession of Lung Ultrasound in Acute Respiratory Care

Patricia Woods

A comprehensive look at the succession of use of lung ultrasound in neonatal intensive care.

From the very first breath, through neonatal transitioning and NICU admission, prediction of respiratory support and guiding therapeutic interventions, such as surfactant administration, and outcomes.

Examination of the current evidence based and illustration of real patient care episodes.

Challenge yourself to asking where are you along the journey of lung ultrasound succession in neonatology today?

ORAL FREE PAPER PRESENTATIONS PROGRAMME

16TH August 2024, Friday
Ballroom III
Chairperson: Azanna Ahmad Kamar

A-0032 Serum Metabolomic Profiling in Newborn Infants Revealed Distinct Differences Between Those Receiving Parenteral and Enteral Nutrition.

Sing Kiat CHUO[1], Jen Kit TAN[2], Fook Choe CHEAH[1], Wye Leng Elaine HOOI[3], Seok Chiong CHEE[3]
[1]Department of Paediatrics, Faculty of Medicine, Universiti Kebangsaan Malaysia
[2]Department of Biochemistry, Faculty of Medicine, Universiti Kebangsaan Malaysia
[3]Department of Paediatrics, Selayang Hospital

A-0070 Reducing Nasal Injuries: Before and After Study of Alternating Nasal Mask and Nasal Prong Interface During Non-Invasive Ventilation Versus Continuous Application of an Interface

Deborah Ann SANTHANAM[1], Mehala BASKARAN[2], Hasmah IBRAHIM[3]
[1]Department of Paediatrics, Hospital Pulau Pinang, Malaysia
[2]Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Pulau Pinang, Malaysia
[3]Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Pulau Pinang, Malaysia

A-0074 Improving Neonatal Umbilical Venous Catheter Insertion Length Estimation Using Body Surface Anatomy Measurements and Machine Learning Analysis in Building a Novel Estimation Formula.

Chuin Hen LIEW[1,2], Navindran GUNASEKARAN[1], Sin Yee TEO[3], Siti Khairunnisaak ABDUL RAHMAN[4], Zurina ABDUL WAHAB[4], Arvind BASKARAN[1], Khairani ABD. MAJID[5]
[1]Pediatric Department, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia.
[2]Clinical Research Centre, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia.
[3]Radiology Department, Hospital Segamat, Segamat, Ministry of Health Malaysia.
[4]Radiology Department, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia.
[5]Digital Health & Health Informatics, International Medical University, Kuala Lumpur, Malaysia

A-0084 Neonatal Jaundice: Each Hour Counts! A Pilot Study

Chiu Xian LEE, Punita CHANDRASEGARAN, Angeline Seng Lian WAN
Department of Paediatrics, Hospital Melaka

A-0089 Randomized Controlled Trial on 360° Phototherapy versus Single Surface LED Phototherapy with White Curtain in Neonatal Hyperbilirubinemia

Nik Amalia binti Nik Najib, Noraida binti Ramli, Hans Van Rostenberghe
Pediatrics Department, Hospital Universiti Sains Malaysia, Kelantan, Malaysia

A-0092 Medical and Nursing Staff's Perception of End of Life Care in a Malaysian Tertiary Neonatal Intensive Care Unit

Kaysha-Lin LEXMINARAYANA, Zhi Chiing PANG, Izyan Khalidah HAMIZI, Zhi Wei CHOO, Kai Ning TAN, Chee Sing WONG,
Department of Paediatrics, Hospital Raja Permaisuri Bainun Ipoh, Perak

ORAL FREE PAPER PRESENTATIONS (II) PROGRAMME

16th August 2024 Friday
CM IV
Chairperson: Neoh Siew Hong

A-0022 **Outcomes of Newborns with Down Syndrome in Special Care Nursery in a Lead Cluster Hospital over a 12 Month Period**
Shiau Xian Chen[1], Angeline Aing Chiee Yeoh[1], Choo Hau Lim[1], Ying Rui Eng[1] , Li Yun Ng [2]
[1]Paediatric department, Hospital Seberang Jaya, Penang, Malaysia
[2]Clinical Research Center, Hospital Seberang Jaya, Penang, Malaysia

A-0036 **Does Cervical Length Link to Body Mass Index and Risk of Preterm Labour?**
Nurul Iftida Basri[1,2], Rima Dasrilsyah[1,2], Amilia Afzan Mohd Jamil[1,2], Charmaine Sook Yee Leong[2]
[1]Department of Obstetrics & Gynaecology, Faculty of Medicine & Health Sciences, Universiti Putra Malaysia, Serdang, Selangor, Malaysia
[2]Department of Obstetrics & Gynaecology, Hospital Sultan Abdul Aziz Shah, Universiti Putra Malaysia, Serdang, Selangor, Malaysia

A-0053 **Scoring Lung Ultrasound Model to Predict Severity in Preterm Neonate with Respiratory Distress Syndrome**
Meddy Romadhan[1], Risa Etika[1], Martono Tri Utomo[1], Dina Angelika[1], Kartika Darma Handayani[1], Lenny Violetta[2]
[1]Department of Child Health, Faculty of Medicine, Universitas Airlangga, Dr. Soetomo Academic General Hospital Surabaya, Indonesia
[2]Department of Radiology, Faculty of Medicine, Universitas Airlangga, Dr. Soetomo Academic General Hospital Surabaya, Indonesia

A-0054 **The First Two Years Outcome of Premature Newborns: An Experience from a Tertiary Children's Hospital**
Asiah KASSIM[1,2], Sze Chiang LUI[1], Eunice Gui Yu LEE[2], N Fafwati Faridatul Akmar MOHAMAD[2], Shangari KUNASEELAN[2], Yi Cheau CHUA[2], Yee Yen TAN[2], Maria KAMAL[1], Lai Cheng HOOI[2], Hui Ling LEONG[2], Sin Toun LOH[2], Farah Inaz SYED ABDULLAH[2], Farizah MOHD HAIRI[3], Hafizah ZAINUDDIN[4], Siew Hong NEOH[2]
[1]Clinical Research Centre(CRC), Hospital Tunku Azizah, Kuala Lumpur, Malaysia.
[2]Department of Paediatric, Hospital Tunku Azizah, Kuala Lumpur, Malaysia.
[3]Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia.
[4]Faculty of Medicine, Universiti Sultan Zainal Abidin (UNISZA), Terengganu, Malaysia.

A-0069 **Foot Length as an Alternative for Estimation of Endotracheal Tube Length in Neonates**
May Vern Tan, Joanne PEREIR[1], Amira Farhana ABDUL JAMAL, Pauline Poh Ling CHOO
Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Tuanku Ja'afar Seremban

A-0094 **Prediction of Mortality in Very Preterm Infants: A Scoping Review**
Alvin Kwok Meng WONG, Jimmy Kok Foo LEE, Xue Zhi HON, Qi Yang CHENG, Zhi Hong CHAI, Yong Sheng LAI
Clinical School Johor Bahru, Monash University Malaysia, Malaysia

SYMPOSIUM 11:

Artificial Intelligence (AI) in Obstetrics

17th August 2024, Saturday

Chairperson: Rahana Abdul Rahman/ Nadzratulaiman Wan Nordin

S11A: Artificial Intelligence: New Paradigm in Obstetrics
Quek Yek Song

S11B: Validation of AI in Obstetrics
Jamiyah Hassan

S11C: Improve Patient Monitoring with AI
Fathy Ramli

S11A: Artificial Intelligence: New Paradigm in Obstetrics

Quek Yek Song

Artificial intelligence (AI) has revolutionized obstetrics care by leveraging neural networks to analyze extensive patient data for improved diagnosis, monitoring, and prognosis and provide individualized patient care.

Herewith, we reported the MoirAISystem® which utilizes population data, patient measurements, and AI algorithms to make accurate predictions, focusing on prenatal gestational weight as an illustrative example. The system enhances traditional decision-making by unlocking the potential of complex, interconnected obstetric data, enabling early inference and patient-driven changes.

This case report evaluates the system's accuracy through Root Mean Squared Error (RMSE) and Mean Absolute Percentage Error (MAPE), indicating promising results. Further validation and adaptation of AI models are necessary to achieve broader applicability and better predictive accuracy. This case report underscores the potential of AI to enhance pregnancy care and calls for continuous development and validation of AI predictive models.

S11B: Validation of AI in Obstetrics

Jamiyah Hassan

The 21st century has brought challenges in global health with the COVID-19 pandemic, but at the same time, it has brought great enhancement in providing information using modern Medical {information technology. Mobile apps have been developed to help disseminate medical information to patients, and pregnant mothers use pregnancy-related mobile apps for information on pregnancy care, birth, and care of newborns. However, there are concerns about the use of mobile apps in the management of pregnancy, and the advice given may not be accurate. MOIRAI MOMCARE™ is a mobile application focused on women's health, including menstrual and ovulation cycle, antenatal, and postnatal health. Pregnant women and health care providers can enter the pregnancy data into the mobile app and follow the progress of the pregnancy. The app uses the data to provide predictions on the pregnancy outcome, for example, the weight of newborns. A clinical research project was undertaken in Hospital Al-Sultan Abdullah UiTM Puncak Alam to determine the usability of the. MOIRAI MOMCARE™ mobile app to patients and doctors and validate some of the predictions generated by the app. Some preliminary data from the project will be presented.

S11C: Improve Patient Monitoring with AI

Fathy Ramli

Analyzing and managing individualized pregnancy journeys is extremely challenging due to the intricate nature of pregnancy, diseases, and the data related to both the mother and the fetus. Recognizing these obstacles, adopting AI in clinical practice holds the potential for improved data analysis and decision-making.

The unexplored potential landscape of pregnancy monitoring includes prenatal screening, maternal diseases, fetal complications, and peripartum care. Research has demonstrated the encouraging outcomes of artificial intelligence (AI) in enhancing the quality of patient care. The utilization of artificial intelligence (AI) in pregnancy care diminishes the duration of analysis, aids in the process of decision making, and garners a substantial level of acceptance from the user. Significance was observed in a low-resource setting, a remote or distant area, and a high patient load.

Unfortunately, there is a gap in research specifically addressing the application of artificial intelligence in pregnancy. To advance the use of this technology in patient monitoring, obstetricians need to possess a fundamental comprehension of AI, including its methodologies and the process of developing AI systems. This knowledge will enable them to explore and improve the use of AI in patient monitoring. We should acknowledge AI monitoring systems or devices as a component of the Internet of Things (IoT) and integrating them into our clinical practice will enhance patient care.

The topic's main points include comprehending the fundamental principles of artificial intelligence, exploring its applications in patient monitoring, examining its current use in monitoring, and presenting initial findings from an ongoing validation study of a pregnancy application.

SYMPOSIUM 12:

Neuroprotection

17th August 2024, Saturday
Chairperson: Boo Nem Yun/ Neoh Siew Hong

S12A: Antenatal & Intrapartum Neuroprotective Interventions
Zaleha Abdullah Mahdy

S12B: Neuroprotective Bundle Care for Preterm Neonates
Chan Shu Hui

S12C: Pharmacological & Emerging Therapies in Neonates with Seizures
Sangita Dharshini Terumalay

S12A: Antenatal & Intrapartum Neuroprotective Interventions

Zaleha Abdullah Mahdy

Antenatal and intrapartum neuroprotective interventions are measures taken during pregnancy and childbirth to promote the neurological well-being of the fetus and newborn. These interventions aim to reduce the risk of neurological injuries or developmental issues that may arise during pregnancy, labour, and delivery.

Regular antenatal visits and screenings help identify and manage any maternal health conditions that could potentially affect fetal development, such as gestational diabetes, hypertension, or infections. Nutritional supplementation, such as with folic acid, before and during pregnancy is recommended. Pregnant individuals are advised to avoid exposure to harmful substances such as alcohol, tobacco, recreational drugs, and certain medications that can adversely affect fetal brain development. Effective management of maternal medical conditions such as diabetes, hypertension, thyroid disorders, and epilepsy can help minimize the risk of complications that may affect fetal neurodevelopment. Regular fetal monitoring through techniques like ultrasound, Doppler studies, and non-stress tests helps assess fetal growth, movement, and heart rate patterns, allowing early detection of any abnormalities that may require intervention. Antenatal magnesium sulphate administration plays a specific role in neuroprotection in significantly preterm infants.

Close fetal monitoring during labor helps healthcare providers identify and address any signs of fetal distress promptly, reducing the risk of hypoxia or other birth-related complications. In the event of complications such as fetal distress, umbilical cord prolapses, or placental abruption, prompt intervention by skilled healthcare providers is crucial to minimize the risk of adverse neurological outcomes to the newborn.

These antenatal and intrapartum interventions aim to optimize maternal health, ensure fetal well-being, and provide timely management of any complications during pregnancy and childbirth, ultimately promoting better neurological outcomes for the newborn.

S12B: Neuroprotective Bundle Care for Preterm Neonates

Chan Shu Hui

Preterm infants are among one of the most vulnerable patient populations. Despite significant advancements in perinatal and neonatal clinical care that have markedly improved survival rates, preterm births remain associated with increased risks of adverse long-term neurodevelopmental outcomes. Given that neurodevelopment continues outside the protective uterine environment during what would be the third trimester of gestation, the neonatal care environment is recognised as a crucial factor influencing neurodevelopmental outcomes in preterm infants. Prolonged hospitalisation exposes these infants to various noxious stimuli, including painful procedures, excessive light, noise, and sleep disturbances. These environmental stressors can contribute to long-term neurodevelopmental impairments, manifesting as motor, cognitive, and language difficulties, as well as behavioural and attention disorders later on in life.

To mitigate these detrimental effects and enhance long-term developmental outcomes, neuroprotective care has emerged as an integral component of quality neonatal care. Key interventions focus on creating a healing environment, managing pain effectively, providing cue-based care and involving parents in the care process. These strategies aim to minimize infants' distress and support their physiological stability and neurodevelopment. Nurses are in a unique position to implement developmentally supportive care within neonatal units due to their continuous presence, that allows them to advocate for and respond to their infants' needs.

At KK Women's and Children's Hospital (KKH), these practices are integrated into daily routines across both Level II and III neonatal units. Here, we will discuss the current practices at KKH designed to create a neurodevelopmentally supportive environment for our preterm infants.

S12C: Pharmacological & Emerging Therapies in Neonates with Seizures

Sangita Dharshini Terumalay

Neonatal seizures are a common neonatal neurological emergency with incidence up to 3 in 1000 live births. Prompt identification of seizures with continuous neuromonitoring and cessation of seizures are associated with better neurological outcomes. Clinicians are comfortable with the traditional pharmacological approach(phenobarbitone/phenytoin) that usually aborts seizures in about 50 percent of newborns.

However, there are challenges around incomplete efficacy of antiseizure medications despite standard treatments. I shall discuss the available emerging therapies that have been used in clinical and preclinical studies. Finally, I will touch on precision therapy with specific antiseizure medication targeted at genetic neonatal onset epilepsies

FORUM

Planetary Health: Impact on Maternal and Neonatal Wellbeing

17th August 2024, Saturday
Moderator: Jamiyah Hassan

Panelists:

- Tan Sri Jemilah Mahmood
- Tan Lay Kok
- Azanna Ahmad Kamar

ABSTRACTS FOR ORAL PRESENTATIONS

Abstract ID: A-0022

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Oral	Neonatal	Research Study

Abstract Title:

Outcomes of Newborn with Down Syndrome in Special Care Nursery in a Lead Cluster Hospital over a 12 Month Period

Authors & Institutions:

Shiau Xian Chen[1], Angeline Aing Chiee Yeoh[1], Choo Hau Lim[1], Ying Rui Eng[1] , Li Yun Ng [2]

[1]Paediatric department, Hospital Seberang Jaya, Penang, Malaysia
[2]Clinical Research Center, Hospital Seberang Jaya, Penang, Malaysia

Researchers' Institution(s):

Paediatric department, Hospital Seberang Jaya, Penang, Malaysia

Corresponding author:

Dr Lim Choo Hau
Paediatric department, Hospital Seberang Jaya, Penang, Malaysia
limchoohau@gmail.com

Additional corresponding author:

Dr Angeline Yeoh Aing Chiee
Paediatric department, Hospital Seberang Jaya, Penang, Malaysia
angeline_yeohaingchiee@yahoo.com

Abstract Text:

Background: Down syndrome (DS) is the most common genetic disorder at birth with a prevalence of 1 in 700 births worldwide. In Malaysia, the incidence of DS is 1 in 959 live births based on a study in 1989. There is no recent data in this region regarding the prevalence and burden of disease of neonates with DS.

Objective: This study aims to analyze the outcomes of newborns with DS admitted to Special Care Nursery (SCN) Hospital Seberang Jaya, Penang.

Methods: A retrospective cross-sectional study was done by reviewing the medical records, from January 2023 to December 2023, of newborns diagnosed with DS in SCN. Variables analyzed included the maternal demographics, perinatal data, medical complications, length of hospital stay, neonatal intensive care unit (NICU) admission and discharge outcomes.

Results: 28 newborns with DS were identified among the 7,121 live births (1 in 254 births). The majority of mothers were Malay (85.7%), with 49.9% aged over 35 years. Most of the mothers lack prenatal diagnosis of DS (96.4%). Spontaneous vaginal delivery was the most common delivery method(46.4%), with 71.4% born at term. There was a male predominance (64.3%).

Th common medical issues encountered were congenital heart diseases (67.9%), respiratory problems (67.9%), gastrointestinal conditions(72%) and infections (82.1%). Other associated problems include hematological abnormalities (42.9%), neurological associations (32.2%), hypothyroidism (28.6%), renal abnormalities (17.9%), hypoglycaemia (17.8%), hearing impairment (10.7%) and cataract (3.5%).
More than half of the patients required NICU admission(53.5%) with 40% being intubated and 89.3% needed oxygen support.
Discharge rate was 64.3% of the newborns, 28.6% were transferred out, and 7.1% had died. The mean length of stay in SCN was 47.6 days. Majority of the newborns were fed orally (53.6%), and had not required oxygen support (64.3%) upon discharge.

Conclusion
Newborns with DS require extensive medical care with prolonged hospital stay. Antenatal and postnatal screening for possible association is crucial for early intervention and improved outcome.

Keywords:

Down Syndrome, Neonates , Newborn, Perinatal

Abstract ID: A-0032

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Short-listed for Best Oral	Oral	Neonatal	Research Study

Abstract Title:

Serum Metabolomic Profiling in Newborn Infants Revealed Distinct Differences Between Those Receiving Parenteral and Enteral Nutrition.

Authors & Institutions:

Sing Kiat CHUO[1], Jen Kit TAN[2], Fook Choe CHEAH[1], Wye Leng Elaine HOOI[3], Seok Chiong CHEE[3]

[1]Department of Paediatrics, Faculty of Medicine, Universiti Kebangsaan Malaysia
[2]Department of Biochemistry, Faculty of Medicine, Universiti Kebangsaan Malaysia
[3]Department of Paediatrics, Selayang Hospital

Researchers' Institution(s):

Department of Paediatrics,Faculty of Medicine,Universiti Kebangsaan Malaysia.

Corresponding author:	Additional corresponding author:
Sing Kiat CHUO Pharmacist and Master of Med Sc Department of Paediatrics, Faculty of Medicine,Universiti Kebangsaan Malaysia. P125334@siswa.ukm.edu.my	Prof. Dr. Fook Choe CHEAH Faculty of Medicine, Universiti Kebangsaan Malaysia cheahfc@ppukm.ukm.edu.my

Abstract Text:

Background: Current nutritional recommendations for preterm newborns are extrapolations from intrauterine accretion rate and breastmilk constitution but it remains unclear how these estimations meet extrauterine metabolic needs. Metabolomics enables comprehensive metabolite assays in biofluids that could provide further insights into nutritional interventions.

Objectives: To characterise the metabolomic profiles in infants receiving parenteral nutrition (PN) vs enteral nutrition (EN) and relate these to clinical outcomes.

Methods: Serum samples from newborns admitted to neonatal units of two Malaysian hospitals in the first week of life were analysed with ultrahigh-performance liquid-chromatography mass spectrometry using an untargeted metabolomic approach. Clinical data was recorded until discharge.

Results: One hundred sixty infants were recruited via purposive sampling (PN, n=64, EN, n=96). Principal component analysis revealed a distinct separation in metabolite clusters, indicating global metabolomic differences between both groups. Of the 147 metabolites identified, 99 were differentially expressed metabolites ($p<0.05$). Fold-change analysis showed at least a 17-fold increase in tyrosine, linolenic acid, and vitamin B6 derivatives, with a 7-fold decrease in tryptophan derivatives in the PN group. Pathway analysis suggested histidine metabolism, vitamin B6 metabolism, and arginine biosynthesis were significantly altered in PN-exposed infants ($p<0.05$, $i>0.1$). Subgroup analysis between both preterm-PN cohorts demonstrated differences in PN formulations resulting in distinctly different tyrosine metabolites that may impact short-term growth and clinical outcomes.

Conclusion: In conclusion, our preliminary findings indicate that preterm infants receiving PN have a distinctly different metabolomic profile, especially in some amino acids, fatty acids and vitamin B than those infants fed enterally. There may be a need to reassess the current nutritional recommendations to narrow the metabolomic gap between PN and EN-fed infants. Future work should focus on the relationship between metabolomics and nutrition for individualised care for the preterm population.

Keywords:

metabolomic; parenteral nutrition; enteral nutrition; neonates; serum

Abstract ID: A-0036

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Oral	Obstetrics	Research Study

Abstract Title:

Does Cervical Length Link to Body Mass Index and Risk of Preterm Labour?

Authors & Institutions:

Nurul Iftida Basri[1,2], Rima Dasrilsyah[1,2], Amilia Afzan Mohd Jamil[1,2], Charmaine Sook Yee Leong[2]

[1]Department of Obstetrics & Gynaecology, Faculty of Medicine & Health Sciences, Universiti Putra Malaysia, Serdang, Selangor, Malaysia

[2]Department of Obstetrics & Gynaecology, Hospital Sultan Abdul Aziz Shah, Universiti Putra Malaysia, Serdang, Selangor, Malaysia

Researchers' Institution(s):

Department of Obstetrics and Gynaecology, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Selangor, Malaysia.

Corresponding author:

Nurul Iftida Basri
Department of Obstetrics and Gynaecology,
Faculty of Medicine and Health Sciences,
Universiti Putra Malaysia, Serdang, Selangor, Malaysia.
nurul.iftida@upm.edu.my

Additional corresponding author:

Abstract Text:

Introduction: Cervical length has been utilized to predict risk of spontaneous preterm birth (sPTB). Evidence suggested that body mass index (BMI) may be linked to cervical length and risk of (sPTB). Cervical length of <2.5cm has been used as the cut-off point in screening for women at risk.

Objective: This study aims to determine the association of cervical length measurement and the risk of sPTB among women without prior history of preterm birth.

Method: Women with singleton pregnancy during midtrimester (18-24 weeks) were recruited for cervical length measurement via transvaginal ultrasound. Those with major fetal anomaly and history of sPTB were excluded. Sociodemographic data including the parity, age, BMI and medical background were obtained. Participants were then followed up till delivery.

Results. Total of 153 women were included in the study. Mean cervical length of the participants was 43.2 ± 7.50mm. Women in all BMI category (underweight, normal, overweight and obese) has similar mean cervical length, with the longest cervical length seen in the normal BMI group (44.0 ± 8.02mm). There were 9 cases of sPTB in in whom 4 women (44%) belongs to overweight/obese group while the other 5 women (56%) belongs to normal BMI group. None of these women has cervical length of less than 25mm.

Conclusion: This study found no association between cervical length, BMI and sPTB among women without prior history of sPTB. A larger sample size is needed to confirm the findings in our population.

Keywords:

Cervical length, Preterm birth, Premature delivery, Universal

Abstract ID: A-0053

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Oral	Neonatal	Research Study

Abstract Title:

Scoring Lung Ultrasound Model to Predict Severity in Preterm Neonate with Respiratory Distress Syndrome

Authors & Institutions:

Meddy Romadhan[1], Risa Etika[1], Martono Tri Utomo[1], Dina Angelika[1], Kartika Darma Handayani[1], Lenny Violetta[2]

[1]Department of Child Health, Faculty of Medicine, Universitas Airlangga, Dr. Soetomo Academic General Hospital Surabaya, Indonesia
[2]Department of Radiology, Faculty of Medicine, Universitas Airlangga, Dr. Soetomo Academic General Hospital Surabaya, Indonesia

Researchers' Institution(s):

Department of Child Health, Faculty of Medicine, Universitas Airlangga, Dr. Soetomo Academic General Hospital Surabaya, Indonesia

Corresponding author: **Additional corresponding author:**

Meddy Romadhan
Department of Child Health, Faculty of Medicine, Universitas Airlangga, Dr. Soetomo Academic General Hospital Surabaya, Indonesia
meddyromadhan@gmail.com

Abstract Text:

Background:
Lung Ultrasound offers a non-invasive, bedside alternative for assesing lung conditions. The Lung Ultrasound Score (LUSs) quantifies lung aeration, potentially facilitating early and accurate diagnosis of neonatal lung diseases. Respiration Distress Syndrome (RDS) is primary cause of respiratory failure in preterm birth, contributing significantly to neonatal morbidity and mortality. Early diagnosis and management of RDS is crucial for improving outcomes in preterm infants.

Objectives:
This study aimed to evaluate the effectiveness of the Lung Ultrasound Score (LUSs) to assessing severity of Respiratory Distress Syndrome in preterm infants.

Methods:
This was a preliminary report of a prospective observational study involving preterm infants born in Dr Soetomo General Hospital before 34 weeks of gestation and suspected of having RDS. All of them were using oxygen support with CPAP, NIPPV or Mechanical Ventilation (MV). LUSs examinations method calculation ranging 0-18 from 6 lung region performed at 0-3 hour and 12-24 hour after birth. The Score was then compared to clinical findings with Down Score and Oxygen Saturation Index (OSI) only for preterm using NIPPV and MV. Inter-Observer reliability also included in the study.

Result:
A total of 36 preterm infants were included in the study. The LUSs examination taken from 12-24 hour after birth associated with clinical severity of RDS. The Mann-Whitney U Test indicated that LUS Score > 2 correlated with Down Score ≥ 4 (p=0,048) and ROC Curve also show moderate Sensitivity (75%) and Spesificity (60%) for assessing RDS Severity. There was no significant difference between LUS Score and Oxygen Saturation Index.

Conclusion:
The application of Lung Ultrasound Score shows promise as a non-invasive and accurate tool for assesing severity of RDS in preterm infants.

Keywords:

LUSs, lung ultrasound score, preterm, RDS

Abstract ID: A-0054

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Oral	Neonatal	Research Study

Abstract Title:

The First Two Years Outcome of Premature Newborns: An Experience from a Tertiary Children's Hospital

Authors & Institutions:

Asiah KASSIM[1,2], **Sze Chiang LUI[1]**, Eunice Gui Yu LEE[2], N Fafwati Faridatul Akmar MOHAMAD[2], Shangari KUNASEELAN[2], Yi Cheau CHUA[2], Yee Yen TAN[2], Maria KAMAL[1], Lai Cheng HOOI[2], Hui Ling LEONG[2], Sin Toun LOH[2], Farah Inaz SYED ABDULLAH[2], Farizah MOHD HAIRI[3], Hafizah ZAINUDDIN[4], Siew Hong NEOH[2]

[1]Clinical Research Centre(CRC), Hospital Tunku Azizah, Kuala Lumpur, Malaysia.
[2]Department of Paediatric, Hospital Tunku Azizah, Kuala Lumpur, Malaysia.
[3]Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia.
[4]Faculty of Medicine, Universiti Sultan Zainal Abidin (UNISZA), Terengganu, Malaysia.

Researchers' Institution(s):

Clinical Research Centre (CRC), Hospital Tunku Azizah, Kuala Lumpur, Malaysia.

Corresponding author:	Additional corresponding author:
Dr. Lui Sze Chiang Clinical Research Centre (CRC), Hospital Tunku Azizah, Kuala Lumpur, Malaysia. researchwchkl@moh.gov.my	Dr. Asiah Kassim Clinical Research Centre (CRC) and Department of Paediatric, Hospital Tunku Azizah, Kuala Lumpur, Malaysia. asiahkassim@moh.gov.my

Abstract Text:

Background: Prematurity is the leading cause of death for children globally and is associated with various complications and morbidity.

Objectives**:** We aimed to describe the first two years' outcomes of premature newborns with 25 to 34 gestation weeks in a tertiary children's hospital.

Methods: We conducted a prospective observational study on Malaysian premature newborns with 25+0 to 33+6 gestation weeks delivered from 1 July 2020 to 31 July 2021 in a tertiary children's hospital in Kuala Lumpur. We collected the data from patients' electronic medical records and phone call to parents every six months.

Results: We recruited 355 premature newborns: 50.7% male, 71.5% Malay, 39.7% and 35.5% from B40 and M40 groups, respectively. The mean birth weight was 1568.1grams (SD 506.03 grams), 12.1% extremely preterm, 38.0% very preterm, and 49.9% moderate to late preterm. Forty-five per cent were intubated at birth, 85.9% required non-invasive ventilation, and 69.3% needed oxygen therapy during early neonatal period. The mortality rate at term or first discharge was 8.7%. Six subjects required long term oxygen therapy. Complications among 293 infants followed up to 1 year old were eye complications (23.2%), failure to thrive (18.1%), pneumonia (15.7%), developmental delay (7.2%), and speech delay (3.8%). Among 273 who followed up until two years old, failure to thrive (24.9%), eye complications (22.7%), developmental delay (22.7%), pneumonia (22.3%), and speech delay (7.7%).

Conclusion: Prematurity has various short-term and long-term complications. Detailed assessment during follow-up is crucial for early detection and intervention.

Keywords:

premature, outcomes, complications

Abstract ID: A-0069

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Oral	Neonatal	Research Study

Abstract Title:

Foot Length as an Alternative for Estimation of Endotracheal Tube Length in Neonates

Authors & Institutions:

May Vern Tan, Joanne PEREIRA, Amira Farhana ABDUL JAMAL, Pauline Poh Ling CHOO

Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Tuanku Ja'afar Seremban

Researchers' Institution(s):

Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Tuanku Ja'afar Seremban

Corresponding author:

Dr Tan May Vern
Neonatal Intensive Care Unit,Department of Paediatrics,
Hospital Tuanku Ja'afar Seremban
tanmayvern@gmail.com

Additional corresponding author:

Abstract Text:

Background: Intubation in neonates is a vital procedure in newborn resuscitation. An appropriate placement and correct positioning of the endotracheal tube ensures proper ventilation in these newborns. Currently, weight related normograms or the more commonly known “weight (kg) +6” formula is used to predict the length of the endotracheal tube in most centres here in Malaysia. In an acute setting, weight may not be readily available and gross estimations are made. There have been increasing studies on foot length and it is slowly being recognised as an alternative anthropometric measurement in neonates. Measurement of the foot length in neonates is also easy and straightforward without interfering the resuscitation process.

Objectives: In this study, we aimed to determine if there was a direct correlation between foot length and the anchored endotracheal tube length in our neonatal population.

Methods: We conducted a prospective study where the foot length was measured and the anchored endotracheal tube length were documented in 80 babies that required ventilation in our neonatal intensive care unit in Hospital Tuanku Ja’afar Seremban from 1st January 2024 to 31st May 2024.

Results: Our analysis showed a strong positive correlation between the foot length and anchored endotracheal tube length with a Pearson correlation co-efficient, *r* of 0.837, *P*-value <0.001.

Conclusion: Foot length may be considered as an alternative to predict the optimum position of the endotracheal tube length in neonates. Clinically, measuring the foot length could be more convenient than obtaining the weight especially in ill babies. Ultimately, the gold standard for confirming the position of an endotracheal tube placement is via a chest radiograph.

Keywords:

foot length, anchored endotracheal tube length, intubation

Abstract ID: A-0070

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Short-listed for Best Oral	Oral	Neonatal	Research Study

Abstract Title:

Reducing Nasal Injuries: Before and After Study of Alternating Nasal Mask and Nasal Prong Interface During Non-Invasive Ventilation Versus Continuous Application of an Interface

Authors & Institutions:

Deborah Ann SANTHANAM[1], Mehala BASKARAN[2], Hasmah IBRAHIM[3]

[1]Department of Paediatrics, Hospital Pulau Pinang, Malaysia
[2]Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Pulau Pinang, Malaysia
[3]Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Pulau Pinang, Malaysia

Researchers' Institution(s):

Department of Paediatrics, Hospital Pulau Pinang, Malaysia

Corresponding author:

Dr Deborah Ann Santhanam
Department of Paediatrics, Hospital Pulau Pinang, Malaysia
deborahanns13@gmail.com

Additional corresponding author:

Abstract Text:

Background: Non-invasive ventilation (NIV) is the standard respiratory therapy for premature infants. However, it increases risk of nasal injuries, with incidence rates ranging from 20% to 60%. Evidence-based interventions to reduce nasal injuries include proper device sizing, improved nursing care and the use of barrier dressings. Alternating nasal masks and prongs is another potential preventive measure. We had an increased incidence of nasal injuries in our unit leading to a review of our practice. We identified possible causes as pressure from the interface, recycling interfaces and late detection of injuries obscured by barrier dressing and inadequate monitoring.

Objective: To evaluate the efficacy of alternating nasal masks and prongs in reducing nasal injuries in VLBW infants.

Methods: In December 2020, a new practice of alternating nasal masks and prongs 4-hourly along with a 4-hourly nasal injury monitoring chart was introduced. Importance of the correct interface sizes was emphasized while recycling of interface was reduced. We also stopped using barrier dressing that obscured the nasal septum. A before and after study of pre-intervention period (2018-2020) and post-intervention period (2021-2023) was performed by reviewing case notes of all premature VLBWs needing NIV to assess the impact on incidence of nasal injuries.

Results: During the first period, data of 97 infants were reviewed with 8 cases of nasal injuries recorded. In contrast, during the second period, involving 104 infants, no nasal injuries were reported. There was a significant reduction in nasal injuries when masks and prong were alternated with improved monitoring.

Conclusion: Alternating nasal masks and prongs reduces nasal injuries as it alleviates pressure points on the skin caused by prolonged device use at specific sites. Stopping barrier dressing, close monitoring and improved nursing care were other useful interventions.

Keywords:

neonatal ventilation, neonates, nasal cpap, non-invasive ventilation, nasal injuries, neonatal nursing, skin damage, pressure injury

Abstract ID: A-0074

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Short-listed for Best Oral	Oral	Neonatal	Research Study

Abstract Title:

Improving Neonatal Umbilical Venous Catheter Insertion Length Estimation Using Body Surface Anatomy Measurements and Machine Learning Analysis in Building a Novel Estimation Formula.

Authors & Institutions:

Chuin Hen LIEW[1,2], Navindran GUNASEKARAN[1], Sin Yee TEO[3], Siti Khairunnisaak ABDUL RAHMAN[4], Zurina ABDUL WAHAB[4], Arvind BASKARAN[1], Khairani ABD. MAJID[5]

[1]Pediatric Department, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia.
[2]Clinical Research Centre, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia.
[3]Radiology Department, Hospital Segamat, Segamat, Ministry of Health Malaysia.
[4]Radiology Department, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia.
[5]Digital Health & Health Informatics, International Medical University, Kuala Lumpur, Malaysia

Researchers' Institution(s):

Pediatric Department, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia

Corresponding author:

Chuin Hen LIEW
Pediatric Department, Hospital Tuanku Ampuan Najihah,
Kuala Pilah, Ministry of Health Malaysia
chuinhen@hotmail.com

Additional corresponding author:

Abstract Text:

Background: Malpositioning of umbilical venous catheter (UVC) occurs frequently, with nearly 50% incidence. Accurately estimating UVC insertion length is critical to prevent complications that can lead to morbidity and mortality. Current methods, including the weight-based Shukla's formula, are imprecise.

Objectives: This study aims to develop and validate a new model to predict the optimal UVC insertion length.

Methods: A prospective cross-sectional study was conducted with 66 newborns at Hospital Tuanku Ampuan Najihah from April 1, 2023, to April 13, 2024. Optimal UVC length was defined by the tip placement at the right hemidiaphragm level, confirmed via lateral radiograph. Two radiologists assessed the distance from the catheter tip to the right diaphragm, while two clinical researchers measured 12 body surface markers. Data were divided into training (70%), internal validation (15%), and external validation (15%) datasets. Spearman's rank test filtered highly correlated variables with optimal UVC length. The random forest algorithm, based on Gini impurity decrement, ranked the best predictors. Twelve machine learning algorithms were trained and optimized using Grid search with 5-fold cross-validation.

Results: Four variables showed a high correlation with optimal UVC length: birth weight (r=0.86), gestational age (r=0.84), umbilical-suprasternal notch distance (U-SSN) (r=0.84), and suprasternal notch to pubis distance (r=0.81). Random forest algorithm ranked gestational age and U-SSN as the best predictors. The linear regression model trained with U-SSN showed the best internal and external validation performance (RMSE=0.60, MAE=0.49, MAPE=6.66, R^2=0.84). The formula derived was: UVC insertion length = 0.67*USSN (cm) + 0.13. This new formula outperformed Shukla's formula (RMSE=0.91, R^2=0.69). External validation revealed that the new formula correctly positioned UVC 70% of the time, compared to only 38% with Shukla's formula.

Conclusion: The new formula using U-SSN distance is validated with high performance. This study's novelty lies in leveraging machine learning algorithms for predictor selection and model optimization.

Keywords:

Umbilical venous catheter, Novel formula, Machine learning

Abstract ID: A-0084

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Short-listed for Best Oral	Oral	Neonatal	Research Study

Abstract Title:

Neonatal Jaundice: Each Hour Counts! A Pilot Study

Authors & Institutions:

Chiu Xian LEE, Punita CHANDRASEGARAN, Angeline Seng Lian WAN

Department of Paediatrics, Hospital Melaka

Researchers' Institution(s):

Department of Paediatrics, Hospital Melaka

Corresponding author:

Chiu Xian LEE
Department of Paediatrics, Hospital Melaka
chiuxian826@gmail.com

Additional corresponding author:

Angeline Seng Lian WAN
Department of Paediatrics, Hospital Melaka
angelinewsl@yahoo.com

Abstract Text:

Background: Neonatal jaundice (NNJ) or unconjugated hyperbilirubinemia is a physiological condition. If no timely treatment is delivered, it can lead to neurotoxicity which can result in significant morbidity like acute bilirubin encephalopathy. The mainstay of treatment of NNJ is phototherapy but the burden of severe NNJ does not seem to de-escalate. Over the years, various factors have been extensively studied in regard to efficacy of treatment of NNJ. However, there is limited literature on prehospital factor such as transit time from health care facility to tertiary hospital and escalation of treatment for NNJ

Objective: To study the association between transit time and escalation of treatment

Method: This study was conducted from 1st August to 1st September 2023 in Hospital Melaka. A questionnaire was designed to collect data from all cases referred from Klinik Kesihatan (KK) to Hospital Melaka for phototherapy. Total 100 subjects were included. Transit time is defined as the difference between the referral-to-admission time. The total serum bilirubins (TSB) from KK (at referral time) and on admission are compared against a threshold for phototherapy based on a normogram. When the net change of TSB comparing referral-to-admission results exceeds 50umol/L, treatment is escalated from single to double phototherapy.

Results: There is an association for transit time » 3 hours and escalation of treatment after adjusted with risk factors including gestational age, significant weight loss. (p value < 0.05)

Conclusion: Neonatal jaundice cannot be prevented in newborns but timely intervention to arrest its progression may reduce the incidence of severe neonatal jaundice and kernicterus. Strategies to prevent severe NNJ include health education to caretakers on adherence to the standard guidelines and most importantly timely presentation to hospital for appropriate treatment initiation.

Keywords:

Transit time, escalation of neonatal jaundice treatment

Abstract ID: A-0089

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Short-listed for Best Oral	Oral	Neonatal	Research Study

Abstract Title:

Randomized Controlled Trial on 360° Phototherapy versus Single Surface LED Phototherapy with White Curtain in Neonatal Hyperbilirubinemia

Authors & Institutions:

Nik Amalia binti Nik Najib, Noraida binti Ramli, Hans Van Rostenberghe

Pediatrics Department, Hospital Universiti Sains Malaysia, Kelantan, Malaysia

Researchers' Institution(s):

Pediatrics Department, Hospital Universiti Sains Malaysia, Kelantan, Malaysia

Corresponding author:

Associate Professor Dr. Noraida binti Ramli
Pediatrics Department,
Hospital Universiti Sains Malaysia,
Kelantan, Malaysia
aidaramli@usm.my

Additional corresponding author:

Professor Hans Van Rostenberghe
Pediatrics Department,
Hospital Universiti Sains Malaysia,
Kelantan, Malaysia
hansvro@usm.my

Abstract Text:

Background: Neonatal hyperbilirubinemia is a common issue worldwide, potentially leading to severe complications such as bilirubin encephalopathy. Phototherapy remains the standard treatment due to its accessibility and effectiveness.

Objectives: This study aimed to compare the efficacy of 360° phototherapy versus single surface LED phototherapy in managing neonatal hyperbilirubinemia requiring intensive phototherapy.

Methods: A randomized controlled trial conducted from December 2022 to March 2023 at Hospital Universiti Sains Malaysia included 40 neonates. Patients were randomly assigned to receive either 360° phototherapy or single surface LED phototherapy. Total serum bilirubin levels were measured at 0, 4, 10, and 24-hour intervals until phototherapy discontinuation. Side effects were monitored, and a questionnaire were done to assess the ease of use of 360° phototherapy among Neonatal ICU staff nurses.

Results: Both 360° phototherapy and single surface LED phototherapy significantly reduced total serum bilirubin levels ($p < 0.005$). Neonates treated with 360° phototherapy achieved faster reductions at all assessment points. The log-rank test comparing the two groups yielded a significant difference in phototherapy duration ($p = 0.004$). Cumulative proportion analysis at key time points (4-Hr, 10-Hr, and 24-Hr) revealed higher proportions achieving treatment goals earlier with 360° phototherapy. Nurses rated placing (98%) and removing (95%) infants from the device positively. Cleaning received a 75% positive rating, with 23% neutral and 2.5% negative responses. Monitoring was positive (93%), but 5% found it challenging. Feedback on feeding varied: 58% positive, 33% neutral, and 10% negative. Baby comfort was perceived positively by 90%.

Conclusion: While both modalities effectively reduced serum bilirubin levels, 360° phototherapy demonstrated superior efficacy in achieving therapeutic targets more rapidly than single surface LED phototherapy. Safety profiles were comparable between groups. Further large-scale studies are needed to validate these findings and establish 360° phototherapy as standard in Malaysian Neonatal Hyperbilirubinemia protocols.

Keywords:

neonatal hyperbilirubinemia, 360° phototherapy, single surface LED phototherapy

Abstract ID: A-0092

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Short-listed for Best Oral	Oral	Neonatal	Research Study

Abstract Title:

Medical and Nursing Staff's Perception of End of Life Care in a Malaysian Tertiary Neonatal Intensive Care Unit

Authors & Institutions:

Kaysha-Lin LEXMINARAYANA, Zhi Chiing PANG, Izyan Khalidah HAMIZI, Zhi Wei CHOO, Kai Ning TAN, Chee Sing WONG,

Department of Paediatrics, Hospital Raja Permaisuri Bainun Ipoh, Perak

Researchers' Institution(s):

Department of Paediatrics, Hospital Raja Permaisuri Bainun, Ipoh, Perak

Corresponding author:

Dr. Kaysha-Lin Lexminarayana
Department of Paediatrics,
Hospital Raja Permaisuri Bainun Ipoh, Perak
kaysha.lin@gmail.com

Additional corresponding author:

Abstract Text:

ABSTRACT

Objectives: Neonatal end-of-life (EOL) care decision-making is a difficult and highly emotional task, which is often controversial from medical, ethical, and legal viewpoints. Due to paucity of local data, we aimed to determine medical and nursing staff's perception towards neonatal EOL care in a Malaysian tertiary NICU, to identify facilitators and barriers of neonatal palliative care.

Materials and Methods: A questionnaire-based prospective cross-sectional study done at a Malaysian tertiary NICU by collecting data using the Neonatal Palliative Care Attitude Scale (NiPCAS) survey which has 26 attitudinal questions on a Likert scale.

Results: Of 61 participants, including 30 doctors(49%) and 31(51%) nurses, there was a strong level of agreement of neonatal palliative care across both groups with a mean score of 4.31 out of 5. Nursing staff's level of agreement on all members of the team supporting and providing palliative care for a dying baby (mean score 4.58[0.564]) was greater than medical staff (mean score 4.03[0.718]). Medical staff more strongly opined that policies/guidelines on provision of palliative care was lacking (mean score 2.83[0.874]), compared to nursing staff (mean score 3.81 [1.223]). Facilitators of neonatal palliative care identified are: (1) support for neonatal palliative model of care by healthcare team, (2) healthcare team that can express values, opinions and beliefs about providing care for dying babies, (3) parental involvement in decision-making for a dying baby. Barriers for provision of palliative care include (1) lack of policies/guidelines, (2) lack of formal education/training, (3) insufficient time spent with family by medical staff, (4) ethical concerns when parents request to continue life support beyond what nursing staff feel comfortable with.

Conclusion: This study identified barriers to and facilitators of EOL care as perceived by medical and nursing staff in a tertiary NICU in Malaysia; these may form a basis for more local studies to examine reality and enhance provision of neonatal palliative care.

Keywords:

Neonatal palliative care, Pain management, NiPCAS survey

Abstract ID: A-0094

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Oral	Neonatal	Research Study

Abstract Title:

Prediction of Mortality in Very Preterm Infants: A Scoping Review

Authors & Institutions:

Alvin Kwok Meng WONG, Jimmy Kok Foo LEE, Xue Zhi HON, Qi Yang CHENG, Zhi Hong CHAI, Yong Sheng LAI

Clinical School Johor Bahru, Monash University Malaysia, Malaysia

Researchers' Institution(s):

Clinical School Johor Bahru, Monash University Malaysia, Malaysia

Corresponding author:	Additional corresponding author:
Associate Professor Dato Dr Jimmy Lee Kok Foo Clinical School Johor Bahru, Monash University Malaysia, Malaysia Jimmy.Lee@monash.edu	Alvin Wong Kwok Meng Clinical School Johor Bahru, Monash University Malaysia, Malaysia alvinw00@outlook.com

Abstract Text:

Background: Very premature infants are at high risk of mortality. Deploying an effective prediction model of mortality for this vulnerable population is crucial for risk stratification and management planning.

Objective: To evaluate the discriminatory abilities of mortality prediction models of very preterm and very low birth weight upon admission to neonatal intensive care units (NICUs) across different income nations. Secondary objectives include identifying possible risk factors developed after admission, which could improve the prediction models for mortality.

Methods: Ovid MEDLINE, PubMed, Embase, Scopus, CINAHL, Web of Sciences and Cochrane electronic databases were searched to identify relevant research articles published since 2003 onwards, where established scores of CRIB-II and SNAP-II were first introduced. MeSH terms included “Risk factors”, “Illness severity index”, “Survival sequelae”, “Mortality”, “Prematurity” and “Infants”. Joanna Briggs Institute (JBI)’s methodology was used to guide this review protocol. The identified peer-reviewed citations and abstracts were reviewed using Covidence.

Results: The search yielded a total of 4800 articles, 4477 irrelevant papers were excluded. Of the 323 articles that underwent full-text review, 56 distinct studies met the inclusion criteria. There was a range of evidence given for calibration, discrimination, and area under the receiver operator characteristic curve among countries with different income status. Notably, CRIB-II (AUC: 0.69-0.84) and SNAP-II (AUC: 0.72-0.81), had no significant statistical difference in predictive power. Additional independent variables after admission, based on multivariate analysis, to further improve performance of estimation, included sepsis (n=20), IVH (n=14), NEC (n=9) and serum lactate acid (n=5). The proportion for the variability reported was 27-52% after consideration of identified risk factors.

Conclusion: CRIB-II and SNAP-II demonstrated a greater discriminatory ability, as compared to gestational age and birth weight. Therefore, pilot studies from existing MNNR centres should be conducted to investigate suitable prediction models in Malaysia.

Keywords:

Very Preterm, Very Low Birth Weight, Infants, Mortality, Prediction, Neonatal Intensive Care Units (NICUs)

ABSTRACTS FOR POSTER PRESENTATIONS

Abstract ID: A-0003

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Infant Outcomes Following Palivizumab Prophylaxis in a Year-Round RSV Season

Authors & Institutions:

Pei Sing CHAN[1], David Chun-Ern NG[2], Pei Yuan TAN[1], Nur Fadzreena FADZILAH[1], Nur'Atikah ASNARULKHADI[1], Pon Ling LAU[1]

[1]Neonatal Intensive Care unit, Department of Paediatrics, Hospital Tuanku Jaafar Seremban
[2] Paediatric Infectious Unit, Department of Paediatrics, Hospital Tuanku Jaafar Seremban

Researchers' Institution(s):

Neonatal Intensive Care unit, Department of Paediatrics, Hospital Tuanku Jaafar Seremban

Corresponding author:

Pei Sing CHAN
Neonatal Intensive Care unit, Department of Paediatrics,
Hospital Tuanku Jaafar Seremban
peising11@gmail.com

Additional corresponding author:

Abstract Text:

Introduction: Respiratory syncytial virus (RSV) is a significant cause of respiratory illness in young infants. Palivizumab, a monoclonal antibody, has been used for RSV prophylaxis in high-risk infants, typically administered in a 5-dose series aligned with RSV's seasonal peak in temperate regions. However, the efficacy of this regimen in tropical countries where RSV circulates year-round, remains unclear. This study aims to determine the incidence and severity of RSV hospitalizations in Malaysian infants following palivizumab prophylaxis.

Methods: A retrospective cohort study was conducted on infants who had received palivizumab in the neonatal unit in Hospital Tuanku Ja'afar Seremban between 2017-2021. We analyzed hospital admission records to identify RSV-related hospitalizations within two years post-prophylaxis, the time lapse after the last palivizumab dose and the severity of the hospitalizations.

Results: A total of 142 infants received palivizumab prophylaxis during the study period. Of the infants studied, 21 (14.7%) were hospitalized with RSV. The median lapse between the final palivizumab dose and RSV hospitalization was 29 weeks (8 - 57 weeks). The median age when the infant was hospitalized with RSV was 15 months old (7 – 20 months). Among those hospitalized, 4 (19%) required Paediatric intensive care unit (PICU) admission and all were discharged alive. Only three hospitalizations occurred within 8 weeks post-prophylaxis, all of which were non-severe with a median hospital stay of 3 days.

Conclusion: The standard 5-dose regimen of palivizumab appears to be sufficient for infants in a non-temperate setting like Malaysia, as most RSV hospitalizations occurred well after the infant's first year of life. Our study supports the current prophylaxis strategy and underscores the need for targeted prevention measures in high-risk populations.

Keywords:

Palivizumab, RSV, neonate

Abstract ID: A-0004

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Septic Shock Complicating Disseminated Neonatal Syphilis With Herpes Simplex Virus Co-Infection

Authors & Institutions:

Aliyyah MOHAMMAD KHUZAINI[1,2], Saarah Huurieyah WAN ROSLI[1], Adilah W. AB RAHIM[1,2], Halimah ABDUL HALIM[3], Azie Jumaatul Adawiyah NABIR[1,2]

[1] Faculty Of Medicine And Health Sciences, Universiti Sains Islam Malaysia, Malaysia
[2] Paediatric Department, Hospital Ampang, Ampang, Malaysia
[3] KPJ Tawakal Hospital, Kuala Lumpur, Malaysia

Researchers' Institution(s):

Paediatric Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Malaysia

Corresponding author: **Additional corresponding author:**

Dr Aliyyah Mohammad Khuzaini
Paediatric Unit, Faculty Of Medicine And Health Sciences,
Universiti Sains Islam Malaysia, Malaysia
aliyyahkhuzaini@usim.edu.my

Abstract Text:

Background: Neonatal sepsis with atypical infections should be suspected in mothers with poor antenatal follow up. Early recognition of disseminated viral infection in neonates is challenging due to non-specific clinical manifestations. Coinfections should be suspected in neonates with poor condition at birth. We report a case of neonatal sepsis complicated with septic shock due to syphilis and congenital herpes simplex co-infection.

Case report:
A baby girl was born with a birth weight of 2.55kg via spontaneous vertex delivery at 36 weeks of gestation by Ballard score estimation. Her mother had an un-booked and unscreened pregnancy. She presented with signs of active labour and was tested positive for syphilis upon admission. The mother was treated with intravenous benzylpenicillin post-delivery. The baby required intubation at birth for respiratory distress and developed hypotensive shock shortly after delivery. Examination revealed a non-dysmorphic baby with hepatomegaly and ascites. There were no rashes, and other systemic examinations were normal. Laboratory investigations showed an elevated total white count of 52.8 x 109/L, platelet count of 341x109/L, C-reactive protein level of 106 mg/L and normal liver functions. Her peripheral blood film showed a reactive process. Her serial blood cultures were sterile. She had syphilis titre of 1:40 from both serum and cerebrospinal fluid (CSF). Unfortunately, she was also tested positive for Herpes simplex virus type 2 (HSV-2) IgM from serum, while HSV-2 DNA from CSF was not detected. The patient completed intravenous C-penicillin for three weeks and Acyclovir for six weeks. She was discharged with a normal neurological and abdominal examination.

Conclusion: This case emphasizes the importance of a high index of suspicion for herpes and syphilis in neonates with sepsis, particularly those born to high-risk mothers. Early diagnosis and prompt treatment are essential for improving outcomes in these vulnerable patients.

Keywords:

Neonatal sepsis, shock, septic, neonatal syphilis, herpes simplex virus 2

Abstract ID: A-0005

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Exploring Palliative Care Services for Patients with Bronchopulmonary Dysplasia: A Comprehensive Review and Clinical Insights

Authors & Institutions:

Aliyyah MOHAMMAD KHUZAINI[1,2*], Adilah W. AB RAHIM[1,2]

[1]Paediatric Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia
[2]Paediatric Department, Hospital Ampang, Ampang, Malaysia

Researchers' Institution(s):

Paediatric Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia

Corresponding author:

Dr Aliyyah Mohammad Khuzaini
Paediatric Unit, Faculty of Medicine and Health Sciences
Universiti Sains Islam Malaysia
aliyyahkhuzaini@usim.edu.my

Additional corresponding author:

Abstract Text:

Background: Palliative care focuses on improving the quality of life for patients with life-limiting illnesses through effective communication, holistic symptom management, family support, and grief assistance. Patients with bronchopulmonary dysplasia (BPD) have complex needs significantly affecting the quality of life of patients and their family.

Objectives: The objective of this systematic review is to investigate the delivery of palliative care service in patients with severe BPD, the enablers and barriers to such services and their outcomes.

Methods: We searched PubMed, Embase, Scopus, Web of Science, and CINAHL databases from inception until April 2024 and reviewed references manually. Eligible articles were published in English, involved paediatric patients aged 0-18 years with severe bronchopulmonary dysplasia, and contained original data regarding patient and family illness and end-of-life experiences. Two authors independently screened the articles, extracted data, and assessed quality. Results were synthesised as a systematic narrative synthesis.

Results: Palliative care services offer essential support for children with BPD and their families. They provide symptom management to enhance comfort, facilitate open communication to navigate medical decisions, and offer guidance for end-of-life care. Palliative care empowers families to make informed decisions, ensuring comfort and dignity for the child. The analysis highlights barriers faced by parents/carers and healthcare professionals (HCPs) in accessing palliative care, including societal norms and lack of information. Physicians often avoid palliative care due to concerns about family readiness. Parents struggle with follow-ups and other commitments. However, enablers such as forming committees and educational campaigns can help.

Conclusion: We demonstrate that palliative care offers significant benefits for children with severe BPD and their families. While some barriers hinder access, education and improved communication can facilitate earlier integration of palliative care. Further research is needed to explore optimal strategies to incorporate palliative care in patients with BPD.

Keywords:

Bronchopulmonary Dysplasia, Quality of Life, Palliative Care

Abstract ID: A-0006

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Nursing	Research Study

Abstract Title:

Depression, Anxiety And Stress Among Pregnant Women In Northen Perlis: A Cross Sectional Survey

Authors & Institutions:

Ajui SF[1,2], and Ahmad Zaki MA[3].

[1]Center for Nursing Studies, Faculty of Health Sciences, Universiti Teknologi MARA, Cawangan Selangor, Kampus Puncak Alam
[2]Department of Paediatrics, Hospital Tuanku Fauziah, Ministry of Health Malaysia, Malaysia
[3]Faculty of Health Sciences, Universiti Teknologi MARA, Cawangan Pulau Pinang, Kampus Bertam

Researchers' Institution(s):

Department of Paediatrics,Hospital Tuanku Fauziah,01000 Kangar, Perlis, Malaysia.

Corresponding author: **Additional corresponding author:**

Sitti Fatimah binti Ajui,
Department of Paediatric,Hospital Tuanku Fauziah,01000
Kangar, Perlis, Malaysia.
laipeace4@gmail.com

Abstract Text:

Background: Women are more susceptible to emotional and psychological problems such as depression, anxiety, and stress, which can have negative effects on both the mother and fetus during the pregnancy period. Pregnant women with early mental health screening may help to maintain their mental health and prevent long-term child development risks.

Objective: This study aims to determine the level of DAS (depression, anxiety, stress) and the possible factors affecting DAS among pregnant women.

Method: A cross-sectional quantitative study was conducted at government Maternal and Child Health clinics, involving 263 pregnant women recruited through convenience sampling. Data were collected using a questionnaire consisting of socio-demographic items and Depression, Anxiety and Stress Scale (DASS-42) scale started 03 June to 30 August, 2024. According to a recent study, a majority of pregnant women reported normal levels of depression (89.5%), anxiety (73.2%), and stress (93.3%). However, the study also revealed that anxiety levels were higher in the moderate to extreme category (11.7% (n=28) moderate, 4.2% (n=10) severe, 2.5% (n=6) extreme) compared to depression (3.8% (n=9) moderate, 1.3% (n=3) severe, 0.4% (n=1) extreme) and stress (1.7% (n=4) moderate, 1.3% (n=3) severe, 0% extreme). These findings highlight the importance of addressing anxiety in pregnant women and providing the necessary support to help them cope with this common mental health issue during pregnancy. Additionally, a significant association between depression and comorbidity was identified ($P<0.005$).

Conclusion: This study provides crucial insights for healthcare professionals to identify and treat significant levels of DAS among pregnant women. Ultimately, this can enhance the well-being of both mothers and children in Perlis.

Keywords:

Depression, Anxiety, Stress, Pregnant Woman

Abstract ID: A-0007

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

The Impact of an Educational Programme on Discharge Readiness in Mothers of Premature Infants at a Tertiary Hospital in Kuala Lumpur, Malaysia

Authors & Institutions:

Kang Wei NG[1], Yao Mun CHOO, Azanna AHMAD KAMAR

Neonatal Intensive Care Unit, Department of Paediatrics, University Malaya Medical Centre

Researchers' Institution(s):

Neonatal Intensive Care Unit, Department of Paediatrics, University Malaya Medical Centre

Corresponding author: **Additional corresponding author:**

Kang Wei NG
Neonatal Intensive Care Unit, Department of Paediatrics,
University Malaya Medical Centre
89nkw0124@gmail.com

Abstract Text:

Background: The rising prevalence of preterm births has highlighted the importance of addressing the readiness of parents to care for premature infants upon discharge from the Neonatal Intensive Care Unit (NICU).

Objectives: This study focuses on assessing maternal readiness for preterm infant care after discharge by implementing a tailored locally contextualized education programme to empower the parents of preterm infants.

Methods: This is a quasi-experimental before-and-after cohort study. Mothers of preterm infants born between 28 weeks to <35 weeks' completed gestation were recruited into control group and education group. The control group received Basic Life Support (BLS) teaching, while the education group received an additional education programme, in the form of education videos and face-to-face teaching. Parental readiness was evaluated using the Paediatric Readiness for Hospital Discharge Scale (PedRHDS) questionnaire, conducted before (in the first-week post-delivery) and after the program (in the week of infant hospital discharge).

Results: Results highlighted the effectiveness of the parental education programme in enhancing maternal readiness in four domains: Personal Status, Knowledge, Coping Ability, and Expected Support. Mothers in the education group experienced significant improvement across all domains, while those in the control group did not show substantial differences. These findings emphasize the positive impact of contextualized parental education programme. These results present a compelling case for the continued development and implementation of contextualized parental education programme in NICU.

Conclusion: This study emphasizes the need for ensuring comprehensive hospital NICU policies and guidelines for discharge that include a parental education programme. A contextualized education programme is a fundamental component of NICU discharge planning, ultimately benefiting the infants and their families. This research offers a valuable blueprint for improved care and support to mitigate the health challenges linked to preterm birth and to improve the long-term well-being of these vulnerable infants.

Keywords:

Parental Education, NICU Discharge Planning, PedRHDS questionnaire, Premature Infant Care

Abstract ID: A-0008

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Untwist the Twisted! A Rare Presentation of Intrauterine Volvulus

Authors & Institutions:

Shalini SELVARAJA, Lee Ser CHIA,

Department of Paediatrics, Hospital Sultan Ismail, Johor Bahru, Malaysia

Researchers' Institution(s):

Hospital Sultan Ismail , Johor Bahru

Corresponding author: **Additional corresponding author:**

Dr Shalini Selvaraja
Department of Paediatrics, Hospital Sultan Ismail, Johor Bahru
shalini8866@gmail.com

Abstract Text:

Introduction: Intrauterine intestinal volvulus is a rare condition that involves the rotation of the small intestine and the proximal colon around the superior mesenteric artery leading to complete intestinal obstruction and ischemic vascular damage. This case signifies the importance of early recognition and prompt referral for surgical intervention.

Case Report:
A newborn baby was admitted to our neonatal intensive care unit due to gross abdomen distension. He was delivered via spontaneous vaginal delivery at 34 weeks 6 days. Clinical examination revealed a non-dysmorphic baby boy with a tense, distended, discoloured abdomen and prominent dilated veins. He was intubated at 6 hours of life due to progressive abdominal distension causing respiratory compromise. He had required multiple fluid resuscitation for worsening metabolic acidosis. Urgent abdominal X-ray showed homogenous abdominal cavity. The abdominal ultrasound scan revealed large bowel dilatation with presence of gross complex free fluid, raising the possibility of perforated viscus. A paediatric surgical referral resulted in urgent abdominal drain of 150 mls of haemorrhagic fluid. Laparotomy at 17 hours of life had showed cocooned bowel with volvulus. There was a gangrenous bowel loop with multiple intestinal perforations. Ten cm of unhealthy small bowel was resected and was clipped and dropped as some part of the bowel appeared congested and planned for relaparotomy. A re-laparotomy at 132 hours of life revealed viable and healthy remaining parts of the small and large bowels. Primary anastomosis was done. Oral feeding was initiated on day 15 of life, and he was tolerating full feeding by day 19 of life.

Conclusion:
Early recognition and stabilisation of intrauterine volvulus is extremely important for prompt surgical intervention to avoid further irreversible complications in a newborn.

Keywords:

intrauterine volvulus

Abstract ID: A-0009

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

"Why my baby's shoulder is big?": A rare case of subcutaneous haemangioma of the shoulder

Authors & Institutions:

Jing Shin TAN, Pannerselvan Poongundran,

Neonatal Unit, Paediatric Department, Hospital Kulim, Kedah, Malaysia

Researchers' Institution(s):

Neonatal Unit, Paediatric Department, Hospital Kulim, Kedah, Malaysia

Corresponding author:

Dr.Tan Jing Shin
Neonatal Unit, Paediatric Department,
Hospital Kulim, Kedah, Malaysia
jshintan@gmail.com

Additional corresponding author:

Dr.Pannerselvan Poongundran
Neonatal Unit, Paediatric Department,
Hospital Kulim, Kedah, Malaysia
poong126@yahoo.com

Abstract Text:

Case Report:

Haemangiomas are benign vascular tumours that can be present at birth in 30% of the cases while the rest become apparent within 4 weeks of age. Our baby was born at 39 weeks to a mother with gestational diabetes mellitus on diet control. She had a large skin lesion over the right shoulder extending to the deltoid region, which was not detected during antenatal scan. The skin lesion is raised, purplish, non-ulcerative, well circumscribed in appearance, soft in consistency, non-pulsatile in nature. Urgent ultrasound of right shoulder noted a right shoulder subcutaneous lesion likely represents high flow arteriovenous malformation, but no pathology was found in the no brain and abdomen ultrasound scans. During the 2 weeks of stay in the hospital, there was no change in the size of haemangioma, and full blood count did not show thrombocytopaenia. The baby had no facial dysmorphism to suggest PHACES syndrome. The baby had active movement of right shoulder, no restriction or bleeding tendency was observed. MRI done identified a subcutaneous haemangioma with no intramuscular or intermuscular extension. The case was referred to the paediatric dermatology team and is currently still under their management. In this case, the congenital subcutaneous haemangioma occurring in the right shoulder was managed conservatively and MRI helped to identify the extend of lesion. In 15% of the cases, haemangiomas occur in the upper extremities. Congenital haemangiomas that are fully formed at birth are rare. These haemangiomas can be either rapidly involuting or non-involuting. MRI is helpful in the diagnosis and surgical planning if needed.

Keywords:

haemangiomas, MRI

Abstract ID: A-0011

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Case Series of Periventricular Leukomalacia in HTJ Seremban

Authors & Institutions:

Nur Fadzreena Fadzilah[1], Chan Pei Sing[1], Barbara Kuok Li Lian[2]

[1]Paediatric Department, Hospital Tuanku Ja'afar, Seremban
[2]Radiology Department, Hospital Tuanku Ja'afar, Seremban

Researchers' Institution(s):

Paediatric Department, Hospital Tuanku Jaâfar, Seremban

Corresponding author: **Additional corresponding author:**

Nur Fadzreena Fadzilah
Paediatric Department, Hospital Tuanku Ja'afar, Seremban
nurfadzreena@yahoo.com

Abstract Text:

Background: Periventricular leukomalacia (PVL) is a leading cause of cerebral palsy (CP) and cognitive deficits among premature infants. Cranial ultrasonography (CUS) is the primary modality for evaluating PVL in premature infants, with CUS at the 4- to 6-week screening interval demonstrating sensitivity in identifying PVL. This case series aims to raise awareness about the importance of head ultrasound screening.

Case Series:
We present four cases of periventricular leukomalacia occurring within a one-year time frame. The first case involves a 28-week gestational age infant with a birth weight of 860g, delivered via emergency caesarean section due to severe preeclampsia with HELLP syndrome. The neonate required intubation and chest compressions at birth. There was no evidence of intraventricular haemorrhage during the initial week of screening; however, PVL was detected on day 36 of life. The second case pertains to a 26-week gestational age male infant, birth weight of 780g, born to a mother with severe preeclampsia and normal ultrasound doppler findings. He was intubated at birth for respiratory distress syndrome. He developed clinical signs of sepsis on day 6, requiring increased ventilatory support. Blood culture grew Klebsiella pneumonia, and the cranial ultrasound revealed left Grade 2 PVL. The third case involves a pair of 27-week gestational age dichorionic diamniotic (DCDA) twins delivered to a mother with abruptio placentae. The first twin, weighing 1005g, had required non-invasive positive pressure ventilation for 13 days post-birth. The course of hospitalization was uneventful, but he was diagnosed with Grade 2 PVL on day 28. The second twin, weighing 1,100g, who had respiratory distress syndrome and had required ventilation for 12 days, was also diagnosed with grade 2 PVL.

Conclusion: Due to limitations in performing regular formal head ultrasounds, the diagnosis of PVL often eludes early detection. This case series aims to heighten awareness regarding the importance of head ultrasound screening for those at high risk.

Keywords:

periventricular leukomalacia

Abstract ID: A-0012

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

When Least Expected: Fulminant Congenital Cytomegalovirus That Threatened a New Life: A Case Report

Authors & Institutions:

Jia Cheng Ong[1,2,3], Ahmad Hadif Zaidin Samsudin[4], Nor Rosidah Ibrahim[1,2], Noraida Ramli[1,2], Farohah Che Mat Zain[1,2]

[1] Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia
[2]Hospital Universiti Sains Malaysia (HUSM), Health Campus, Kubang Kerian
[3]Faculty of Medicine, Universiti Sultan Zainal Abidin, Kuala Terengganu
[4]Department of Radiology, School of Medical Sciences, Universiti Sains Malaysia

Researchers' Institution(s):

Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia

Corresponding author:

Farohah Che Mat Zain
Department of Paediatrics, School of Medical Sciences,
Universiti Sains Malaysia
drfarohah@usm.my

Additional corresponding author:

Abstract Text:

Congenital Cytomegalovirus (CMV) infection is the most common congenital infection. We report one case of 34-week preterm infant. He had respiratory failure at 4 hours of life, necessitating mechanical support. A generalized blueberry muffin rash and hepatosplenomegaly were discovered during the neonatal examination. PPHN was confirmed by echocardiography. A further investigation had revealed thrombocytopenia, conjugated hyperbilirubinemia, and hydrocephalus. The CMV immunoglobulin M and IgG testing was positive. He improved gradually after receiving intravenous ganciclovir, meropenem, magnesium sulphate, sildenafil, and high frequency oscillatory ventilation. This case exhibits an unusual manifestation of congenital CMV infection in a premature newborn as severe PPHN. To optimize outcomes, a high index of suspicion combined with confirmatory tests is essential for rapid diagnosis, and initiation of appropriate antiviral treatment to optimize outcomes.

Keywords:

Cytomegalovirus, congenital infection, ganciclovir

Abstract ID: A-0013

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Revealing the Exceptional: A Neonate's Struggle with Bartter Syndrome

Authors & Institutions:

Jia Cheng Ong[1,2,3], Mohamad Ikram Ilias[1,2], Wan Adlina Wan Yusof[1,2], Noraida Ramli[1,2],

Nor Rosidah Ibrahim[1,2], Farohah Che Mat Zain[1,2]

[1] Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia
[2] Hospital Universiti Sains Malaysia (HUSM), Health Campus, Kubang Kerian
[3] Faculty of Medicine, Universiti Sultan Zainal Abidin

Researchers' Institution(s):

Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia

Corresponding author:

Farohah Che Mat Zain
Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia
drfarohah@usm.my

Additional corresponding author:

Abstract Text:

Background: Neonatal Bartter syndrome is a rare genetic condition that impacts the renal tubules, resulting in hyponatremia, hypokalemia, hypochloremic metabolic alkalosis, and sodium, potassium, calcium, and chloride loss through the urine. Multiple genetic abnormalities have been identified causing the disease.

Case Report:
We present a case of neonatal Bartter syndrome in a premature boy of 33 weeks gestational age who had required amnioreduction due to antenatal polyhydramnios. He developed polyuria, excessive weight loss, and classic blood parameters suggestive of Bartter syndrome shortly after birth. Upon genetic testing, we were able to confirm our diagnosis of Bartter syndrome type 1. The SLC12A1 gene contained two pathogenic variants, c.1432G>A and c.2873_2873+1delCT. The latter genetic variant was found to be novel mutation. The patient's treatment had consisted of indomethacin, aggressive fluid replacement, and electrolyte correction. With indomethacin, his electrolyte levels had remained within the normal limits, despite his subpar weight gain during follow-up.

Conclusion: We advise genetic testing for the purpose of confirming the diagnosis, as well as early detection and intervention to mitigate the risk of complications.

Keywords:

Bartter syndrome, indomethacin, SLC12A1 gene

Abstract ID: A-0014

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Tiny Nods in an Infant with Perinatal Stroke: A Case Report

Authors & Institutions:

Sin Yin GAN, Zurina ZAINUDIN

Department of Paediatrics, Hospital Sultan Abdul Aziz Shah, Universiti Putra Malaysia

Researchers' Institution(s):

Department of Paediatrics, Hospital Sultan Abdul Aziz Shah, University Putra Malaysia

Corresponding author:

Gan Sin Yin
Department of Paediatrics,
Hospital Sultan Abdul Aziz Shah,
University Putra Malaysia
gansinyin@upm.edu.my

Additional corresponding author:

Zurina Zainudin
Department of Paediatrics,
Hospital Sultan Abdul Aziz Shah,
University Putra Malaysia
zaizurina@upm.edu.my

Abstract Text:

Background: Infantile spasms, a severe form of epilepsy, are typically characterized by sudden, brief, and repetitive seizures involving flexion or extension of the body. However, they can sometimes present subtly, with only brief head nods which can easily be missed. The aetiology of infantile spasms is diverse, with perinatal stroke being a notable cause.

Case Report: An 8-month-old boy presented with subtle head nodding for one week, occurring 2-3 times daily associated with a delay in gross motor milestones. He was born prematurely at 33 weeks via emergency caesarean section due to bleeding placenta percreta and had moderate respiratory distress syndrome requiring a dose of surfactant. Serial cranial ultrasounds revealed a right periventricular cyst. Neurological assessment was unremarkable. EEG showed hypsarrhythmia, confirming infantile spasms. MRI indicated right frontal cystic encephalomalacia, right opercular infarct, and right cerebral hemi-atrophy, suggesting a perinatal right middle cerebral artery infarct. After high-dose prednisolone treatment, the spasms had resolved by day 5, with follow-up EEG showing complete resolution of hypsarrhythmia.

Discussion: Perinatal stroke, occurring between 20 weeks of gestation and 28 days postnatally, results from vascular brain injury. Perinatal arterial ischemic stroke (PAIS) is the most common subtype, accounting for 70% of the cases, often involving the middle cerebral artery (MCA), causing hemiplegic cerebral palsy. Perinatal and stroke contributes to about 5% of infantile spasms, with deep grey matter involvement potentially predicting spasms. Though rare, both conditions significantly impact early childhood development. Early recognition and treatment of infantile spasms, typically with high-dose corticosteroids like prednisolone, are crucial to improve outcomes and prevent long-term sequelae. Despite treatment, affected infants are at increased risk of epilepsy, cognitive impairment, and cerebral palsy, necessitating comprehensive long-term management.

Conclusion: In conclusion, understanding the association between perinatal stroke and infantile spasms is essential for early intervention and improved outcomes.

Keywords:

Infantile spasm; perinatal stroke

Abstract ID: A-0015

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Case report of a Severe Anti-Rh17 Haemolytic Disease of Newborn in D-- Phenotype Mother

Authors & Institutions:

Fatin Shaheera Mohd Azizi, Von Yen Lee, Ee Lee ANG

Paediatric Department, Hospital Tengku Ampuan Rahimah, Klang, Malaysia

Researchers' Institution(s):

Paediatric Department, Hospital Tengku Ampuan Rahimah, Klang, Malaysia

Corresponding author:	Additional corresponding author:
Dr Ee Lee Ang Paediatric Department, Hospital Tengku Ampuan Rahimah, Klang, Malaysia eeleeang@hotmail.com	Dr Von Yen Lee Paediatric Department, Hospital Tengku Ampuan Rahimah, Klang, Malaysia vyenlee@gmail.com

Abstract Text:

Introduction: The Rh blood group system is the most polymorphic of the human blood groups, consisting of at least 45 independent antigens. A significant number of women still become alloimmunized during pregnancy which may result in haemolytic disease of newborn (HDN).

Case Report:
We report an extremely rare case management of severe HDN caused by anti Rh17, with double exchange transfusion and Intravenous Immunoglobulin (IVIg).
This infant was born via EMLSCS at 32 weeks gestational age for maternal severe pre-eclampsia and fetal growth restriction. The birth weight was 1570 grams. His mother is a Para 2 lady, with blood group of B Rh(D) positive with phenotype –D-/-D- (Rh17).

As this rare blood group is known to cause severe HDN, it was anticipated that he would develop severe jaundice. His blood group is B Rh(D) positive with phenotype cDe/cDe (R_oR_o). As predicted, he had severe pathological jaundice with peak serum bilirubin of 260µmol/L at 22 hours of life. He underwent double volume exchange transfusion twice with compatible whole blood and 1 dose of IVIg to control the level of bilirubin.

Conclusion: This rare case highlights the importance of a thorough antenatal ABO, RHD and antibody screening for expectant management of the newborns delivered to mothers with anti-Rh17. Compatible RBCs with D- phenotype has to be available. This group of infants can be managed successfully with exchange transfusion and IVIg.

Keywords:

Haemolytic disease of newborn, Rh17 antibody

Abstract ID: A-0016

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

A Cyanotic Neonate: Unusual Presentation of Cow's Milk Protein Allergy

Authors & Institutions:

Yoong Hui YEONG[1], Tsae Yun TAN[1], Eric Boon Kuang ANG[1], Parvinder Kaur[1], Chee Liang CHOONG[2]

[1]Neonatal Intensive Care Unit, Paediatric Department, Hospital Sultanah Bahiyah
[2]Paediatric Gastroenterology & Hepatology Department, Hospital Pulau Pinang

Researchers' Institution(s):

Paediatrics Department, Hospital Sultanah Bahiyah

Corresponding author:	Additional corresponding author:
Yeong Yoong Hui Paediatrics Department, Hospital Sultanah Bahiyah yeong_yh@yahoo.com	Tan Tsae Yun Paediatrics Department, Hospital Sultanah Bahiyah tyun_tan@yahoo.com

Abstract Text:

Background: Cow's milk protein allergy (CMPA) is an immune-mediated adverse food reaction. Cow's milk protein (CMP) is the earliest and most common food protein encountered by most infants. CMPA is classified into immunoglobulin E (IgE) or non-IgE-mediated reactions, which vary in terms of clinical manifestations, diagnostic evaluation, and prognosis. Food Protein-Induced Enterocolitis Syndrome (FPIES) is a severe manifestation of non-IgE-mediated CMPA, characterized by hypotension, shock, methemoglobinemia, and metabolic acidosis resembling sepsis. FPIES is predominantly a clinical diagnosis, confirmed by careful history taking and identifying offending food allergens, and improvement of symptoms after elimination of the offending allergen.

Case report.:
We report the case of a two-week-old boy who was formula-fed since birth and presented with vomiting, diarrhoea, and respiratory distress with cyanosis. Investigations showed thrombocytosis and leukocytosis with a neutrophil predominance. Blood gas analysis revealed metabolic acidosis and a high methaemoglobin level of 30% (normal range <3%). Clinical status, metabolic acidosis, and methaemoglobin level had returned to normal following fluid resuscitation, methylene blue and ascorbic acid administration. The neonate was subsequently managed with breastfeeding and an amino acid-based formula. FPIES in the context of CMPA was diagnosed based on the history and clinical improvement after switching to an elemental formula.

Conclusion: Although rare in CMPA, methaemoglobinemia should be recognized as a differential diagnosis in a cyanotic infant with metabolic acidosis and diarrhoea. Maintaining clinical suspicion about the potential association between methemoglobinemia and gastrointestinal symptoms can lead to prompt recognition and intervention.

Keywords:

Cyanosis; Methaemoglobinemia; Food protein induced enterocolitis syndrome; Cow's milk protein allergy; Methylene blue

Abstract ID: A-0017

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Echovirus 11 Outbreak in Hospital Pulau Pinang

Authors & Institutions:

Shivaani Mukesh CHANDER, Mehala BASKARAN

Neonatal Unit, Paediatric Department, Hospital Pulau Pinang

Researchers' Institution(s):

Neonatal Unit, Paediatric Department Hospital Pulau Pinang

Corresponding author: **Additional corresponding author:**

Dr Shivaani Mukesh Chander
Neonatal Unit, Paediatric Department Hospital Pulau Pinang
shiv14@live.com.my

Abstract Text:

Background: In May 2023, WHO issued an alert over neonatal deaths in France linked to Echovirus-11(E-11). Like other enteroviruses, it ranges from asymptomatic to life-threatening. E-11 causes fulminant sepsis in neonates. Transmission can be vertical, via infected caregivers or breastfeeding. E-11 has high risk of nosocomial transmission due to prolonged shedding in the stool, survival on surfaces, high attack rate and poor efficacy of alcohol-based hand disinfectants. We report E-11 outbreak and management in our neonatal ward.

Case Report:
In November 2023, the first case presented with sepsis requiring ventilation. His tracheal aspirate isolated rhinovirus/enterovirus and rectal swab confirmed E-11. Another 3 babies nursed in the same area deteriorated requiring ventilation. 5 more cases identified on contact screening were asymptomatic. All cases presented between day 12 to 37 of life, preterm (28-34 weeks) well infants awaiting weight gain. Risk factors were small for gestational age, emergency LSCS and preeclampsia. Clinical features were hypothermia, apnoea, lethargy, thrombocytopenia, raised CRP and troponin-T, transaminitis and coagulopathy.

Contributing factors were overcrowding, incorrect diaper handling, suboptimal hand-hygiene, nursing shortage and poor ventilation. Steps taken were immediate isolation and cohorting, and healthcare workers wore personal protection equipment (PPE) to minimise exposure. Contact screening with nasopharyngeal aspirates and rectal swabs were done. Frequent terminal cleaning with Virusolve disinfectant was done. The Ministry of Health management guideline was disseminated via regular continuous medical education. Nurses trained in diaper handling and strict hand hygiene /handwashing was reinforced. All cases were notified, and visitors were restricted. Upon discharge parents educated regarding 2 months home isolation, hand hygiene and diaper change. Home visits by community health arranged. 8/9 cases were discharged well. One case succumbed from ARDS.

Conclusion: Enterovirus is a known cause of nosocomial outbreaks in neonates and must be considered in culture negative sepsis. E-11 causes hepatitis, myocarditis, encephalitis. Early identification and immediate action to limit spread of infection can help contain an outbreak and reduce mortality.

Keywords:

Echovirus 11 (E-11)

Abstract ID: A-0018

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Extensive Intracranial Haemorrhages (ICH) in Moderately and Late-Preterm Newborns in a District Hospital; A Case Series.

Authors & Institutions:

Hanif Mohd Niza[1], Sheila Gopalan Krishnan[1], Wong Chee Sing[2]

[1]Paediatric Department, Hospital Seri Manjung, Perak
[2]Neonatal Intensive Care Unit, Paediatric Department, Hospital Raja Permaisuri Bainun, Perak.

Researchers' Institution(s):

Neonatal Intensive Care Unit, Paediatric Department, Hospital Raja Permaisuri Bainun, Perak.

Corresponding author:	Additional corresponding author:
Dr Wong Chee Sing Neonatal Intensive Care Unit, Paediatric Department, Hospital Raja Permaisuri Bainun, Perak. Cheese6293@gmail.com	Dr Sheila Gopalan Krishnan Paediatric Department, Hospital Seri Manjung, Perak. Sheilagk67@gmail.com

Abstract Text:

Background: Intracranial haemorrhage (ICH) is rare in late-preterm and term neonates, with an incidence of 0.17 in 1000 live-birth. We report two cases of ICH in moderately and late-preterm newborns in our centre.

Case presentations
Case 1. A male baby with antenatal diagnosis of ventriculomegaly was delivered at 33 weeks of gestation via caesarean section for fetal distress. He required resuscitation at birth. Urgent CT brain was done in view of possibly of lissencephaly from cranial ultrasound. It revealed extensive ICH, hydrocephalus and cerebral oedema. He underwent left craniotomy and evacuation of clot at a tertiary centre. The cause of the ICH was due to mild Haemophilia B. He was discharged well, with normal development at 4-month follow up.

Case 2. A late preterm male baby with uneventful vaginal delivery was referred from a private centre for congenital pneumonia. He was intubated and was transferred to our centre. Screening bedside ultrasound cranium showed left grade 4 intraventricular haemorrhage (IVH) with midline shift. Urgent CT brain revealed multiple ICH with IVH, mass effect, hydrocephalus and cerebral oedema. He underwent right craniotomy and evacuation of clot at tertiary centre. The cause of the ICH was still undetermined. He was discharged well, and had normal development at the 5 month follow up.

Conclusion: Ultrasound cranium is an important and quick bedside tool to detect early intracranial abnormalities. Any abnormalities warrant further imaging for accurate diagnosis to guide further appropriate interventions to reduce morbidity and mortality.

Keywords:

Intracranial haemorrhages, neonates, intraventricular haemorrhages, craniotomy, ultrasound cranium.

Abstract ID: A-0019

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Objective Scoring for Transient Tachypnoea of Newborn (TTN) in Reducing Antibiotic Exposure in Newborns

Authors & Institutions:

Naveen Nair GANGADARAN[1], Eric Boon Kuang ANG [1], Parvinder KAUR[1], Chia Lin OOI[1], Nur Fazdlin ABDUL RAHIM[2]

[1]Paediatric Department, Hospital Sultanah Bahiyah, Alor Setar, Kedah, Malaysia
[2]Radiology Department, Hospital Sultanah Bahiyah, Alor Setar, Kedah, Malaysia

Researchers' Institution(s):

Paediatric Department, Hospital Sultanah Bahiyah, Alor Setar, Kedah

Corresponding author: **Additional corresponding author:**

Dr Naveen Nair Gangadaran
Paediatric Department, Hospital Sultanah Bahiyah, Alor Setar, Kedah
naveenbcss@gmail.com

Abstract Text:

Background: Transient Tachypnoea of the Newborn (TTN) is a common condition in neonatal units, characterized by respiratory distress due to delayed clearance of fetal lung fluids. Distinguishing TTN from other conditions like pneumonia, which requires antibiotic treatment, can be challenging and often resulted in unnecessary prolonged antibiotics and hospital stay.

Objectives: This study aims to develop a scoring system to diagnose TTN and reduce unnecessary antibiotic usage in newborns.

Methods: We conducted a retrospective cross-sectional study using medical records from January 2019 to December 2019. Newborns admitted to the Neonatal Intensive Care Unit (NICU) with TTN or congenital pneumonia were identified. Multivariate logistic regression identified independent clinical parameters for TTN. A nomogram was created to predict TTN probability, and its discriminative ability was evaluated using the Area Under the Curve (AUC) from the ROC curve.

Results: Among 285 newborns, 161 had TTN, and 124 had congenital pneumonia. Significant predictors of TTN included delivery via Caesarean section (adjusted OR = 3.88, 95% CI 1.25-13.5, p = 0.024), lower APGAR score at 5 minutes (adjusted OR = 0.66, 95% CI 0.47-0.93, p = 0.016), and the presence of hyperinflation (adjusted OR = 140, 95% CI 39.0-674, p < 0.001). Conversely, the need for oxygen therapy at 48 hours reduced the odds of TTN (adjusted OR = 0.14, 95% CI 0.04-0.38, p < 0.001). The nomogram, with an AUC of 0.97 (95% CI 0.95-0.99), demonstrated high discriminative ability for predicting TTN, allowing for accurate risk assessment of TTN.

Conclusion: Our nomogram, incorporating readily available clinical parameters, effectively predicts the probability of TTN, aiding in individualized clinical decisions and potentially reducing unnecessary antibiotic use in newborns. This novel tool is to be applied at 48 hours of life to guide the decision-making process regarding antibiotic administration.

Keywords:

TTN, newborn, scoring system, nomogram

Abstract ID: A-0020

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Southeast Asian Ovulocytosis: A Case Report

Authors & Institutions:

Nusaibah ABD HALIM, Mohd Firdaus ARIFFIN, Maslina MOHAMED

Neonatal Intensive Care Unit, Paediatric Department, Hospital Putrajaya, Malaysia

Researchers' Institution(s):

Neonatal Intensive Care Unit, Paediatric Department, Hospital Putrajaya, Malaysia

Corresponding author:

Dr Nusaibah Abd Halim
Neonatal Intensive Care Unit, Paediatric Department
Hospital Putrajaya, Malaysia
ms_nahnaz@hotmail.com

Additional corresponding author:

Abstract Text:

Background: Southeast Asian Ovalocytosis (SAO) is a red blood cell (RBC) membrane disorder caused by heterozygous deletion of codons 400–408 in anion exchanger 1 (AE1) which alters the stability of the RBC. AE1 in kidneys can be affected causing distal renal tubular acidosis (RTA). Heterozygous SAO carriers are generally asymptomatic; however, the homozygous SAO usually has poor prognosis and can be lethal.

Case report:

A late-preterm male infant at 36 weeks 1 day, born with a birth weight of 1.6kg. Antenatally Madam NA is a primip, suspected Thalassaemia carrier with a strong family history of alpha thalassaemia carrier. Feto-maternal and cardiologist assessments showed intra-uterine growth restriction, fetal anaemia, cardiomegaly with bilateral ventricular hypertrophy.
At birth he had required intubation for poor breathing effort. The initial haemoglobin was severely low at 3.8 g/dl. Clinically there was cardiomegaly, and hepatosplenomegaly of 6 and 5 cm respectively. Bedside echocardiogram showed biventricular hypertrophy, dilated right atrium, pericardial effusion, and tricuspid regurgitation. He was treated for hydrops fetalis, with suspected haematological cause and presumed Listeriosis due to meconium-stained liquor.
He underwent partial exchange transfusion at 4 hours of life, followed by multiple pack cells transfusion. The full blood picture (FBP) showed RBC features of ongoing haemolysis, marrow stress with underlying South East Asian Hereditary Ovalostomatocytosis (SEAHO). Both parents' FBP also showed features of SEAHO. Further patient's molecular analysis test for SAO confirmed homozygous SAO band 3 deletion, and parents' molecular analysis revealed both are heterozygous SAO carrier.

Conclusion: Malaysia has a high prevalence of SAO and homozygous SAO has a very poor prognosis. Antenatal screening for SAO would be beneficial for parents with a history of hydrops or stillborn. Pre-marital screening may also play a role for family planning.

Keywords:

Southeast Asian Ovulocytosis

Abstract ID: A-0021

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Navigating Complexity: A Case Study of Esophageal Atresia, Distal Tracheoesophageal Fistula, and VACTERL Association

Authors & Institutions:

Xing Xuen TANG[1], Xing Yi TANG[2]

[1] Department of Paediatrics, Hospital Nukleus Labuan, W.P. Labuan, Malaysia
[2] Clinical Research Centre, Hospital Taiping, Perak, Malaysia

Researchers' Institution(s):

Department of Paediatrics, Hospital Nukleus Labuan, W.P. Labuan, Malaysia

Corresponding author:	Additional corresponding author:
Xing Xuen TANG Department of Paediatrics, Hospital Nukleus Labuan, W.P. Labuan, Malaysia xingxuen1115@gmail.com	Xing Yi TANG Clinical Research Centre, Hospital Taiping, Perak, Malaysia tangxingyi@moh.gov.my

Abstract Text:

Background: **Esophageal atresia and Tracheoesophageal Fistula (TEF) are rare congenital anomaly occurring in approximately 1 in 3500 live births. The predominant type is Type C (84%), defined by a proximal oesophageal pouch and a distal tracheoesophageal fistula (TEF). Clinical manifestations may include excessive salivation, feeding intolerance or aspiration, abdominal distension, and respiratory distress. It is associated with polyhydramnios, prematurity, and the VACTERL complex.**

Case Report: This report describes a case of a baby born at 40 weeks and 2 days via spontaneous vaginal delivery to a mother with Gestational Diabetes Mellitus managed by diet and maternal obesity. Antenatal ultrasound showed normal findings, including an AFI of 10.3 cm. She was discharged at 24 hours of life but readmitted at 45 hours of life due to neonatal jaundice, excessive salivation, and noisy breathing. Despite these issues, she was able to breastfeed and had normal bowel and bladder function. A chest x-ray showed coiled oral Ryle's tube. A Modified Replogle tube was inserted, with continuous suction.
She was transferred to a tertiary centre, started on total parenteral nutrition, and subsequently underwent a Right Thoracotomy, Fistula Ligation, and Primary Oesophageal Anastomosis on Day 14 of life. VACTERL screening revealed a small 2.3mm Atrial Septal Defect with Restrictive Patent Ductus Arteriosus and Hemivertebrae at T3 and T6. After surgery, she experienced morphine withdrawal syndrome and post-extubation stridor. She was discharged at Day 32 of life in good health, tolerating mixed feeding without breathing difficulties, and remained stable during follow-up visits.

Conclusion: **Early recognition of TEF in neonates with vague symptoms is crucial. In middle-income countries, delayed referral, initial sepsis requiring stabilisation pre-surgery, and postoperative complications like leaks, pneumonia, and pneumothorax contribute to poor outcomes. Timely referral, assessing the neonate's preoperative condition, and prompt management are vital for improving outcomes.**

Keywords:

Perinatal, Esophageal Atresia, Distal Tracheoesophageal Fistula, VACTERL Association

Abstract ID: A-0023

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Severe Enterovirus Infection in Neonates: A Case Report

Authors & Institutions:

Roselind King Jin TONG, Debbie DIEWO, Ann Cheng WONG

Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Umum Sarawak, Malaysia

Researchers' Institution(s):

Department of Paediatrics, Hospital Umum Sarawak, Malaysia

Corresponding author:

Dr Roselind Tong King Jin
Department of Paediatrics, Hospital Umum Sarawak, Malaysia
roselindtong@gmail.com

Additional corresponding author:

Abstract Text:

Background: Enterovirus is a common cause of infection in neonates. In most cases, it is transmitted vertically from an infectious mother. Its clinical manifestations, such as respiratory distress, temperature instability, lethargy and poor feeding can be challenging to differentiate from those of bacterial sepsis. While it is generally a benign, self-limiting illness, some neonates can develop severe, life-threatening complications.

Report:
In this case report, we describe the clinical course of two neonates with severe Enterovirus infection. Both the infants presented around the end of their first week of life with severe sepsis requiring cardiorespiratory support in the NICU. Their mothers were both admitted with signs of preterm labour, with the mother of Case 2 receiving empirical treatment for urinary tract infection. Enterovirus, specifically Echovirus-11, was detected in the cerebrospinal fluid (CSF) samples in both cases, as well as the stool sample of Case 1 and serum sample of Case 2. In Case 1, the CSF sample also detected gram-negative bacilli initially, but did not yield any growth after 72 hours of incubation. The repeated CSF sample was normal at the end of 3 weeks of antibiotic treatment for meningitis. In Case 2, the neonate had a more severe course of illness, with multi-organ impairment including myocarditis, liver dysfunction and coagulopathy. This infant required a higher level of intensive support and recovered from myocarditis after a course of early intravenous immunoglobulin (IVIG).

Conclusion: Prompt treatment such as the timely administration of IVIG can be lifesaving in severe Enterovirus infections. Hence, a high level of suspicion and an awareness of the potentially lethal complications are crucial.

Keywords:

Enterovirus; neonate; sepsis; myocarditis; intravenous immunoglobulin

Abstract ID: A-0024

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Incidental Findings of Hemophilia in a Neonate- A Case Report

Authors & Institutions:

Nurfaaza Senin, Tan Sun Mee, See Kwee Ching

Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Sungai Buloh, Malaysia

Researchers' Institution(s):

Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Sungai Buloh, Malaysia

Corresponding author:

Dr Nurfaaza Senin
Neonatal Intensive Care Unit, Department of Paediatrics,
Hospital Sungai Buloh, Malaysia
faazasenin90@gmail.com

Additional corresponding author:

Abstract Text:

Introduction: In most cases of haemophilia, there is a decrease in the amount or function of one or more of the clotting factors. This will lead to ineffective secondary haemostasis which result in more bleeding. Haemophilia A is the most common of the hereditary clotting factors deficiencies. In this poster, we describe a case of a neonate who developed a large swelling and hematoma over his left thigh following an intramuscular injection.

Case History:

A male, term baby born to a healthy and non-consanguineous couple with no known hereditary or haematological conditions. The delivery was uneventful and his Apgar score; 9 in 1 minute and 10 in 5 minutes. Routine Vitamin K and BCG vaccination was administered at birth. At 36 hours of life, it was found that the baby developed large swelling and hematoma over the lateral surface of his left thigh. Other systemic examination revealed no other abnormality and there were no other bleeding tendencies. Full blood count and Coagulation studies revealed a normal blood count with isolated prolong APTT. Factors essay was measured, which later revealed a very low factor VIII, that is consistent with the diagnosis of haemophilia A. The baby was also referred to the Orthopaedic team for further evaluation and at the time of review, the plan was for active surveillance and surgical intervention i.e. fasciotomy and clot evacuation would be performed if the symptoms worsen. Factor VIII replacement was given to the baby and the swelling gradually reduced in size in which deter him from having any surgical intervention. He was discharged home well, and now he is 5 months old and has no further clinical relevant complications to date.

Conclusion: Haemophilia can present in several different ways. Early diagnosis allows for an early directed treatment which result in better clinical outcome.

Keywords:

hemophilia

Abstract ID: A-0025

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

A Silent Threat: A Case Report of Congenital Listeriosis with Granulomatosis Infantiseptica

Authors & Institutions:

Norfadhillah Mahdah, Ruth Tsin En Cheng

Department of Paediatrics, Hospital Wanita dan Kanak-Kanak Sabah

Researchers' Institution(s):

Department of Paediatrics, Hospital Wanita dan Kanak-Kanak Sabah

Corresponding author: **Additional corresponding author:**

Norfadhillah Mahdah
Department of Paediatrics,
Hospital Wanita dan Kanak-Kanak Sabah
drdillaerul@gmail.com

Abstract Text:

Background: Listeriosis is a rare but serious foodborne infection with a high mortality rate of almost 30%. It is caused by the gram-positive bacillus *Listeria monocytogenes*. Healthy, young individuals infected with *Listeria* may be asymptomatic, but serious infections can occur in pregnant women, newborns, elderly and immuno-compromised individuals. Maternal-fetal transmission can cause severe infections in neonates which manifest as sepsis, acute respiratory distress, meningitis, encephalitis and granulomatosis infantiseptica with severe neurologic and developmental sequelae.

Case Report:
We report a case of a male preterm newborn who was born at 29 weeks of gestation via emergency Lower Segment Caesarean Section due to fetal distress with birth weight of 1.36 kilograms. His mother had an uneventful pregnancy and was asymptomatic throughout. He presented with severe respiratory distress syndrome and signs of early neonatal sepsis with granulomatosis infantiseptica. Empirical therapy of penicillin and gentamicin was started and the first blood culture at birth had confirmed *Listeria monocytogenes.* Further investigations revealed multiorgan involvement (sepsis, cutaneous, pulmonary, meningitis). He received a combination of appropriate antibiotic therapy and responded well to it.

Conclusion: Early recognition of listeriosis is crucial in neonates presenting with erythematous rash, respiratory distress and early neonatal sepsis signs. This case emphasizes the need for prompt diagnosis so that appropriate treatment can be given to prevent severe complications and fatalities in newborns.

Keywords:

Listeriosis, Listeria monocytogenes, Newborn, Granulomatosis infantiseptica

Abstract ID: A-0027

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Case Report: A Rare Syndrome of Neonatal Purpura Fulminans Secondary to Severe Protein C Deficiency

Authors & Institutions:

Arathi KAILASAM, Soo Ying TAN

Neonatal Intensive Care Unit, Department of Paediatrics, Taiping Hospital, Perak.

Researchers' Institution(s):

Neonatal Intensive Care unit, Department of Paediatrics, Taiping Hospital, Perak, Malaysia.

Corresponding author:

Dr. Arathi Kailasam
Neonatal Intensive Care unit, Department of Paediatrics, Taiping Hospital, Perak, Malaysia.
arathiravin@gmail.com

Additional corresponding author:

Abstract Text:

Background: Neonatal purpura fulminans is a rare phenomenon characterized by an acute purpuric rash associated with intravascular or microvasculature thrombosis with haemorrhagic infarction of the skin which leads to purpuric lesions and skin necrosis. It is rapidly progressive and is often accompanied by disseminated intravascular coagulopathy and circulatory collapse. Treatment options are limited and often challenging, with guarded outcome.

Case Report:
We describe a case of an infant born premature at 34 weeks via emergency lower segment caesarean section for fetal distress with a birth weight of 1.94 kg. The mother is a healthy, 24-year-old primigravida, and had an uneventful pregnancy. Both parents are Burmese (Rohingya) refugees. The infant was referred from a private hospital at Day 5 of life for worsening bilateral feet gangrene since Day 4 of life, associated with gangrenous scalp and scrotum. Urgent ultrasound brain revealed grade 4 acute intraventricular and intraparenchymal bleed with mild hydrocephalus, while the scrotal ultrasound revealed hypoechoic centre of both testicles with no Doppler flow, suspicious of testicular infarct. There was abnormal monophasic flow over the right dorsalis pedis artery as well. Inherited Thrombophilia screening showed severe Protein C deficiency. Platelets and Fresh frozen plasmas were transfused. His condition deteriorated and conservative and supportive management was chosen in view of the financial constraints. He was discharged home at day 12 of life for palliative and comfort care.

Conclusion: Neonatal Purpura Fulminans is a true dermatological emergency and requires immediate diagnosis and management. Management options vary according to the degree of complications that have ensued.

Keywords:

neonatal purpura fulminans

Abstract ID: A-0028

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Ondine's Curse - You Sleep, You Die

Authors & Institutions:

Agnes Ai Geok HO, Sun Mee TAN, Kwee Ching SEE

Neonatal Intensive Care Unit, Department of Paediatric, Hospital Sungai Buloh, Malaysia

Researchers' Institution(s):

Department of Paediatric, Hospital Sungai Buloh, Malaysia

Corresponding author:

Dr. Agnes Ho
Department of Paediatric, Hospital Sungai Buloh, Malaysia
agneshag@gmail.com

Additional corresponding author:

Abstract Text:

Background: Congenital Central hypoventilation syndrome (CCHS), also called Ondine's curse, is a rare genetic disorder caused by mutation in the Paired-Like Homeobox 2B (PHOX2B) gene. It is characterised by autonomic nervous system dysfunction. manifests as failure to maintain ventilator homeostasis during sleep. CCHS is a rare cause of neonatal apnoea and hypoventilation as it can simulate cases of sepsis and inborn error of metabolism.

Case Report:
Baby D was delivered by emergency caesarean section at 38 weeks' gestation to a primigravida mother who had underlying overt diabetes mellitus (on oral Metformin). He was born with a birth weight of 3004g and Apgar score of 7 in the 1st minute and 9 in the 5th minute. He first developed bradypnoea and desaturation at 2-hours-of-life and was treated as transient tachypnoea of newborn (TTN). At 21-hours-of-life, he had manifested recurrent apnoea with blood gas showing severe respiratory acidosis. He was intubated and was covered empirically for meningitis. There were no neurological deficits. Brain imaging and IEM were normal. Lumbar puncture showed Herpes Simplex Type 1 IgM positive. He had completed 3 weeks of IV Acyclovir with follow up long term suppressive therapy. A bedside laryngo-bronchoscopy showed minimal vocal cord movement with copious amounts of secretions which had improved after treatment with oral medications for laryngopharyngeal reflux. Unfortunately, he continued to exhibit recurrent apnoea and shallow breathing which required prolonged ventilation. CCHS was suspected and confirmed by genetic test. Baby is currently well on tracheostomy ventilator since the age of 3months old.

Conclusion: Central sleep apnoea is relatively common phenomenon in normal infants. However, the frequency of central apnoea events in this case was extremely high, suggestive of an unusual aetiology and the reason for the genetic testing for CCHS.

Keywords:

CCHS, Ondine's curse, perinatal, central apnoea

Abstract ID: A-0029

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Exposure to Potentially Harmful Excipients in Medications among Neonates at a State Hospital in Malaysia

Authors & Institutions:

Shien Woan WONG[1], Noraida MOHAMED SHAH[2], Soo Piing CHEW[1], Siti Azdiah ABDUL AZIZ[2]

[1]Pharmacy Department, Hospital Melaka, Melaka, Malaysia
[2]Centre for Quality Management of Medicines, Faculty of Pharmacy, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Researchers' Institution(s):

Pharmacy Department, Hospital Melaka, Melaka, Malaysia

Corresponding author:

Wong Shien Woan
Pharmacy Department, Hospital Melaka, Melaka,
Malaysia
wongswoan@gmail.com

Additional corresponding author:

Abstract Text:

Background: Pharmaceutical excipients are important components of medicinal products to maintain quality and improve patient acceptability. Ideally, excipients are inert. However, due to their immature organ development, some potentially harmful excipients (PHEs) might be toxic to neonates. The extent of PHE exposure among neonates in Malaysia was unknown.

Objectives: This study aimed to determine the incidence of PHE exposure, calculate the cumulative dose of PHE, and identify the predictors associated with PHE exposure among hospitalised neonates.

Methods: A prospective observational study was conducted from March to April 2022 in neonatal wards at Hospital Melaka. All neonates receiving at least one medication were randomly sampled. The data about medical and medication were retrieved from patients' medical records. Information on active pharmaceutical ingredients, names and amounts of excipients was obtained from product information leaflets (PIL) and the respective manufacturers. The PHEs of interest were aspartame, benzalkonium chloride, benzyl alcohol, benzoic acid or benzoates, ethanol, parabens, polysorbate 80, propylene glycol, saccharin sodium, sorbitol, and sulphites.

Results: A total of 108 patients were recruited and 97.2% of them were exposed to at least one PHE. The high incidence of PHE exposure in neonates is similarly shown in other countries' studies worldwide. Parabens (47.2%) and sulphites (27.5%) were the two most commonly administered PHEs. Administration of cardiovascular drugs was associated with a higher risk of exposure to any PHE (OR 6.38, CI 2.75, 14.79, p-value < 0.001). The median daily dose of ethanol (24.11mg/kg/day, IQR 19.73, 28.49) exceeded the acceptable daily intake (ADI) by four times. However, the dose was not available for all PHEs as this information is not always available in the PIL.

Conclusions: This study demonstrated high exposure to PHE among our neonates with certain PHEs exceeding the ADI. This highlights the need for some strategies to minimise such exposure in neonates.

Keywords:

Potentially harmful excipients, neonate, exposure

Abstract ID: A-0030

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

From Simple Blood Pricks to Early Diagnosis: Detecting Haemophilia In a Well Newborn

Authors & Institutions:

Huei Huei CHEONG, Rohani ABDUL JALIL

Neonatal Intensive Care Unit, Department of Paediatrics,Taiping Hospital

Researchers' Institution(s):

Neonatal Intensive Care Unit, Department of Paediatrics, Taiping Hospital

Corresponding author:

Dr Cheong Huei Huei
Neonatal Intensive Care Unit,
Department of Paediatrics, Taiping Hospital
chueihuei1986@hotmail.com

Additional corresponding author:

Dr Rohani Binti Abdul Jalil
Neonatal Intensive Care Unit,
Department of Paediatrics, Taiping Hospital

Abstract Text:

Introduction: Haemophilia might not be considered as a common condition in neonates, but it is the most common inherited bleeding disorder in the newborn period. Diagnostic difficulties may then arise due to failure to recognise the presence of abnormal bleeding, which is often different from that typically observed in older children with haemophilia. In a large retrospective review of the published literature by Kulkarni and Lusher, puncture bleeds accounted for 16% of the total, whereas joint bleeds were rarely observed (1%).

Case Report:
An infant was born at term, at 37 weeks and 6 days of gestation, via vacuum-assisted delivery, with a birth weight of 3.33 kg. The mother, aged 33 years and para 4, had gestational diabetes mellitus. The baby was referred from clinic due to neonatal jaundice on the third day of life, requiring intensive phototherapy. On the second day of admission, bruising with extravasation and haematoma extending to the palm was noted on the baby's right hand, and there were bruises on the left foot (blood taking site). The baby's platelet count was 274. The coagulation profile revealed an isolated prolonged activated partial thromboplastin time (APTT) with an international normalized ratio (INR) of 1.06, prothrombin time (PT) of 14.3 seconds, and APTT of 98.9 seconds**.** The baby received fresh frozen plasma, and a repeated coagulation profile still showed prolonged APTT (INR: 1.05, PT: 14.2, APTT: **56.7 seconds**). A mixing test was performed and corrected the abnormality. Factor assay demonstrated a **deficiency of factor VIII (1%), confirming the diagnosis of Haemophilia A.**

Conclusion: Haemophilia is an important cause of bleeding in the well neonate. It is less common for newborns with haemophilia to present with spontaneous bleeding. Early diagnosis allows for parent education, appropriate treatment and prophylaxis and may minimise disability caused by later joint and muscle bleeds.

Keywords:

neonate, hemophilia

Abstract ID: A-0031

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Neonate with CMV Infection Mimicking Acute Lymphoblastic Leukemia

Authors & Institutions:

Lau Pon Ling[1], Dr Chan Pei Sing[2], Dr Tan May Vern [2]

[1] Paediatric department, Hospital Tuanku Jaafar
[2] Neonatal Intensive Care Unit, Paediatric Department, Hospital Tuanku Jaafar

Researchers' Institution(s):

Paediatric Department, Hospital Tuanku Jaafar

Corresponding author: **Additional corresponding author:**

Lau Pon Ling
Paediatric Department, Hospital Tuanku Jaafar
lpylpy@live.com

Abstract Text:

Case Report:

The birth prevalence of cytomegalovirus (CMV) is estimated at 7 per 1000 births. 10% to 15% of infected infants exhibit signs of CMV-associated sequelae, such as thrombocytopenia, hepatitis, chorioretinitis, sensorineural hearing loss, and intrauterine growth restriction (IUGR). We present a typical yet atypical case of congenital CMV infection.

A premature male infant was born via emergency lower segment caesarean section at 35 weeks and 4 days gestation due to IUGR with absent end-diastolic flow and a low birth weight of 1.6 kg. The 31-year-old mother had no significant antenatal concerns. Clinically, the infant met criteria for symmetrical small for gestational age (SGA). At birth, he was pale and jaundiced, with generalized petechiae and significant hepatosplenomegaly. The clinical findings initially suggested congenital CMV. However, treatment was hesitant due to negative serological testing for TORCHES infections for both mother and infant.

Full blood count revealed significant anemia with thrombocytopenia (hemoglobin 6.9 g/dL and platelets 10,000/µL). Unexpectedly, a full blood picture showed circulating blasts/leukoerythroblasts. Given the negative serology and blood picture suggestive of congenital leukemia, a skin biopsy was performed for further diagnostic clarification. The biopsy indicated atypical lymphocytes in the dermis, likely blasts, but immunohistochemistry showed no evidence of leukemic cells. Ophthalmological assessment revealed no chorioretinitis. Repeated TORCHES screening on day 9 remained negative.

Unfortunately, the patient deteriorated, developing multiple intracranial hemorrhages causing midline shift, obstructive hydrocephalus, and generalized cerebral edema, and these were confirmed on head CT scan. The patient subsequently passed away on day 15. Serum cytomegalovirus PCR taken on day 11 of life came back positive after the patient had passed away.

Despite the infant initially presenting with typical skin rashes indicating certain congenital infections such as CMV, condition like congenital leukemia can confound the clinical picture. This case underscores the importance of urgent serum CMV PCR testing to establish a diagnosis promptly, enabling timely and appropriate treatment.

Keywords:

cytomegalovirus

Abstract ID: A-0033

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Case Series of Neonatal Hyperthyroidism with Various Outcome

Authors & Institutions:

Vanitha Nagamuthu, Von Yen Lee, Ee Lee Ang

Paediatric Department, Hospital Tengku Ampuan Rahimah, Klang.

Researchers' Institution(s):

Paediatric Department, Hospital Tengku Ampuan Rahimah, Klang.

Corresponding author:

Vanitha Nagamuthu, Von Yen Lee, Ee Lee Ang
Paediatric Department,
Hospital Tengku Ampuan Rahimah, Klang
navanithara@gmail.com

Additional corresponding author:

Abstract Text:

Introduction: Neonatal hyperthyroidism or thyrotoxicosis is a rare but potentially fatal if not recognized and treated. It is most commonly caused by transplacental passage of maternal TSH receptor antibodies (TRAb). These TSH-receptor stimulating antibodies, which bind to fetal thyroid stimulating hormone (TSH)-receptor on thyroid follicular cells resulting in autonomous thyroid hormone production, can cause in utero and/or postnatal hyperthyroidism. If untreated, it may result in craniosynostosis, intellectual disability, growth failure, short stature, and hyperactivity later in childhood.

Case reports:
Here we report three cases of neonatal hyperthyroidism. All three infants were hyperthyroid during their neonatal period requiring oral carbimazole.

Baby A and B were both born to mothers with Grave's disease. Baby A's thyroid function normalized and was successfully weaned off oral medications by 1 month old. Baby B was weaned off treatment at the age of 2 months old but became hypothyroid later on requiring levothyroxine at the age of 4 months old.

The third baby, Baby C, was born to a lady with hyperthyroidism during childhood and subsequently became hypothyroid during teenage years. Baby C remains hyperthyroid till date (age of 3 years old) requiring treatment. She was subsequently diagnosed as congenital non-autoimmune hyperthyroidism.

Conclusion: These three cases illustrate the various outcomes of neonatal hyperthyroidism. Hyperthyroidism should be anticipated in high-risk infants based on maternal antenatal profile. Thyroid function test should be monitored closely to ensure that thyroid disorders, either hyperthyroid or hypothyroid, are not missed in newborn babies.

Keywords:

Neonatal Hyperthyroidism

Abstract ID: A-0034

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Congenital Analbuminemia (CAA)

Authors & Institutions:

Angie Choo Er NG, Ann Cheng WONG, Huei Hwen FOO, Janet Lin Yee HII

Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Umum Sarawak

Researchers' Institution(s):

Department of Paediatrics, Sarawak General Hospital

Corresponding author: **Additional corresponding author:**

Angie Choo Er NG
Department of Paediatrics, Sarawak General Hospital
elie_312000@hotmail.com

Abstract Text:

Introduction: Congenital hypoalbuminemia (CAA) is a rare autosomal recessive genetic disorder characterized by absence or severe deficiency of albumin, which is a major protein in the blood. CAA can be caused by various genetic variations in albumin gene including splicing, variations, frameshift deletions and nonsense variations. The clinical manifestations of CAA commonly include hypoabuminemia, hyperlipidemia and edema.

Case Report:
We report a case of CAA in a late preterm infant with initial symptomatic polycythaemia requiring partial exchange transfusion. She subsequently developed hypotension requiring inotropes and hydrocortisone for transient adrenal insufficiency. All results for infection work up are negative. A serial liver function test noted persistent low serum albumin with hyperlipidemia. Liver enzymes and coagulation profile are normal. The urine is repeatedly negative for proteinuria. Following the initial delayed transition, she recovered well and was thriving on full formula feeding with no loose stools or clinical oedema. Protein electrophoresis at a month of age confirms a severely low albumin level of 1.1g/L with compensatory raised fractions of alpha 1, alpha 2 and beta globulin. The gamma globulin which are predominantly immunoglobulins showed no increment in fraction, which is consistent with the infant being clinically well.

Conclusion: Congenital analbuminemia should be considered in any neonate with persistently low serum albumin despite adequate nutrition with no evidence of protein losses or liver dysfunction. Protein electrophoresis may be helpful to confirm the low serum albumin level. Genetic study can be diagnostic of albumin gene anomalies but may not be readily available.

Keywords:

neonatal, albumin

Abstract ID: A-0035

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Advocating for Kangaroo Mother Care: Our Malaysian Experience

Authors & Institutions:

Siew Cheng FOONG, Wai Cheng FOONG, Jacqueline J HO, May Loong TAN

RCSI and UCD Malaysia Campus, Malaysia

Researchers' Institution(s):

RCSI and UCD Malaysia Campus, Malaysia

Corresponding author: **Additional corresponding author:**

Siew Cheng FOONG
RCSI and UCD Malaysia Campus, Malaysia
scfoong@rcsiucd.edu.my

Abstract Text:

Background: The World Health Organisation declared Kangaroo Mother Care (KMC) as essential care for preterm infants in 2003. Since then, there has been increasing high certainty evidence that it improves survival and other outcomes for preterm infants.

Case Report: In 2013, KMC was introduced in four Malaysian hospitals by the SEA URCHIN project, but despite an evidence-based educational intervention, KMC uptake was limited. RCSI & UCD Malaysia Campus' Paediatric Department undertook to provide training and advocacy, both in-person and by interactive KMC webinar series during the Covid-19 pandemic.

We also established a national-level NGO, the Kangaroo Mother Care Advocates Malaysia (KAMY), to provide a platform for healthcare staff to optimize KMC practices and engage parent advocates. In September 2018, KAMY joined the Asia-Oceania KMC Network, bringing together KMC coordinators from the Asia-Oceania region. KMC awareness booths are held regularly during public events at hospitals and public places, live streaming via social media during Covid-19 restrictions. We engaged with the Premature Infant Association Malaysia and also introduced KMC to traditional post-partum centres. In 2022, we launched a website for parents to engage them as KMC champions.

Despite these efforts, KMC uptake in Malaysia remains low. The Cochrane Millennium Development Goal project selected KMC to be incorporated into the Malaysian Neonatal National Registry, but this had not happened and might reflect that there were additional barriers to implementation.

To understand the factors influencing KMC, we conducted key informant interviews with parents and healthcare professionals which highlighted several issues, some of which we are trying to address. We also hope to work together with the National Lactation Centre moving forward. We are also in the process of a study on KMC implementation in Malaysian hospitals.

Conclusion: Our experience confirms WHO's assertion about the challenges of implementing KMC in both in hospitals and at home.

Keywords:

kangaroo mother care, preterm infants, advocacy

Abstract ID: A-0037

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

BFCITY: Indicators of a Breastfeeding-Friendly City

Authors & Institutions:

Siew Cheng Foong[1], May Loong Tan[1,2], Wai Cheng Foong[1], Grace WY Tay[3], Zuhaida Harun[4], Kwai Meng Pong[5], Catherine De Leon[6], Jacqueline J Ho[1], Elizabeth J O'Sullivan[7], Amal Omer-Salim[8], Fionnuala M McAuliffe[2]

[1]RCSI & UCD Malaysia Campus, Penang, Malaysia
[2]UCD Perinatal Research Center, Ireland
[3]Gloria Group Sdn Bhd, Penang, Malaysia
[4]Jabatan Kesihatan Pulau Pinang, Malaysia
[5]Adventist Hospital, Penang, Malaysia
[6]Institute of Paediatrics, The Medical City, Manila, Philippines
[7]Technological University Dublin, Ireland
[8]World Alliance for Breastfeeding Action

Researchers' Institution(s):

RCSI & UCD Malaysia Campus, Penang, Malaysia

Corresponding author: **Additional corresponding author:**

May Loong Tan
RCSI & UCD Malaysia Campus, Penang, Malaysia
mltan@rcsiucd.edu.my

Abstract Text:

Background: A breastfeeding-friendly city fosters an environment that supports the breastfeeding journey across various settings such as healthcare facilities, workplaces, communities, and public spaces. Breastfeeding can be linked to all 17 of the Sustainable Development Goals. Cities that support breastfeeding will also be contributing to the SDGs. Currently, no indicators of a breastfeeding-friendly city are available for use by cities around the world.

Objectives: To develop a set of indicators of a breastfeeding-friendly city

Methods: We used a systematic approach to develop a novel set of indicators of a breastfeeding-friendly city. The approach included 1) **identification** of the indicators, 2) **defining** the indicators, 3) **validating** the indicators and 4) pilot **testing** of the indicators.

Results: We identified 52 different indicators relevant to a breastfeeding friendly city through a scoping review, interviews with breastfeeding mothers and an international Delphi survey. We are defining the indicators using World Café technique in three cities – Penang, Manila and Dublin. The validation and testing will follow after completion of the defining stage.

Discussion: Apart from assisting cities to strategize priorities for breastfeeding support, BFCITY could potentially be used as a global monitoring tool when it is fully developed. It can also be incorporated into sustainable cities programmes. Ultimately, the BFCITY aims to sustainably improve overall population nutrition.

Keywords:

Breastfeeding friendly, warm chain, support, SDG

Abstract ID: A-0038

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Enterovirus Infection in a Young Infant: A Case Report

Authors & Institutions:

Mohamed Ajmal Haj Mohamed, Kavitha Pillai Murali Dharan

Paediatric Department, Hospital Segamat, Johor.

Researchers' Institution(s):

Paediatric Department, Hospital Segamat, Johor

Corresponding author:	Additional corresponding author:
Mohamed Ajmal Haj Mohamed Hospital Segamat, Johor ajmalhaj@gmail.com	Kavitha Pillai Murali Daran Hospital Segamat, Johor kavitz.mural@gmail.com

Abstract Text:

Case Report:

Enteroviruses (EVs) are an important source of infection in the paediatric age group, with most cases concerning the neonatal age and early infancy. EVs infections in neonates have the potential to cause a cascade of devastating clinical complications that can lead to death. The clinical course can be ranging from asymptomatic infection to severe, life-threatening disease with manifestations such as sepsis, myocarditis, hepatitis, coagulopathy, pneumonia, and meningoencephalitis. Mortality is primarily associated with myocarditis, acute hepatitis, and multi-organ failure. Utilization of viral panels during the initial rule-out sepsis evaluation may provide rapid diagnosis and, ultimately, earlier response times to devastating clinical symptoms. Unfortunately, at present, the treatment of EVs infections is mainly supportive. In this case report, we present the clinical course of an infant with a severe enterovirus infection, to raise awareness of the potentially serious course of a common pathogen and to demonstrate that, when properly anticipated, we might improve the outcome.

Keywords:

enterovirus, infant, infection

Abstract ID: A-0039

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Short-listed for Best Poster	Poster	Neonatal	Research Study

Abstract Title:

Prevalence and Factors Associated with Exclusive Breastfeeding in Very Preterm Infants at Discharge from the Neonatal Intensive Care Unit

Authors & Institutions:

Armi Burhanuldin[1], Rozita Razman[2], Shareena Ishak[1]

[1]Department of Paediatrics, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia
[2]Department of Paediatrics, Hospital Raja Perempuan Zainab II, Kelantan, Malaysia

Researchers' Institution(s):

Department of Paediatrics, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia

Corresponding author:	Additional corresponding author:
Armi Burhanuldin, Department of Paediatrics, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia armiburhanuldin@hotmail.com	Shareena Ishak, Department of Paediatrics, Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur, Malaysia shareena@ppukm.ukm.edu.my

Abstract Text:

Background: Difficulties that preterm mothers face while their baby is in the Neonatal Intensive Care Unit (NICU) may negatively impact breastfeeding after birth.

Research Aim: To determine the rate of exclusive breastfeeding among preterm babies less than 32 weeks at discharge from the NICU and its contributing factors.

Method: This was a cross-sectional study at two tertiary NICUs in Malaysia; between 2021 and 2023. One-hundred and eighty mothers were included. A set of self-administered questionnaires were given prior to discharge, which included mothers' perspectives and experiences regarding skin-to-skin contact, breastfeeding, and breast milk expression; NICU Mother's Breastfeeding Survey and the Breastfeeding Self-Efficacy Score-Short Form version.

Results: Approximately 52% of infants exclusively breastfed at discharge. This was significantly associated with prior breastfeeding experience (OR: 1.95, 95% CI 1.08 - 3.53, p = 0.03), receipt of antenatal breastfeeding advice (OR: 3.43, 95% CI 1.36 - 8.64, p < 0.05), skin-to-skin contact (OR: 2.56, 95% CI 1.20 - 5.47, p = 0.02) and high Breastfeeding Self-Efficacy Score (BSES) score (OR: 2.19, 95% CI 1.11 - 4.32, p= 0.02). Mothers who felt there were barriers to breastfeeding had lower odds of exclusive breastfeeding their preterm infants at discharge (OR 0.11; CI 0.05- 0.24, p 0.001).

Conclusion: Slightly more than half of preterm infants discharged received exclusive breastfeeding. Prior breastfeeding experiences, high breastfeeding self-efficacy, antenatal breastfeeding education and skin-to-skin contact in the NICU were significantly linked with exclusive breastfeeding at discharge. Perceived breastfeeding difficulties were significantly associated with a lower likelihood of exclusive breastfeeding.

Keywords:

exclusive breastfeeding, preterm babies, Neonatal Intensive Care Unit

Abstract ID: A-0040

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Short-listed for Best Poster	Poster	Neonatal	Research Study

Abstract Title:

A Prospective Study on the Spectrum of MRI Findings in Newborn with Moderate to Severe Neonatal Encephalopathy in Taiping Hospital

Authors & Institutions:

Ivan KKL[1], Rohani AJ[1], N. Othman NB[2], Farah A[2]

[1]Neonatal Intensive Care Unit, Department of Paediatric, Taiping Hospital, Malaysia
[2]Department of Radiology, Taiping Hospital, Malaysia

Researchers' Institution(s):

Neonatal Intensive Care Unit, Department of Paediatric, Taiping Hospital, Malaysia

Corresponding author:

Ivan Khoo Kay Lerh
Neonatal Intensive Care Unit, Department of Paediatric,
Taiping Hospital, Malaysia
ivankhookaylerh@gmail.com

Additional corresponding author:

Abstract Text:

Background: Neonatal encephalopathy is a devastating condition that may result in death or severe neurologic deficits in children. MRI is a valuable tool in predicting the neurological outcome of an affected newborn.

Objectives: To determine whether the pattern of brain injury in term neonatal encephalopathy is associated with distinct prenatal and perinatal factors and to determine whether the pattern of injury is associated with its early neonatal outcome.

Study design: A total of 70 term newborns with neonatal encephalopathy from 2 Taiping Hospital underwent magnetic resonance imaging (MRI) at a median of 12 days of age (range, 6-22 days). Patterns of injury on MRI were defined on the basis of the predominant site of injury: watershed predominant, basal ganglia/thalamus predominant, and normal.

Results: The watershed pattern of injury was seen in 12 newborns (17.1%), the basal ganglia/thalamus pattern was seen in 9 newborns (12.9%), and normal MRI studies were seen in 49 newborns (70%). Prenatal conditions such as pregnancy induced hypertension, gestational diabetes mellitus, maternal substance use and others did not differ in the MRI pattern. The basal ganglia/thalamus pattern was associated with more severe neonatal signs, including requiring blood products (P = <0.001), requiring inotropic support (P = 0.005), chest compression (P = 0.013), more severe encephalopathy (P = .0001), and seizures (P < .001). The basal ganglia/thalamus pattern was associated with the most impaired early neonatal outcome.

Conclusion: The patterns of brain injury in term neonatal encephalopathy are associated with different clinical presentations and early neonatal outcomes. Prenatal condition does not predict the pattern of brain injury.

Keywords:

Neonatal encephalopathy, MRI pattern, Neonatal outcome

Abstract ID: A-0041

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Short-Term Outcomes of Minimally Invasive Surfactant Therapy in Preterm Infants with Respiratory Distress Syndrome

Authors & Institutions:

CH Chieng[1], BWL Ng[1], YJ Ng[1], Y Tiong[1], JYY Ting1, JSY Lee[2]

[1]Department of Paediatrics, Hospital Sibu
[2]Clinical Research Centre, Hospital Sibu

Researchers' Institution(s):

Paediatric Department Sibu Hospital Sarawak

Corresponding author:	Additional corresponding author:
Dr Chieng Chae Hee Paediatric Department Sibu Hospital Sarawak audreych@hotmail.com	Dr Jeffrey Lee Soon Yit Clinical Research Centre Sibu Hospital Sarawak jeffsylee@yahoo.com

Abstract Text:

Background: Surfactant therapy is the mainstay intervention in preterm infants with significant RDS. Latest evidence has supported the use of minimally invasive surfactant therapy (MIST) to infant with spontaneous breathing on CPAP to reduce the need of mechanical ventilation and risk of BPD. We share the short-term outcomes of preterm infants given MIST in our centre over a two-year period.

Objectives: To estimate the proportion of infant escape intubation within 72 hours and first week of life after given MIST, compare the prevalence of intubation within first 72 hours and first week of life between very-to-late Vs extreme preterm, when both groups were given MIST, study the prevalence of BPD in the cohort and in-hospital mortality, describe the complications of MIST in the cohort and determine factors associated with MIST failure.

Methods: A case record review of 37 preterm infants < 37 weeks of gestation at birth with RDS admitted to NICU, Sibu Hospital between May 2022 and April 2024 and given MIST. Relevant data was extracted from their case files using standard case report form.

Results
We will present:
-The percentage of the study population escape intubation within first 72 hours and first week of life
-The odds ratio (OR) of the very-to-late and extreme preterm infants requiring intubation within first 72 hours and first week of life
-The number or percentage of subjects in the cohort who has right sided pulmonary air leak, desaturation and bradycardia within first hour of MIST requiring intubation, and nosocomial pneumonia during first week of life, developed BPD and mortality,
OR for factors of interest include extreme prematurity, CRP ≥ 10 mg/L at 24 hours of life, Apgar score < 7 at 10 minutes, no antenatal steroids, FiO_2 > 0.4 prior to MIST and hypothermia on admission

Conclusion: Data analysis due.

Keywords:

MIST, short-term outcomes, preterm infants

Abstract ID: A-0042

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Familial Hypomagnesemia associated with Neonatal Seizure

Authors & Institutions:

Nurul Nabilah MOHD SHAARI AZYZE, Geok Hoon NGIAN, Chyi Chyi KHOO, E-Va TAN

Department of Paediatric, Hospital Pakar Sultanah Fatimah

Researchers' Institution(s):

Department of Paediatric, Hospital Pakar Sultanah Fatimah

Corresponding author: **Additional corresponding author:**

Dr Nurul Nabilah Mohd Shaari Azyze
Department of Paediatrics, Hospital Pakar Sultanah Fatimah
nurulnabilahshaari@gmail.com

Abstract Text:

Introduction: About 20% of neonatal seizures are caused by electrolyte imbalance. Hypomagnesemia is defined as serum magnesium levels less than 0.6mmol/L. Some clinical features include vomiting, weakness, arrhythmia and clinical seizure.

Case Report: We report a term baby with soft dysmorphic features who was born via spontaneous vaginal delivery with poor apgar score. She was intubated at birth and extubated the next day. She developed bilateral clonic seizure at 24 hours of life with hypomagnesemia. She had persistent hypomagnesemia despite multiple corrections. Her ultrasound cranium showed bilateral intraventricular complex cyst and her electroencephalogram was abnormal over the right frontal region. She was started on oral phenobarbitone which was subsequently changed to oral levetiracetam. She required magnesium supplementation in the form of epsom salt and subsequently changed to magnesium oxide. During her stay in the neonatal intensive care unit, she had another four episodes of breakthrough seizures which was attributed to weaning of phenobarbitone and hypomagnesemia. Patient's mother has underlying major depressive disorder, learning difficulty and hypomagnesemia. After optimisation of magnesium level and antiepileptic drug, baby's seizure was well controlled. She was discharged home at 2 months of life with magnesium oxide and oral levetiracetam. She was scheduled for an MRI Brain and referral to the genetic team.

Conclusion: Treatment of persistent hypomagnesemia with abnormal neurological finding is crucial and challenging as there is no definitive recommendation. Possibility of familial hypomagnesemia should be considered in cases of early onset refractory hypomagnesemia.

Keywords:

neonatal seizure, familial hypomagnesemia

Abstract ID: A-0043

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

The Silent Threat: Risk Factors associated with Bloodstream Infections (BSI) in the Neonatal Intensive Care Unit of Hospital Tunku Azizah, Kuala Lumpur

Authors & Institutions:

Thimesha VIGNESWARAN[1], Chooi Siang CHONG, Farah Inaz Binti SYED ABDULLAH

Neonatal Unit, Hospital Tunku Azizah, Kuala Lumpur

Researchers' Institution(s):

Neonatal Unit, Hospital Tunku Azizah, Kuala Lumpur

Corresponding author: **Additional corresponding author:**

Dr Thimesha Vigneswaran
Neonatal Unit , Hospital Tunku Azizah, Kuala Lumpur
thimesha.v@gmail.com

Abstract Text:

Background: Neonatal sepsis is a significant cause of morbidity and mortality in neonatal intensive care units (NICUs) worldwide, primarily due to a diverse source of infections and the emergence of multidrug-resistant organisms (MROs), posing a critical challenge.

Objectives: To describe the demographic profile of neonates with bloodstream infections (BSI) and to study the causative organisms between January 2023 to December 2023 in Hospital Tunku Azizah's NICU. Additionally, to compare risk factors for MRO cases.

Methods: Retrospective data collection involved neonates admitted to the NICU with bacteremia between January 2023 and December 2023. All demographic and clinical data were obtained from the electronic medical record system.

Results: During the study period, there were 3,526 admissions to the NICU, with 166 cases of bacteremia, resulting in an incidence of 4.2 bacteremia per 100 admissions. Late-onset sepsis accounted for 75% of the cases with a median onset age of first bacteremia at 13.5 days. Gram-negative organisms caused significantly more CLABSI cases (75.9%, p-value = 0.04). A third of the cases with gram-negative organisms were MROs, with birthweight being a significant predictor (p-value = 0.04). A trend of higher bed occupancy was observed in the second half of the year, correlating with increased bacteremia incidence and MRO cases during those months.

Conclusion: Neonatal sepsis remains a prominent healthcare burden in the NICU, particularly with the emerging resistance patterns of gram-negative organisms. The rising incidence of BSIs represents a substantial nosocomial complication that requires urgent attention.

Keywords:

neonatal

Abstract ID: A-0045

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Preventing varicella outbreaks in the neonatal unit: Lessons Learnt and Proactive Measures

Authors & Institutions:

Pei Sing CHAN[1], David Chun-Ern NG[2], Vindhu S. VENUGOPAL[2], May Vern TAN[1], Jun Ming WU[1], Gurwinder Kaur GURCHARAN SINGH[1] , Elida Hanan AWANG[1], Pauline Poh Ling CHOO[1]

1 Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Tuanku Jaafar, Malaysia
2 Division of Infection , Department of Paediatrics, Hospital Tuanku Jaafar, Malaysia

Researchers' Institution(s):

Neonatal Intensive Care Unit, Paediatric Department, Hospital Tuanku Jaafar Seremban

Corresponding author: **Additional corresponding author:**

Dr Chan Pei Sing
Neonatal Intensive Care Unit, Paediatric Department
Hospital Tuanku Jaafar Seremban
peising11@gmail.com

Abstract Text:

We report an exposure to the varicella-zoster virus in our neonatal unit and the immediate procedures implemented to prevent an outbreak. Over a two-week period, there were two separate exposure incidents. A total of 178 infants were exposed to the virus by two Paediatric house officers during the prodromal period and early unrecognized varicella stages. The first incident involved 83 infants, while the second incident, occurring 11 days later involved 95 infants. The median age of exposed infants was 37 weeks, with exposure occurring at a median of day 2 of life.

We promptly identified the varicella immunity status of the exposed neonates by asking each mother about prior varicella infection or vaccination. Exposed infants were stratified according to their immune status and were administered post-exposure prophylaxis (PEP) to those deemed susceptible. Following the first incident, 13 infants (15.6%) required PEP, with 11 receiving IVIG. During the second incident, 8 infants (8.4%) required PEP, with 6 receiving VZIG. Additionally, one infant from each incident received immunoglobulin and acyclovir, resulting in a total expenditure of RM13,031.30 for PEP. Fortunately, only one infant out of the 21 at-risk infants developed varicella infection.

This experience highlights the high cost and significant efforts on preventing a varicella outbreak. We subsequently implemented universal screening of all current and incoming paediatric staff using a questionnaire to determine varicella immunity status. Staff with uncertain or negative history were tested for varicella IgG, and those found to be non-immune were offered vaccination. This approach aims to prevent similar incidents in the future.

Keywords:

PEP, varicella, VZIG, IVIG, neonates

Abstract ID: A-0046

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Hyperekplexia - Startle or Seizure : A case report

Authors & Institutions:

Tilaga ELANCHERAN[1], May Vern TAN[1], Lip Yuen TENG[2], Pauline Poh Ling CHOO[1]

[1]Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Tuanku Ja'afar Seremban
[2]Paediatric Neurology, Department of Paediatrics, Hospital Tuanku Ja'afar Seremban

Researchers' Institution(s):

Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Tuanku Ja'afar Seremban

Corresponding author:

Dr Tan May Vern
Neonatal Intensive Care Unit
Department of Paediatrics
Hospital Tuanku Ja'afar Seremban
tanmayvern@gmail.com

Additional corresponding author:

Dr Pauline Choo Poh Ling
Neonatal Intensive Care Unit
Department of Paediatrics
Hospital Tuanku Ja'afar Seremban
pcpl@yahoo.com

Abstract Text:

Background: Hyperekplexia is a rare hereditary, neurological disorder that may affect newborns. It is a disorder with excessive startle reaction to sudden unexpected noise, movement or touch. Many times, it is frequently misdiagnosed as epilepsy.

Case Report:
Herein, we report a case of a 1-month-old baby, born term with no significant antenatal history. At 25 hours of life, she developed generalized tonic spasms followed by bradypnea. She was loaded with Phenobarbitone and treated for meningitis. However, CSF study was not suggestive of infection. There were initial electrolytes imbalances but these were easily corrected. There were no episodes of hypoglycaemia.

She continued to have recurrent neonatal seizures that were coupled with episodes of apnea during each episode. She was loaded with phenobarbitone again and started on a 2nd anti-epileptic drug – Keppra. She was also started on oral pyridoxine as part of her treatment.

She had no dysmorphic features with normal tone but was noted to have hyperreflexia. A full EEG showed normal background activity with normal sleep wake cycle rhythm. Her MRI brain was reported to have a right occipital and right parietal subdural hemorrhage with extension into the right tentorium cerebelli with no structural defect or abnormal signal intensity in the brain parenchyma. Preliminary IEM studies were normal.

She was co-managed with our paediatric neurologist and was subsequently diagnosed to have hyperekplexia. She responded well to initiation of clonazepam and the Vigevano manoeuvre. She was discharged home with intranasal midazolam as a rescue therapy. A whole exome sequencing later revealed a SLC6A5 mutation which was associated with the autosomal recessive hyperekplexia 3.

Conclusion: Hyperekplexia is a rare presentation of a non-epileptic phenomena. However, it should be considered as a possible differential diagnosis once organic causes are excluded as treatment is relatively uncomplicated.

Keywords:

Hyperekplexia, hereditary, neonatal seizures

Abstract ID: A-0047

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Kagami-Ogata Syndrome: A Rare Imprinting Disorder

Authors & Institutions:

Siti Hazar SALAMON, Hui Suan WEE, Noraihan IBRAHIM, Rozitah RAZMAN

Neonatal Unit, Department of Paediatrics, Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan

Researchers' Institution(s):

Department of Peadiatrics, Hospital Raja Perempuan Zainab II, Kota Bharu Kelantan

Corresponding author:

Dr. Siti Hazar SALAMON
Department of Paediatrics, Hospital Raja Perempuan Zainab II,
Kota Bharu Kelantan
memoryhazar@gmail.com

Additional corresponding author:

Dr. Hui Suan WEE
Department of Paediatrics,
Hospital Raja Perempuan Zainab II
Kota Bharu Kelantan
huisuan@gmail.com

Abstract Text:

Background
Kagami-Ogata syndrome is a rare genetic disorder caused by abnormalities in the 14q32 imprinted region related to methylation and epigenetic imprinting disorder.

Case Report
This is a case of a female newborn who was born to a mother with maternal obesity, pregnancy-induced hypertension, and gestational diabetes mellitus, which was complicated by the presence of polyhydramnios and omphalocele detected during the dating scan. At birth, she presented with severe respiratory distress, requiring intubation. Upon examination, she was noted to have coarse facial features with full cheeks, depressed nasal bridge, webbed neck, low hairline, micrognathia and omphalocele. The chest X-ray revealed a bell-shaped thorax with coat hanger appearance of the ribs. The echocardiogram showed patent ductus arteriosus and pulmonary hypertension. She was referred to a clinical geneticist, who suggested a methylation test to confirm the diagnosis of Kagami-Ogata syndrome. Unfortunately, the methylation test could not be carried out due to financial constraints. She was ventilated for six weeks, and the life-sustaining measures were discontinued due to the lack of improvement in her clinical status and the poor prognosis of Kagami-Ogata syndrome.

Conclusion
This case highlighted that early diagnosis, prompt referral to geneticists and a multidisciplinary approach are important for optimising outcomes and addressing the specific needs of individuals with Kagami-Ogata syndrome. The prognosis of Kagami-Ogata syndrome varies depending on the severity of symptoms.

Keywords:

Kagami-Ogata syndrome, respiratory distress, coat-hanger ribs

Abstract ID: A-0048

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Patent Ductus Arteriosus in Premature Neonates at the Neonatal Intensive Care Unit of Hospital Tunku Azizah

Authors & Institutions:

Dr Goh Chong Sheng, Dr Farah Inaz binti Syed Abdullah, Dr Chong Chooi Siang

NICU, Paediatric Department, Hospital Tunku Azizah Kuala Lumpur

Researchers' Institution(s):

NICU, Hospital Tunku Azizah Kuala Lumpur

Corresponding author:	Additional corresponding author:
Dr. Goh Chong Sheng Paediatric Department Hospital Tunku Azizah Kuala Lumpur gohchongsheng@gmail.com	Dr Chong Chooi Siang Paediatric Department Hospital Tunku Azizah Kuala Lumpur cchoois@yahoo.com

Abstract Text:

Background: Patent ductus arteriosus (PDA), a common congenital heart condition in preterm neonates, remains as a significant burden on the healthcare system. The persistent patency of this duct after birth can cause serious complications, leading to longer hospitalization and ventilation.

Objective: This study aimed to analyse the risk factors leading to PDA in premature neonates and to compare the effectiveness of Paracetamol and Ibuprofen in treating the condition.

Method: This study included preterm neonates diagnosed with PDA by bedside echocardiography in the year 2022 at the Neonatal Intensive Care Unit (NICU), Hospital Tunku Azizah. Neonates with clinical syndromes or complex congenital heart diseases were excluded. Clinical data were extracted from the electronic medical record system.

Results: A total of 72 neonates were included. There was no difference in PDA prevalence based on gender and birth weight. The mean age of diagnoses was 6.24 days (± 7.212). Among these neonates, 25% resolved spontaneously, 25% were treated with Ibuprofen, and the remaining 50% had ductus closure with Paracetamol. The analysis indicated no statistically significant difference between Ibuprofen and Paracetamol therapy in closing PDA. However, the effectiveness of medical therapy was influenced by the gestational age and birth weight, with more premature neonates and those with lower birth weight responding better to medical treatment, respectively (p-value <0.05).

Conclusion: The study concludes that there is no difference in the effectiveness of Ibuprofen and Paracetamol for ductal closure. However, younger and lighter neonates tend to respond better to medical treatment.

Keywords:

patent ductus arteriosus, PDA, preterm infants

Abstract ID: A-0049

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

A Case of Congenital Toxoplasmosis with Multi-Organ Involvement

Authors & Institutions:

Asyraf Taufiq ENG Kean Hong, Nurhanim binti YAHAYA

Department of Paediatrics, Hospital Tuanku Fauziah, Malaysia

Researchers' Institution(s):

Hospital Tuanku Fauziah

Corresponding author: **Additional corresponding author:**

Dr. Asyraf Taufiq Eng Kean Hong
Hospital Tuanku Fauziah
ekh55@hotmail.com

Abstract Text:

Background: *Toxoplasma gondii*, is one of the commonest organisms of congenital infections, resulting various serious outcomes in foetus and newborns. We report a case of congenital toxoplasmosis with multi-organ involvement.

Case Report: A baby with antenatally detected severe intrauterine growth restriction, was born prematurely at 36 weeks gestation and had persistent thrombocytopenia, severe neonatal jaundice, hepatosplenomegaly with transaminitis. Eye assessment detected wagon wheel lesion on bilateral eyes. Ultrasound cranium revealed multiple hyperechoic echogenic foci seen at the right basal ganglia, right parietal lobe and left frontal lobe. His *Toxoplasma gondii* IgM was reactive and he has glucose-6-phosphate-dehydrogenase (G6PD) deficiency. In combination with Pyrimethamine and Folinic acid, he received Clindamycin as alternative for Sulfadiazine because Sulfadiazine is contraindicated in G6PD deficiency.

Discussion: Globally, the incidence rate of congenital toxoplasmosis varies markedly due to different socioeconomic status of the populations. Moreover, *toxoplasma gondii* infection is not screened routinely at antenatal level which tends to miss the asymptomatic mothers. Left untreated, the infected pregnant mother can vertically transmit the infection to the foetus.

Conclusion: Congenital toxoplasmosis is an infection with multi-system involvement with significant morbidity and mortality. Serologic testing, ocular examination and brain imaging may help to confirm the diagnosis. Serologic screening during pregnancy is beneficial to detect the case earlier to prompt early treatment as it may reduce the risk of vertical transmission to the foetus. If screening test is limited, health education in preventing toxoplasmosis infection is effective.

Keywords:

Congenital Toxoplasmosis, multi-organ

Abstract ID: A-0050

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

The Snow White Limb

Authors & Institutions:

Jayanthy Selvam, Fatin Farihah, Maslina Mohamed

Neonatal Intensive Care Unit, Hospital Putrajaya

Researchers' Institution(s):

Neonatal Intensive Care Unit, Hospital Putrajaya

Corresponding author:	Additional corresponding author:
Dr Jayanthy Selvam Neonatal Intensive Care Unit, Hospital Putrajaya yan01yanthy@gmail.com	Dr Maslina Mohamed Neonatal Intensive Care Unit, Hospital Putrajaya maslinamd@yahoo.com

Abstract Text:

Background: Acute Limb Ischemia (ALI) in neonates is a rare phenomenon, nonetheless, if untreated progression can lead to serious consequences. ALI in neonate can be classified into prenatal and postnatal etiologies. Prenatally it can result from in-utero compression, thrombosis or embolism. Postnatal causes include iatrogenic, thrombo-embolism and vascular malformations. Nevertheless, in many cases a specific cause remains elusive. Early detection and management are crucial in the treatment of ALI in neonate.

Objectives: To provide an insight into early diagnosis and management of ALI in neonates.

Case Report: A newborn premature of 28 weeks of gestation with a birth weight 1.18kg was delivered via EMLSCS for DCDA twin in labour. This is the first twin with cephalic position and the second twin was in breech presentation. The second twin weighed 1.17kg. Mother had no risk of infection nor thrombosis.
Immediately at birth, the left lower limb was found to be white extending from inguinal region until the tips of all toes. They were not only colourless, but cold, and all the distal pulses were not palpable. There was spontaneous movement of the limbs, although reduced. The saturation of the affected limb ranged around 70-75%. Upon arrival to NICU, heat lamp was shined over contra-lateral limb with elevation of affected limb.
Daptone performed showed the absence of dorsalis pedis artery (DPA) and posterior tibial artery(PTA) but the presence of popliteal artery waveform. Formal ultrasound Doppler showed patency of all the left lower limb vessels and no evidence of arterial venous-thrombosis.
Left lower limb remained consistently elevated while the contralateral limb was gently illuminated with glyceryl trinitrate (GTN) application over the toes. Positive progression was evident after 40 minutes of above treatment with improved perfusion and palpable pulses. Baby showed full recovery in the next 48 hours.

Conclusion: A premature twin born with ALI, which caused by in-utero compression responded positively with therapy.

Keywords:

Acute limb Ischemia

Abstract ID: A-0051

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

NEONATAL PNEUMOTHORAX: A RETROSPECTIVE DESCRIPTIVE STUDY IN NEONATAL INTENSIVE CARE UNIT, HOSPITAL TUNKU AZIZAH, KUALA LUMPUR

Authors & Institutions:

Chandni Kour Rai, Farah Inaz Binti Syed Abdullah, Chooi Siang Chong

Neonatology Unit, Hospital Tunku Azizah, Kuala Lumpur

Researchers' Institution(s):

Neonatal Unit, Hospital Tunku Azizah, Kuala Lumpur

Corresponding author:

Dr. Chandni Kour Rai A/P Manjeet Singh
Neonatal Unit, Hospital Tunku Azizah, Kuala Lumpur
coolchutney@gmail.com

Additional corresponding author:

Dr. Chooi Siang Chong
Neonatal Unit, Hospital Tunku Azizah, Kuala Lumpur
cchoois@yahoo.com

Abstract Text:

Background: Pneumothorax is defined as an abnormal accumulation of air between the parietal and visceral pleura. It causes significant morbidity and mortality hence an early diagnosis and treatment is critical.

Objectives: To describe the demographic characteristics and risk factors in neonates with pneumothorax, and to analyze the strategy of management in affecting the outcome.

Methods: All neonates admitted to NICU with pneumothorax from January 2022 to December 2023 were studied. Data was collected from the electronic medical record system.

Results: During the study period, 53 neonates were diagnosed with pneumothorax. Among these neonates, the majority were term neonates (73.6%), Malay ethnicity (62.3%), male (79.2%) and had a birth weight >2500g (66%). The pneumothorax occurred either spontaneously, or when neonates were on CPAP, or conventional ventilation. A minority developed pneumothorax while on HFOV ventilation (9.4%). Regarding management, 37.7% were treated conservatively, 52.8% required chest tube insertion. and 9.4% required needle thoracostomy. However, there was no statistically significant difference in outcome based on the management strategy. Most neonates had a favourable outcome (90.5%) and were discharged without complications. Fatal outcomes occurred in 5 cases, with 4 neonates requiring chest tubes and 1 neonate requiring needle thoracostomy.

Conclusion: Most neonates with pneumothorax had a good outcome. There was no significant difference seen in the management of pneumothorax affecting the outcome.

Keywords:

neonatal pneumothorax, continuous positive airway pressure, chest tube, ventilation

Abstract ID: A-0052

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Demographics of Term Neonates Admitted for Respiratory Distress to the Neonatal Intensive Care Unit Hospital Tunku Azizah, Kuala Lumpur

Authors & Institutions:

Mohd Aizat bin Mohd Nasir[1], Farah Inaz Binti Syed Abdullah[1], Chooi Siang Chong[1], Asiah binti Kassim[2]

[1]*Neonatology Unit, Hospital Tunku Azizah, Kuala Lumpur*
[2]*Clinical Research Centre, Hospital Tunku Azizah, Kuala Lumpur*

Researchers' Institution(s):

Neonatal Unit, Hospital Tunku Azizah

Corresponding author: **Additional corresponding author:**

Dr Mohd Aizat Bin Mohd Nasir
Neonatal Unit, Hospital Tunku Azizah
draizatnasir@gmail.com

Abstract Text:

Background: One of the main reasons for term neonates to be admitted to Neonatal Intensive Care Units (NICUs) worldwide is respiratory distress. Therefore, identifying the diagnosis among these babies is crucial.

Objectives: To provide a descriptive analysis detailing the demographics and diagnoses of term neonates admitted for respiratory distress.

Methods: Term neonates aged less than 30 days, admitted to the NICU at Hospital Tunku Azizah for respiratory distress between June 2023 and December 2023, were included. All data were collected retrospectively from the census book of admission and the electronic medical system.

Results: During the study period, a total of 607 term neonates were included, of which 373 were male (61.4%) and 234 were female (38.6%). Most neonates (512, 84%) were delivered between 37 to 40 weeks gestational age. The most common mode of delivery was emergency lower segment caesarean section, accounting for 276 neonates (45.5%). A significant majority of neonates (541, 89.1%) had a birth weight of more than 2500g. The two most common discharge diagnoses were congenital pneumonia, affecting 247 neonates (40.7%), and transient tachypnoea of the newborn (TTN), affecting 219 neonates (36.1%). Other diagnoses with smaller percentages included community-acquired pneumonia, meconium aspiration syndrome, cardiac conditions, congenital diaphragmatic hernia, and congenital lung/airway malformations. Notably, 90.1% of neonates admitted for community-acquired pneumonia and 59.4% for TTN received only nasal prong oxygen (p value <0.005). There were no statistically significant differences in the highest level of respiratory support required among the other groups.

Conclusion: Term neonates with respiratory distress remain one of the primary reasons for admission to neonatal intensive care units. Hence, it is crucial to be equipped with the necessary knowledge and, more importantly, the facilities to cater to these patients.

Keywords:

Neonatal respiratory distress

Abstract ID: A-0055

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Breastfeeding the Preterm Infant : Learning From Mothers' Experiences

Authors & Institutions:

Loh NJ, Azmi Z, Thomas RA

Paediatric Department, Miri General Hospital, Malaysia

Researchers' Institution(s):

Miri General Hospital

Corresponding author: **Additional corresponding author:**

Loh NJ
Miri General Hospital
zulaikhaazmi07@gmail.com

Abstract Text:

Background: A mother's breastfeeding journey is fraught with challenges, especially so for mothers of the small, sick preterm infants admitted to the neonatal intensive care unit. Yet, most neonatal units in Malaysia lack structured and consistent breastfeeding support. In Miri General Hospital, approximately half of all our extremely preterm infants receive mother's milk within the first two days of life and go on to be fed exclusively with breastmilk. We sought to explore the motivating factors among mothers of these infants.

Objective: To explore maternal understanding of breastfeeding, motivating factors and challenges experienced in their breastfeeding journey.

Methods: We conducted a qualitative study in which eight mothers of preterm infants, fed exclusively with mother's milk since birth, were interviewed during their stay on the neonatal unit. The interviews were transcribed verbatim and thematic analysis done.

Results: One recurring theme among all the mothers interviewed was a determination to breastfeed driven by maternal instinct and the deep-seated belief that it was the best they could offer their baby.

Conclusion: We highlight that the intrinsic determination of a mother to breastfeed her baby is powerful, and the importance of our role as healthcare professionals to recognize this and do more to support mothers in their breastfeeding journey.

Keywords:

breastfeeding

Abstract ID: A-0056

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Short-listed for Best Poster	Poster	Neonatal	Research Study

Abstract Title:

Efficacy of Vein Transillumination Device and Predictors of Successful Venous Cannulation Among Neonates in NICU, Hospital Sultan Abdul Aziz Shah (HSAAS), Universiti Putra Malaysia (UPM)

Authors & Institutions:

Zi Han LIM[1], Melissa Anne NUNIS[2], Zurina ZAINUDIN[2]

[1]Master of Medicine (Paediatrics), Faculty of Medicine and Health Sciences, Universiti Putra Malaysia
[2]Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Sultan Abdul Aziz Shah, Universiti Putra Malaysia

Researchers' Institution(s):

Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

Corresponding author:	Additional corresponding author:
Dr Lim Zi Han Faculty of Medicine and Health Sciences, Universiti Putra Malaysia zihanlim128@gmail.com	Dr Zurina Zainudin Department of Paediatrics, Hospital Sultan Abdul Aziz Shah, Universiti Putra Malaysia zaizurina@upm.edu.my

Abstract Text:

Background: The failure rate of intravenous cannulation among neonates is surprisingly high. The use of vein transillumination devices has been observed to facilitate venous cannulation in the paediatric population; however, data regarding its efficacy among neonates is limited.

Objectives: The primary objective is to identify predictors of successful venous cannulation in neonates and compare success rates with and without a vein transillumination device.

Methods: This prospective, randomized controlled trial was conducted from October 2022 until January 2024. Eligible neonates were randomly assigned to either the control group, which underwent standard cannulation, or the intervention group, which used a vein transillumination device for cannulation. Descriptive statistics and logistic regression were used to analyse the data. The main outcome measures were the first-attempt success rate of venous cannulation and predictors, including patient characteristics and performers experience.

Results: The first-attempt success rate of venous cannulation did not differ significantly between the intervention and control groups (35% vs 43.3%, p>0.05). Neonates with palpable and visible vein were 3 to 5 times more likely to have a successful first attempt cannulation (OR 3.19, 95% CI 1.47-6.96 and OR 5.54, 95% CI 1.54-19.86, respectively). Cannulation at sites with bruises or hematomas was less likely to succeed on the first attempt cannulation (OR 0.39, 95% CI 0.17-0.89), and each additional year of experience as a medical officer increased the likelihood of a successful first attempt (OR 1.21, 95% CI 1.02-1.45).

Conclusion: The utilization of a vein transillumination device did not affect the success rate of venous cannulation. Significant predictors of successful venous cannulation included vein visibility and palpability, the presence of bruises or hematomas, and the experience level of performers.

Keywords: vein transillumination device, venous cannulation in neonates

Abstract ID: A-0057

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Outcome of Ampicillin-sulbactam as Monotherapy in the Treatment of Multidrug-resistant *Acinetobacter baumannii* Bacteraemia in Neonates - A Case Series

Authors & Institutions:

Vicky Wai Kay NG[1], Chae Hee CHIENG[1], Jeffrey Soon Yit LEE[2]

[1]Department of Paediatrics, Hospital Sibu, Malaysia
[2]Clinical Research Centre, Hospital Sibu, Malaysia

Researchers' Institution(s):

Department of Paediatrics, Hospital Sibu, Malaysia

Corresponding author:	Additional corresponding author:
Dr Vicky Ng Wai Kay Department of Paediatrics, Hospital Sibu, Malaysia vicky5292@gmail.com	Dr Chieng Chae Hee Department of Paediatrics, Hospital Sibu, Malaysia audreych@hotmail.com

Abstract Text:

Background: Multidrug Resistant (MDR) *Acinetobacter baumannii* infection in neonates is increasing and is associated with high risk of morbidity and mortality. The recommended treatment for this infection is the combination of colistin with a sulbactam containing antibiotics, such as Ampicillin-sulbactam (Unasyn). Colistin's nephrotoxicity in sick preterm infants often limits its use. There are reports of high-dose Unasyn monotherapy as an option. We report our experience on the outcome of using intravenous high-dose Unasyn monotherapy to treat MDRO *A.baumannii* bacteraemia in preterm infants.

Case Series:
A case series of six neonates with MDRO *A.baumannii* bacteraemia between November 2022 and February 2024 were identified in our NICU. The cases had a mean gestation of 27.1 weeks and median weight of 850 grams. All cases had a central line when infected. Four cases (66.6%) were ventilated. All cases received intravenous Unasyn of 75mg/kg/dose for 7 to 10 days. Five cases (83.33%) showed clinical improvement, microbiological clearance, or reduced C-reactive protein after treatment. One neonate (16.66%) received concurrent colistin therapy but developed acute kidney injury. Two neonates (33.33%) had septicaemic shock, of which one died.

Conclusion: Based on our experience, high-dose Unasyn monotherapy is a reasonable alternative to treat MDRO *A.baumannii* bacteraemia in preterm infants. The efficacy and safety must be explored in a well-designed randomised controlled clinical trial before any recommendation can be made.

Keywords:

Multidrug resistant *Acinetobacter baumannii*, bacteraemia, neonate, ampicillin-sulbactam

Abstract ID: A-0058

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

DGAT-1 Deficiency-Induced Congenital Diarrhoea: A Rare Inherited Disorder

Authors & Institutions:

Hui Suan WEE, Siti Hazar SALAMON, Noraihan IBRAHIM, Rozitah RAZMAN

Neonatal Unit, Department of Paediatrics, Hospital Raja Perempuan Zainab II, Kota Bharu, Kelantan

Researchers' Institution(s):

Department of Peadiatrics, Hospital Raja Perempuan Zainab II Kota Bharu Kelantan

Corresponding author:	Additional corresponding author:
Dr. WEE Hui Suan Department of Peadiatrics Hospital Raja Perempuan Zainab II Kota Bharu Kelantan huisuan@gmail.com	Dr. Siti Hazar SALAMON Department of Peadiatrics Hospital Raja Perempuan Zainab II Kota Bharu Kelantan memoryhazar@gmail.com

Abstract Text:

Background: Diacylglycerol acyltransferase-1 (DGAT-1) deficiency is one of the causes of congenital diarrhoea, which may present as early as a few days of life with severe persistent diarrhoea, malabsorption, dermatitis, and failure to thrive.

Case Report:
This is a case of a full-term 13-day-old male infant who presented to the health clinic with a 1-week history of diarrhoea with significant weight loss and eczema. He is the youngest of the nine siblings from a consanguineous marriage, whereby 4 out of his 8 elder siblings passed away within 1 year of age following feeding intolerance, diarrhoea and seizures. Antenatally, his mother had gestational diabetes mellitus, which was well controlled with metformin. Upon admission, he was dehydrated and cachexic with generalised erythematous papules. He was initially kept nil by mouth with intravenous total parenteral nutrition (TPN) and antibiotics. When he was slowly introduced to infant formula milk, he developed severe diarrhoea with 10 percent dehydration, requiring ventilation. After extensive discussion with the geneticist, gastroenterologist, and immunologist, he was subsequently re-challenged with protein-free formula milk and subsequently with carbohydrate-free soy infant formula, which were all in vain. He was therefore recommenced on IV TPN. Extensive investigations were carried out, including whole exome sequencing (WES), which eventually revealed homogenous mutations in diacylglycerol acyltransferase-1 (DGAT-1), which is associated with autosomal recessive protein-losing enteropathy. Besides, there were also incidental findings of a heterozygous pathogenic duplication of chromosome X, suggesting Klinefelter syndrome (47XXY). Unfortunately, he developed severe nosocomial sepsis, whereby he succumbed to death at the age of 2.5 months old.

Conclusion: This case highlighted the importance of recognising DGAT-1 deficiency as a cause of congenital diarrhoea. Prompt referral to geneticists, gastroenterologists, and a multidisciplinary approach are important for optimising the outcomes for individuals with DGAT-1 deficiency-induced congenital diarrhoea.

Keywords:

congenital diarrhoea, failure to thrive, DGAT-1

Abstract ID: A-0059

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Neonatal Transphyseal Separation of Distal Humeral Epiphysis

Authors & Institutions:

Shalini Rajendran, Ann Cheng WONG, Kiew Siong LAU.

Neonatal Intensive Care Unit, Department of Paediatrics, Sarawak General Hospital, Malaysia

Researchers' Institution(s):

Department of Paediatrics, Sarawak General Hospital, Malaysia

Corresponding author: **Additional corresponding author:**

Dr Shalini Rajendran
Department of Paediatrics, Sarawak General Hospital, Malaysia
shalini92rajendran@gmail.com

Abstract Text:

Background: Distal humeral transphyseal separation in a neonate is a rare injury that often leads to delayed diagnosis. The absence of the ossification center of the capitellum in a neonate complicates the radiological diagnosis and may cause initial misdiagnosis as an elbow dislocation. The immediate reduction and restoration of normal elbow anatomy is important for proper treatment.

Case Report:
We report a case of a term infant with a birth weight of 3600g who was born via emergency caesarean section for acute fetal distress. The delivery was uncomplicated and did not require instrumentation. The baby was born vigorous with good Apgar score. Examination at birth was normal and baby was kept with his mother in the postnatal ward. He was admitted at 26 hours of life for phototherapy where initial examination was normal. At 40 hours of life, it was noted that there was reduced movement of the left arm. Clinical examination found the left elbow to be swollen and tender with limited extension. Radiograph of the distal left humerus did not show any obvious fracture. A subsequent anteroposterior and lateral radiograph was done and was initially diagnosed as an elbow dislocation. However, an ultrasound of the elbow showed transphyseal separation of the left distal humeral epiphysis. The baby underwent a successful reduction and K-wiring of the distal humerus.

Conclusion: Neonatal transphyseal separation of distal humerus can present a few days after birth with severe discomfort, reduced mobility and swelling of the elbow. A proper radiological examination is crucial for diagnosis. It may reveal an altered anatomy of the elbow joint with the olecranon medially displaced and the radius articulating with the medial humeral condyle. Ultrasound can help with the diagnosis by showing the separation of the base of the distal humeral epiphysis from the humeral metaphysis.

Keywords:

Transphyseal separation of humerus

Abstract ID: A-0060

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

A Case of Arthrogryposis, Renal Dysfunction, and Cholestasis (ARC Syndrome): Diagnostic Challenges.

Authors & Institutions:

Azie Jumaatul Adawiyah NABIR,[1, 2] Chiew Yee LAU, [1, 2] Aliyyah MOHD KHUZAINI, [1, 2] Adilah W. AB RAHIM, [1, 2] RIna Aznita ARIFFIN [1,2]

[1] Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Malaysia.
[2] Paediatric Department, Hospital Ampang, Ampang, Malaysia.

Researchers' Institution(s):

Paediatric Unit, Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Malaysia.

Corresponding author: **Additional corresponding author:**

Azie Jumaatul Adawiyah NABIR
Paediatric Unit, Faculty of Medicine and Health Sciences,
Universiti Sains Islam Malaysia, Nilai, Malaysia.
azienabir@gmail.com

Abstract Text:

Background: Arthrogryposis-renal dysfunction-cholestasis (ARC) syndrome is an autosomal recessive disorder affecting multiple organ systems. ARC syndrome typically presents in neonates with a characteristic triad of symptoms: arthrogryposis, renal dysfunction and cholestasis. The disease course is severe, and most of the affected children do not survive beyond the first year of life.

Case report:
A baby boy was born with a birth weight of 2.65kg via emergency lower segment caesarean section for breech in labour at 36 weeks of gestation. Her mother was a primigravida 24 years old lady who had GBS positive antenatally and treated with oral antibiotic. Baby was born uneventful and discharged to mother post-delivery. He presented at day 4 of life with 18 percent weight loss. Clinically on admission, baby had mild sign of dehydration and jaundice. He has some dysmorphic features including small chin, bilateral congenital talipes equinovarus, poor muscle bulk, rocker bottom feet, contracture of bilateral hip, knee and ankle. His full blood count showed a total white count of 10.2x 10^9/L, platelet of 433x10^9/L and c-reactive protein of 6.4mg/dL. His initial arterial blood gas result showed pH of 7.18 with bicarbonate 12.2 and base excess of -17.6. His renal profile result was impaired with conjugated hyperbilirubinemia. He was treated for sepsis with antibiotics and intravenous fluids accordingly. However, laboratory investigations showed persistent metabolic acidosis with normal anion gap, mild renal impairment and persistent conjugated hyperbilirubinemia. He was investigated for renal tubular acidosis, infections, inborn error metabolism and Alagille syndrome but all were negative. Ultrasound hepatobiliary was normal. Baby was subsequently discharged with Ryle's tube feeding due to poor weight gain and poor sucking.

Conclusion: This case involves a rarely encountered disease. It presents a diagnostic challenge of a neonate with clinical features suggestive of ARC syndrome but complicated course due to early neonatal sepsis.

Keywords:

Athrogryphosis, cholestasis

Abstract ID: A-0061

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Multiple Carboxylase Deficency : An Early Presentation of a Metabolic Error

Authors & Institutions:

Vaishnavi.K, Iyvone Yong PS

Department of Paediatrics, Hospital Tuanku Jaafar Seremban Malaysia

Researchers' Institution(s):

Department of Paediatrics, Hospital Tuanku Jaafar Seremban Malaysia

Corresponding author:

Tan MV
Department of Paediatrics, Hospital Tuanku Jaafar Seremban Malaysia
iyvone@hotmail.com

Additional corresponding author:

Pauline Choo
Department of Paediatrics, Hospital Tuanku Jaafar Seremban Malaysia

Abstract Text:

Background: Biotin (vitamin B7) is involved in a wide range of metabolic processes where it utilizes fats, carbohydrates and amino acids. Multiple carboxylase deficiency results either from biotinidase deficiency or from holocarboxylase syntheses deficiency. It affects the skin, neurology, respiratory, digestive and immune system.

Case Report:
Herein, we report a case of biotinidase deficiency in our neonatal unit.

A newborn with dysmorphism was admitted to intensive care unit for respiratory distress at birth. He required extensive respiratory and hemodynamic support upon admission and was noted to have persistent metabolic acidosis with high lactate. He developed recurrent seizure activities which was well controlled with antiepileptic drug. He also had ichthyosis leading to contractures. Patient was treated as presumed sepsis and covered with antibiotics. However, there was minimal improvement with investigation results unsupportive of sepsis. He had poor response to fluid increment and bicarbonate challenge. Further workup revealed an IEM disorder where he was found to have multiple carboxylase deficiency with normal biotin activity. Symptoms started to improve with initiation of biotin. Further questioning revealed parents are consanguineous with a history of early infant death at 3 months old due to similar symptoms.

Biotin deficiency in this patient affected his skin, respiratory, neurology and haemodynamics, and supplementation lead to positive improvement. However, it was not without complications. Our patient is currently 3 months old, respiratory support dependent with global developmental delay.
Conclusion: Multiple carboxylase deficiency is a rare condition and remains a diagnostic challenge due to its wide clinical variation.

Keywords:

Multiple carboxylase deficiency, biotin

Abstract ID: A-0062

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

SCN3A-related Neurodevelopmental Disorder: A Case Report

Authors & Institutions:

Vijayasree Parasuraman, Wan Nurulhuda Wan Md Zin, Shareena Ishak

Department of Paediatrics, Faculty of Medicine, Hospital Pakar Kanak-Kanak, Universiti Kebangsaan Malaysia

Researchers' Institution(s):

Department of Paediatrics, Faculty of Medicine, Hospital Pakar Kanak-Kanak, Universiti Kebangsaan Malaysia

Corresponding author:	Additional corresponding author:
Shareena Ishak Department of Paediatrics, Faculty of Medicine, Hospital Pakar Kanak-Kanak, Universiti Kebangsaan Malaysia shareena@ppukm.ukm.edu.my	Wan Nurulhuda Wan Md Zin Department of Paediatrics, Faculty of Medicine, Hospital Pakar Kanak-Kanak, Universiti Kebangsaan Malaysia wannurul@ppukm.ukm.edu.my

Abstract Text:

Introduction: Developmental and encephalopathic encephalopathies (DEEs) are a group of rare and severe epilepsies that affect neurodevelopment. The incidence in children is estimated to be 2 per 100,000 population. It is caused by genetic mutations that directly impair brain development. It is characterized both by epilepsy and developmental impairment.

Case Description:
We present a case of B/O NS, a baby girl, delivered at 32 weeks period of gestation with a birth weight of 1500 grams. She was noted to be dysmorphic and had microcephaly. She developed refractory polymorphic seizures at day 5 of life, necessitating intensive pharmacological management. Several diagnostic work-up was performed including an MRI of the brain which revealed neuronal myelination abnormalities and basal ganglia anomalies. Genetic testing revealed mutation of the SCN3A gene. Despite optimized treatment with oral antiepileptic medications, her seizure control remained inadequate. Neurodevelopmental assessment demonstrated severe delay.

Conclusion: Managing SCN3A developmental epileptic encephalopathy poses significant challenges due to refractory seizures and profound developmental impacts. Management and prognosis will be discussed.

Keywords:

Developmental and encephalopathic encephalopathies (DEEs); SCN3A mutation

Abstract ID: A-0063

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

The Fragile Framework: Insights from a Case of Osteogenesis Imperfecta

Authors & Institutions:

Wan Nurzahiah WAN ZAKARIA, Zurina ZAINUDIN

Department of Paediatrics, Hospital Sultan Abdul Aziz Shah, Universiti Putra Malaysia

Researchers' Institution(s):

Department of Paediatrics, Hospital Sultan Abdul Aziz Shah, Universiti Putra Malaysia

Corresponding author:

Wan Nurzahiah Wan Zakaria
Department of Paediatrics, Hospital Sultan Abdul Aziz Shah, Universiti Putra Malaysia
wannurzahiah@upm.edu.my

Additional corresponding author:

Zurina Zainudin
Department of Paediatrics, Hospital Sultan Abdul Aziz Shah, Universiti Putra Malaysia
zaizurina@upm.edu.my

Abstract Text:

Background: Unexplained multiple bone fractures in infant can indicate non-accidental injury; but metabolic bone disease or skeletal dysplasia should also be considered.

Case Report:
A term baby weighing 2.9 kg, was delivered via spontaneous vertex delivery. Third trimester sonography revealed congenital anomalies including a Dandy Walker variant, hypomineralization, and short limbs. At birth, he had relative macrocephaly, a long trunk, and rhizomelia. In the absence of bony fractures and blue sclerae, he was diagnosed with skeletal dysplasia and was discharged home on day five of life. On day 30, he returned with a closed right femur fracture prompting further evaluation. Blue sclera and a skeletal survey, which had shown multiple old fractures with Wormian bones, suggested OI type III. He was treated with non-surgical therapy, and genetic testing was planned.

Discussion: OI is a heterogeneous disorder caused by mutations affecting type 1 collagen production. It is a rare form of skeletal dysplasia with an incidence of 1/15,000–20,000. The clinical features of OI vary in severity with OI type III is a severe form, who survived the neonatal period. Clinical features include short stature, relative macrocephaly, triangular face, blue sclerae, dentinogenesis imperfecta, Wormian bones, and bowed limbs. Diagnosing OI type III can be challenging especially in the neonatal period, as initial presentations may lack overt fractures or significant scleral discoloration. Management focuses on fracture prevention and treatment, improving bone density, and addressing orthopaedic complications. Bisphosphonates are commonly used to increase bone strength, and surgical interventions may be necessary to correct deformities and improve mobility.

Conclusion: Suspecting and evaluating OI in neonates with skeletal anomalies despite the absence of initial overt symptoms can be challenging. Early recognition and management are crucial for optimizing outcomes and preventing long-term complications.

Keywords:

Osteogenesis imperfecta; skeletal dysplasia

Abstract ID: A-0064

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Short-listed for Best Poster	Poster	Neonatal	Research Study

Abstract Title:

A Case Control Study: Comparison of Complications Associated with Weight Loss in Neonates at A Single Tertiary Centre

Authors & Institutions:

Melissa Kay Lin CHANG, Farah Inaz Binti SYED ABDULLAH, Chooi Siang CHONG

Neonatal Unit, Department of Paediatrics, Hospital Tunku Azizah, Kuala Lumpur

Researchers' Institution(s):

Neonatal Unit, Department of Paediatrics, Hospital Tunku Azizah Kuala Lumpur

Corresponding author:	Additional corresponding author:
Melissa Kay Lin CHANG Neonatal Unit, Department of Paediatrics Hospital Tunku Azizah Kuala Lumpur cklmelissa@gmail.com	Chong Chooi SIang Neonatal Unit, Department of Paediatrics, Hospital Tunku Azizah Kuala Lumpur cchoois@yahoo.com

Abstract Text:

Background: Weight loss in neonates after birth is a natural occurrence, typically ranging from 5.5% to 6.6% of their birth weights. However, weight loss exceeding 8% necessitates further evaluation, often leading to Special Care Nursery (SCN) admission due to potential complications such as acute kidney injury, and jaundice. It significantly contributes to SCN admissions and elevates the risks of hospital-acquired infections and parental anxiety.

Objectives: This study aimed to determine if a weight loss threshold of 10% could be a better predictor of acute kidney injury risk as compared to the 8% threshold.

Methods: Conducted as a retrospective case-control study, the research included neonates admitted to SCN Hospital Tunku Azizah between December 2023 and May 2024, and who had exhibited weight loss of 8% or more from birth weight. Upon admission, renal profiles were obtained to identify acute kidney injury, and additional clinical data were extracted from the electronic medical record system.

Results: During the study period, 108 neonates met the inclusion criteria, with 51 in the 8-9.9% weight loss group and 57 in the 10% and above group. The analysis revealed no statistically significant associations in between type of feeding, maternal parity, gestational age, or birth weight with significant weight loss. Notably, a higher percentage of neonates in the 10% weight loss group (76.7%) experienced acute kidney injury as compared to those in the 8-9.9% group (23.3%), with a p-value of 0.002. Conversely, the 8-9.9% weight loss group exhibited a higher incidence of jaundice (56.8%), with a p value of 0.003.

Conclusion: This study suggests that neonates with a weight loss of 10% or more are at a heightened risk of acute kidney injury as compared to those with 8-9.9% weight loss. However, further research is necessary to explore the potential adjustment of admission thresholds based on weight loss to enhance neonatal care outcomes.

Keywords:

neonatal, weight loss, acute kidney injury

Abstract ID: A-0065

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Neonatal Enterovirus Infection: High Contagion and Impacts - A Case Series

Authors & Institutions:

Shu Huey Ooi, Lee Mun Soo,

Department of Paediatrics, Hospital Selayang

Researchers' Institution(s):

Department of Paediatrics, Hospital Selayang

Corresponding author: **Additional corresponding author:**

Shu Huey Ooi
Department of Paediatrics, Hospital Selayang
shuhuey09@gmail.com

Abstract Text:

Background: Neonatal enterovirus infections are highly contagious and pose significant health risks for newborns. In August 2023, Hospital Selayang's Neonatal Intensive Care Unit (NICU) experienced an outbreak involving four cases, underscoring the seriousness of these infections in clinical settings.

Case Series:
We present a case series detailing four neonatal enterovirus infections, with Case 1 as the index. Case 1, born at 38 weeks 5 days weighing 2.84 kg, initially was hospitalized for neonatal jaundice, presented on Day 9 with fever, poor feeding, and lethargy. Clinically febrile with hyper-reflexia, investigations showed elevated C-reactive protein (CRP), and enterovirus-positive cerebrospinal fluid (CSF); treated with one week of antibiotics and discharged well. Case 2, born at 36 weeks 6 days weighing 2.7 kg, admitted for jaundice, deteriorated on Day 3 with lethargy and circulatory compromise, requiring intubation. Severe metabolic acidosis, elevated CRP, and poor cardiac contractility were noted; despite intensive treatment, the baby succumbed after 2 days. Serum enterovirus was detected. Case 3, born at 38 weeks weighing 3.05 kg, had contact with the index case and presented on Day 19 with fever, hyper-reflexia, borderline high CRP, and enterovirus-positive CSF; treated with one week of Intravenous (IV) antibiotics and discharged well. Case 4, born at 38 weeks 1 day weighing 3.33 kg, also had contact with the index case, readmitted on Day 5 post-discharge with fever. Clinical examinations were normal but persistently febrile, investigations revealed raised CRP and enterovirus-positive CSF; discharged well after completing one week of antibiotics.

Conclusion: Neonatal enterovirus infections entail significant medical costs, pose long-term neurodevelopmental risks, mortality, and familial impacts. Early recognition, prompt intervention, and supportive care are crucial. Prevention through enhanced caregiver hand hygiene and early isolation is pivotal in reducing the incidence.

Keywords:

neonatal, enterovirus, NICU, outbreak, hand hygiene

Abstract ID: A-0066

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Neonatal Hyperthyroidism: A Case Report from Sabah, Malaysia

Authors & Institutions:

Chi Han Wong, Chin Ling

Department of Paediatrics, Hospital Duchess of Kent, Sandakan, Sabah, Malaysia

Researchers' Institution(s):

Department of Paediatrics, Hospital Duchess of Kent, Sandakan, Sabah, Malaysia

Corresponding author:

Dr Wong Chi Han
Department of Paediatrics, Hospital Duchess of Kent, Sandakan, Sabah, Malaysia
elvinawong32@yahoo.com

Additional corresponding author:

Dr Chin Ling
Department of Paediatrics, Hospital Duchess of Kent, Sandakan, Sabah, Malaysia
chinling04122018@gmail.com

Abstract Text:

Background: Neonatal immune hyperthyroidism, a rare but potentially fatal condition, affects 1–5% of infants born to hyperthyroid mothers due to maternal antibodies crossing the placenta and stimulating fetal thyroid receptors.

Case Report:
A female infant, born prematurely at 32 weeks, was admitted to NICU due to respiratory distress. By day 9 of life, she had developed tachycardia, poor weight gain, exophthalmos, and loose stools. Initial investigations revealed low thyroid-stimulating hormone (TSH) levels in the cord blood (0.016 µIU/mL), and thyroid function tests at day 15 of life indicated abnormally low TSH (<0.005 µIU/mL) and high T4 levels (>100pmol/L). Anti-TSH receptor antibodies were positive, confirming neonatal hyperthyroidism.

The mother, initially undiagnosed with hyperthyroidism during pregnancy, was later diagnosed following the infant's clinical presentation, prompted further investigation.

Following the treatment initiation, the infant showed significant clinical improvement with noticeable weight gain and resolution of the hyperthyroid symptoms. She was discharged in stable condition with scheduled follow-ups in the paediatric clinic to monitor thyroid function and treatment adjustment.

Discussion: This case underscores the importance of vigilance for neonatal hyperthyroidism in infants born to mothers with hyperthyroidism. Timely diagnosis and intervention are essential for optimizing outcomes and preventing long-term sequelae.

Conclusion: Neonatal hyperthyroidism should be considered in infants with unexplained symptoms and the importance of maternal thyroid screening. Early diagnosis and coordinated management are crucial for positive outcomes.

Keywords:

neonatal hyperthyroidism

Abstract ID: A-0067

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Double Whammy Distal Renal Tubular Acidosis with Homozyous Southeast Asian Ovalocytosis: A Case Report

Authors & Institutions:

Vaishnavi K[1], May Vern Tan [1], Nur Aliaa Anuar[2], Catherine Param[3], Pei Sing Chan[1], Caroline Siew Yin Eng[1]

[1]Department of Paediatrics, Hospital Tuanku Jaafar Seremban
[2]Department of Pathology and Biochemistry, Hospital Tuanku Jaafar Seremban
[3]Department of Obstetric and Gynaecology, Hospital Tuanku Jaafar Seremban

Researchers' Institution(s):

Department of Paediatrics, Hospital Tuanku Jaafar Seremban, Malaysia

Corresponding author: **Additional corresponding author:**

Dr. Vaishnavi Karunanithi
Department of Paediatrics, Hospital Tuanku Jaafar
Seremban, Malaysia
vaish85k@gmail.com

Abstract Text:

Background: Band 3 anion transport protein, also known as anion exchanger 1 (AE1) or solute carrier family 4 member 1 (SLC4A1) is a protein that is encoded by the SLC4A1 gene. It is present in two specific sites which are the basolateral surface of the alpha intercalated cell in the collecting ducts of the kidney and at the red blood cell membrane. Loss of band 3 transport protein in the acid secreting cells of the collecting ducts causes disruption of acid-base balance of the urine identified as primary distal renal tubular acidosis (dRTA). In parallel to this, similar defect of this protein causes autosomal dominant inherited red blood cell membrane disorder, also known as Southeast Asian Ovalocytosis (SAO).

Case Report:
We report a case of a newborn who was diagnosed in utero at 24 weeks to have non-immune hydrops fetalis. Antenatally, he underwent intrauterine transfusion for foetal anaemia where haemoglobin was 3.1 g/dL. At birth, his haemoglobin was 9.7g/dL. He had persistent haemolysis and hyperbilirubinemia. Baby required 3 cycles of exchange transfusion. After his anaemia was stabilized, he was noted to have electrolytes alterations with a persistent normal anion gap metabolic acidosis. Urinary pH was increased. However, there was no hypercalciuria and the renal ultrasonography did not show nephrocalcinosis. A clinical diagnosis of distal renal tubular acidosis (dRTA) was made and the patient was started on sodium bicarbonate supplements. Baby's molecular analysis revealed homozygous SAO band 3 deletion. Both parents are carrier of SAO. Currently, the child is 3 months old. His acidosis remains controlled with medications. However, he continues to require frequent blood transfusions. Noteworthy, SAO is a potential cause of non-immune hydrops fetalis. The severity of haematological and kidney involvement may not be in tandem.

Keywords:

Band 3 anion transport protein, SLC4A1 gene, non-immune hydrops fetalis, distal renal tubular acidosis (dRTA), Southeast Asian Ovalocytosis (SAO), homozygous SAO band 3 deletion

Abstract ID: A-0068

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

When Sharing isn;t Caring - Hypertension in Twins with Twin-to-Twin Transfusion Syndrome : A Case Report

Authors & Institutions:

May Vern TAN[1], Angela Qui Cian GOH[1] (co-first author), Caroline Siew Yin ENG[2], Pei Sing Chan[1]

[1]Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Tuanku Ja'afar Seremban
[2]Paediatric Nephrology, Department of Paediatrics, Hospital Tuanku Ja'afar Seremban

Researchers' Institution(s):

Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Tuanku Ja\'afar Seremban

Corresponding author:

Dr Tan May Vern
Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Tuanku Ja\'afar Seremban
tanmayvern@gmail.com

Additional corresponding author:

Abstract Text:

Background: Twin-to-twin transfusion syndrome (TTTS) is an unbalanced transfer of blood volume through placental intertwin anastomoses and occurs in 10 to 20% of monochorionic diamniotic (MCDA) pregnancies. Fetal mortality approaches 90%, and morbidity in survivors is approximately 50% if left untreated. Neonates with untreated TTTS are at high risk for multiple complications. However, the immediate postnatal hemodynamic impairments in untreated neonates are poorly described and remain a challenge for many neonatologists.

Case Report:
We report a pair of 27 weeks' gestation, female MCDA twins with birth weights of 1100g and 740g, with TTTS. Antenatal fetal ultrasonography showed oligohydramnios/polyhydramnios sequence with reversed end diastolic umbilical artery blood flow in the donor twin, consistent with the diagnosis of TTTS stage 3. The fetuses were delivered prematurely via an emergency caesarean section. Both twins were admitted to our NICU and were ventilated, but they were successfully extubated to non-invasive support by 2 weeks of life.

However, during the second to third week of life, their blood pressures were found to be elevated beyond the 99th centile. Physical examinations were unremarkable with a normal four limb blood pressure. Serum BUN and creatinine were temporarily elevated (highest creatinine 74umol/L and 83umol/L), normalizing by their second week. They were both euthyroid with normal echocardiography and renal doppler ultrasonography.

Antihypertensives were commenced for both twins. While the donor twin showed good BP control with just a single antihypertensive agent, her recipient twin developed refractory systemic hypertension, requiring up to three antihypertensives agents of amlodipine, propranolol and spironolactone. We expect the systemic hypertension to be transient as better control was achieved by 6 weeks of life.

Conclusion: Persistent neonatal hypertension in TTTS is challenging and a potential morbidity in twin pregnancies. Despite knowing the background of cardiac hypertrophy and renal complications as contributing factors, the treatment and long-term effects remain unknown.

Keywords:

twin-to-twin transfusion syndrome, neonatal hypertension, morbidity

Abstract ID: A-0072

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Neonatal Intrahepatic Cholestasis Caused by Citrin Deficiency (Niccd)- A Case Series of 12 Patients In UMMC

Authors & Institutions:

Minn Yin CHOO, Sok Kun TAE, Meow Keong THONG, Rifhan Azwani MAZLAN

Department of Medical Genetics, University Malaya Medical Centre

Researchers' Institution(s):

Department of Medical Genetics, University Malaya Medical Centre

Corresponding author:

Dr Choo Minn Yin
Department of Medical Genetics,
University Malaya Medical Centre
minnyin@ummc.edu.my

Additional corresponding author:

Abstract Text:

Background: Neonatal intrahepatic cholestasis caused by citrin deficiency (NICCD) is an autosomal recessive disorder caused by pathogenic variant in the SLC25A13 gene which encodes citrin- based malate aspartate shuttle. NICCD leads to cholestatic jaundice, hepatic dysfunction, and metabolic crisis.

Case Series:
This is a case series of 12 patients over a 17-year span on patients with citrin deficiency (CD), from 2007 to June 2024. Ten of our patients presented with cholestatic jaundice at around 2 to 12 weeks of age. Only one patient was diagnosed antenatally through molecular analysis following amniocentesis, and another patient was identified immediately postnatally through biochemical analysis. Both patients had siblings with known history of NICCD. One of these 12 patients presented in a severe metabolic crisis and hyperammonemia, requiring ammonia scavenger medications. Biliary atresia was suspected in all these patients. Nevertheless, none of them underwent any invasive procedures for diagnosis. The mean age of diagnosis was 2 months old of age, based on elevated plasma citrulline. Eleven of our patients who had underwent molecular testing had a confirmed diagnosis of citrin deficiency due to the presence of a homozygous or compound heterozygous pathogenic variant in the SLC25A13 gene, while all the parents were carriers for CD. Three of our patients had an elevated prothrombin time. Following dietary modification with lactose-free formula and medium-chain triglycerides enrichment, ten patients had a normal liver function within 12 months. None of our patients had a history of consanguinity or manifested any other phenotypes of citrin deficiency.

Conclusion: The favourable outcome through simple dietary modification highlights the importance of early detection of cholestasis prompting further metabolic workout, thereby preventing unnecessary invasive procedures like liver biopsy. Second-tier test in a prevalent population is essential, to detect the remaining cases that were not detected by expanded NBS, as elevated citrulline level may not be sensitive enough to be detected during the early neonatal period.

Keywords:

NICCD, cholestatic jaundice, IEM

Abstract ID: A-0073

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Obstetrics	Case Report

Abstract Title:

Velamentous Cord Insertion - Possible Cause of Early Onset of Fetal Growth Restriction (FGR) with Preeclampsia.

Authors & Institutions:

Farah Inani A RAZAK, Vimaladevi Annamalai, Narayanan Vallikkanu

Department of Obstetrics & Gynaecology, Pusat Perubatan Universiti Malaya

Researchers' Institution(s):

Department of Obstetrics & Gynaecology, Pusat Perubatan Universiti Malaya

Corresponding author:

Vimaladevi Annamalai
Department of Obstetrics & Gynaecology,
Pusat Perubatan Universiti Malaya
vimaladevi@ummc.edu.my

Additional corresponding author:

Narayanan Vallikkanu3
Department of Obstetrics & Gynaecology,
Pusat Perubatan Universiti Malaya
kannu@ummc.edu.my

Abstract Text:

Background: Velamentous cord insertion is seen in about 7.8% of singleton pregnancies. It is associated with increased incidence of fetal growth restriction, placenta abruptio, pre-eclampsia and intrauterine demise.

Case Report:

A 37-year-old lady with underlying Neurofibromatosis Type 2, currently at her fourth pregnancy presented at 25 weeks of gestation with significant proteinuria in pregnancy. Antenatally, she had a previous first trimester loss, followed by a term pregnancy delivered via caesarean section. During this pregnancy, booking investigations and blood pressure was normal. Detail scan done revealed fetus with short, long bones. She underwent NICC test and amniocentesis which revealed a normal result. Her immunological screen was normal, and ultrasound of kidney was also normal. However, her serial growth scans also showed evidence of FGR with high resistance of umbilical doppler. At 28 weeks she had abdominal pain and symptoms of severe preeclampsia. She underwent a caesarean section and intraoperatively, there was a concealed abruptio placenta with velamentous cord insertion. She delivered a baby girl with birth weight of 790g. She recuperated well post-partum and her baby now is thriving with a weight of 1.09kg. Her placenta HPE reveals features suggestive of uteroplacental insufficiency and velamentous cord insertion.

This case depicts the cause of fetal growth restriction to include abnormal cord insertion. In early FGR, the typical pattern of deterioration progresses from abnormalities in the uteroplacental and fetal-placental circulation, to abnormal fetal biophysical profile. The degree of deterioration of Doppler parameters determines the overall speed of deterioration, often necessitating preterm delivery. Early FGR also presents in association with early pre-eclampsia in up to 50% of cases.

Hence, the approach to patient with early onset fetal growth restriction should be done systematically excluding possible causes such as abnormal cord insertion and other causes.

Keywords:

Fetal growth restriction, velamentous cord insertion, pre-eclampsia, abnormal cord insertion

Abstract ID: A-0075

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Exploring Factors Influencing the Uptake of Kangaroo Mother Care: Key Informant Interviews with Healthcare workers

Authors & Institutions:

Wai Cheng FOONG[1], Siew Cheng FOONG[1], May Loong TAN[1], Jacqueline J. HO[1], Mehala BASKARAN[2], Pek Yong TAN[3], Jen Jen LEONG[4]

[1]Department of Paediatrics, RCSI & UCD Malaysia Campus, Penang, Malaysia
[2]Department of Paediatrics, Hospital Pulau Pinang, Ministry of Health Malaysia
[3]Department of Paediatrics, Island Hospital, Georgetown, Penang, Malaysia
[4]Department of Paediatrics, Sunway Medical Centre, Perai, Penang, Malaysia

Researchers' Institution(s):

Department of Paediatrics, RCSI & UCD Malaysia Campus

Corresponding author:	Additional corresponding author:
Wai Cheng FOONG Department of Paediatrics, RCSI & UCD Malaysia Campus wcfoong@rcsiucd.edu.my	Siew Cheng FOONG Department of Paediatrics, RCSI & UCD Malaysia Campus scfoong@rcsiucd.edu.my

Abstract Text:

Introduction: Kangaroo mother care (KMC), besides reducing mortality, offers significant benefits for preterm and low birth weight infants, prompting the World Health Organization to reaffirm a strong recommendation for KMC as essential care. However, uptake remains unsatisfactory due to challenges in implementation and sustainment.

Objectives: To explore factors influencing KMC uptake and to identify interventions for improvement, focusing on findings from healthcare workers' (HCWs) perspectives.

Method: Using purposive sampling, we conducted key informant interviews with 19 HCWs from neonatal wards and NICUs of two hospitals. Data were transcribed and categorised based on Triandis' Theory of Interpersonal Behaviour.

Results: The main findings indicated perceptions that KMC was not considered an important part of initial management for preterm infants and was deemed unsuitable for babies on tube feeding. Most participants did not feel they should suggest KMC to mothers on their own without orders from senior doctors. Even among HCWs keen to advocate for KMC, there was significant frustration and stress due to the lack of space in congested wards and insufficient staff, making KMC an additional burden on their already heavy workload. They also faced the challenge of persuading reluctant parents, leading to unpleasant interactions. There was minimal recognition for their efforts, both in their key performance indicators (KPIs) and from some parents who did not see the value of KMC, which contrasted to what parents indicated in another paper[1]. Implementing KMC required HCWs to make many sacrifices, and the lack of continuous support and teamwork between colleagues and parents further complicated its implementation.

Conclusion: For KMC uptake to improve, it must be recognised as an essential part of neonatal care, with incentives for promoting KMC in place. Support for staff and adequate space in the wards, ideally by having mother-infant wards and NICUs are also necessary.

Reference: [1]doi: 10.1186/s12884-023-06021-6

Keywords:

kangaroo mother care, healthcare workers, doctors, nurses, parents, preterm, infants, workload, space, teamwork

Abstract ID: A-0076

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

National Survey on the Implementation of Kangaroo Mother Care for Premature Infants in Hospitals Across Malaysia

Authors & Institutions:

Siew Cheng FOONG[1], Wai Cheng FOONG[1], Shareena ISHAK[2], Noraihan IBRAHIM[3], Shyahlini Devi a/p RAJENDRAN[4], May Loong TAN[1], Jacqueline J HO[1]

[1]Department of Paediatrics, RCSI & UCD Malaysia Campus (RUMC)
[2]Department of Paediatrics, Faculty of Medicine, Universiti Kebangsaan Malaysia (PPUKM)
[3]Department of Paediatrics, Hospital Raja Perempuan Zainab II (HRPZ II)
[4]Department of Paediatrics, Hospital Canselor Tuanku Muhriz

Researchers' Institution(s):

Department of Paediatrics, RCSI & UCD Malaysia Campus (RUMC)

Corresponding author:

Siew Cheng FOONG
Department of Paediatrics, RCSI & UCD Malaysia Campus (RUMC)
scfoong@rcsiucd.edu.my

Additional corresponding author:

Abstract Text:

Background: Kangaroo Mother Care (KMC) is essential care for preterm infants, and the World Health Organization strongly recommends its implementation. Despite workshops and advocacy efforts, KMC adoption in Malaysian hospitals remains challenging. Currently, there is no available data on KMC prevalence in Malaysia.

Objective: To determine the current status of KMC adoption in Malaysian hospitals and to evaluate the impact of previous initiatives.

Methods: We conducted a cross-sectional survey using a self-administered online questionnaire. Eighty-eight public and private hospitals providing Level II and/or Level III neonatal care in Malaysia were identified through the Malaysian National Neonatal Registry and MSQH registry and they were all invited to participate. The questionnaire covered practices, facility availability, eligibility criteria, and data collection for KMC. Data collection started in May 2024 and will continue until August 2024.

Results: Of the 88 hospitals, 31 public and 6 private hospitals have completed the survey to date. Thirty-five of the 37 respondents had some form of KMC practice, mainly for preterm infants, including those on tube-feeding and CPAP. Only 3 hospitals used KMC as a key performance indicator (KPI). Five hospitals included KMC in their census, and 21 hospitals included KMC in their pass-over reports or patient notes.. Only 19 hospitals allowed mothers to perform KMC in their rooming-in rooms. Majority stated that success with KMC required administrative support, space and resources for KMC, adequate personnel, training, recognition of KMC as KPI, and public awareness.

Conclusion: The preliminary findings indicate that Malaysian hospitals have taken steps to adopt KMC. However, sustaining this practice requires ongoing support and resources. It is encouraging to see the efforts being made, and addressing the identified needs would help sustain KMC adoption in our hospitals, thereby enhancing neonatal care. The final results will be presented at PSM2024.

Keywords:

kangaroo mother care, premature infants, neonatal care, implementation, adoption

Abstract ID: A-0077

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Risk Factors and Outcomes of Persistent Pulmonary Hypertension of the Newborn in Neonatal Intensive Care Unit, Hospital Sultan Ismail Johor Bahru

Authors & Institutions:

Wei Joo KHOO, Wei Hong KHOO, Lee Ser CHIA

Neonatal Intensive Care Unit, Hospital Sultan Ismail Johor Bahru

Researchers' Institution(s):

Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Sultan Ismail Johor Bahru

Corresponding author:

Dr Khoo Wei Joo
Neonatal Intensive Care Unit, Department of Paediatrics,
Hospital Sultan Ismail Johor Bahru
jojo.khoo415@gmail.com

Additional corresponding author:

Abstract Text:

Introduction: Persistent pulmonary hypertension of the newborn (PPHN) results from the failure of the normal foetal-to-neonatal circulatory transition. Despite significant advances in treatment, PPHN remains a major cause of morbidity and mortality

Objectives: To identify the possible risk factors for PPHN and assess the outcome of the condition

Materials and Methods: A retrospective study was performed for all late preterm, full-term, and post-term newborns admitted to the NICU Hospital Sultan Ismail over a period of 4 years from August 2018.

Results: A total of 34 babies had developed PPHN after admission to NICU. Meconium aspiration, congenital pneumonia, birth asphyxia, neonatal septicaemia, maternal anaemia and maternal gestational diabetes were associated with an increased risk for PPHN. All cases required mechanical ventilation of which 64.7% needed high frequency oscillation ventilation. 28 neonates were started on inhaled nitric oxide. Early presentation of PPHN at birth was associated with a more severe disease and a higher mortality. For the 24(70.6%) neonates who had required more than 2 inotropes, the mortality rate was high (42 %). There was a significant association between surfactant therapy with improved outcomes in neonates with MAS(p=0.001). The overall mortality rate in this cohort was 32%.

Conclusion: PPHN remains a significant cause of perinatal morbidity and mortality. Meconium aspiration and neonatal septicaemia are the two important risk factors associated with high mortality.

Keywords:

Pulmonary hypertension in newborn

Abstract ID: A-0078

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Short-listed for Best Poster	Poster	Neonatal	Research Study

Abstract Title:

Rethinking Umbilical Venous Catheterization: Is the Shukla's Formula Accurate for Our Newborns?

Authors & Institutions:

Navindran GUNASEKARAN[1], Chuin Hen LIEW[1,2], Sin Yee TEO[3], Siti Khairunnisaak ABDUL RAHMAN[4], Zurina ABDUL WAHAB[4], Arvind BASKARAN[1]

[1]Paediatric Department, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia.
[2]Clinical Research Centre, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia.
[3]Radiology Department, Hospital Segamat, Jalan Genuang, Segamat, Ministry of Health Malaysia.
[4]Radiology Department, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia.

Researchers' Institution(s):

Paediatric Department, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia

Corresponding author: **Additional corresponding author:**

Chuin Hen LIEW
Paediatric Department, Hospital Tuanku Ampuan Najihah,
Kuala Pilah, Ministry of Health Malaysia
chuinhen@hotmail.com

Abstract Text:

Background: Umbilical venous catheterization (UVC) is crucial for administering parenteral nutrition, hyperosmolar solutions, and vasoactive agents, in sick newborns. Shukla's formula (birth weight in kg x 1.5 + 5) is commonly used for estimating UVC insertion length, although it has not been validated in Malaysia.

Objectives: To externally validate the accuracy of Shukla's formula for estimating the optimal UVC insertion length.

Methods: A retrospective cross-sectional study was conducted at Hospital Tuanku Ampuan Najihah from April 1, 2023, to April 13, 2024. Optimal UVC placement was defined by the tip placed at the right hemidiaphragm level, confirmed via the right lateral radiograph. Two radiologists measured the distance from the catheter tip to the right hemidiaphragm. Proper UVC placement is defined as the tip being within 5mm below to 1cm above the right hemidiaphragm.

Results: Among the 66 newborns: 18% had extremely low birth weight (ELBW), 27% very low birth weight (VLBW), 23% low birth weight (LBW), and 32% had a birth weight above 2.5 kg. Besides, 30% were small for gestational age (SGA) and 5% were large for gestational age. Shukla's formula yielded a Root Mean Squared Error (RMSE) of 0.91 and an R^2 of 0.69. The rate of proper catheter placement was 57%. Fourteen catheters (21%) were underplaced, and fifteen (22%) were overplaced. The ELBW group (50%) and the SGA group (50%) had the highest rate of malposition. Further analysis revealed a non-linear (hyperbolic) relationship between weight and optimal UVC length, with a Spearman Rank Correlation Coefficient of 0.85.

Conclusion: Shukla's formula demonstrated low accuracy (57%) in estimating the optimal UVC length, with an error near 1cm for each insertion on average. This implies a weight-based linear formula is unsuitable for Malaysian newborns. A more accurate prediction model is required to estimate the optimal UVC insertion length.

Keywords:

Umbilical venous catheter, Shukla's formula, catheter insertion length

Abstract ID: A-0080

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Inhaled Nitric Oxide Treatment Response Time in Persistent Pulmonary Hypertension of the Newborn in Neonatal Intensive Care Unit, Hospital Sultan Ismail Johor Bahru

Authors & Institutions:

Wei Hong KHOO, Wei Joo KHOO, Lee Ser CHIA

Neonatal Intensive Care Unit, Hospital Sultan Ismail, Johor Bahru

Researchers' Institution(s):

Neonatal Intensive Care Unit, Hospital Sultan Ismail, Johor Bahru

Corresponding author:

Dr Khoo Wei Hong
Neonatal Intensive Care Unit, Hospital Sultan Ismail,
Johor Bahru
octdolphin@gmail.com

Additional corresponding author:

Abstract Text:

Background: Inhaled nitric oxide (INO) is an adjunctive therapy in neonates with persistent pulmonary hypertension (PPHN) and hypoxic respiratory failure (HRF). However, some neonates do not show good and immediate response to INO and require ECMO.

Objectives:
- To evaluate the clinical response to INO in newborn with HRF associated with PPHN.
- To evaluate the response time to INO for those responders.
- To identify the common side effects with INO treatment.

Study method: This is a retrospective observational study that involves 28 newborns who were admitted to NICU Hospital Sultan Ismail, Johor Bahru, and had received INO treatment for PPHN, over a 4-year period from August 2018.

Results: There were a total of 28 newborns who had received INO treatment. 23 out of 28 (82%) newborns were identified as responder to INO treatment. 3 out of 25 responders relapsed during INO treatment. There were 2 newborns who had showed partial response and 3 of the newborns did not respond to the treatment.
Of the 23 INO responders, 74% responded within 30mins, 21.7% within 6 hours, and the remaining 4.3% between 6 to 24 hours.

Conclusions: In our study, 23 of newborns were INO responders, of which 17 had responded to INO within 30 minutes of treatment. Common side effects of INO treatment were thrombocytopenia and coagulopathy.

Keywords:

Persistent pulmonary hypertension of newborn, hypoxic respiratory failure, inhaled nitric oxide

Abstract ID: A-0081

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Mucormycosis in Neonates: An Uncommon but Lethal Infection with Distinct Clinical Challenges

Authors & Institutions:

Anhar Syazwan Muhammad Anuar, Radhiah Abu Bakar, Nor Zubaidah Kadir, Sharifah Huda Engku Alwi

Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Sultanah Nur Zahirah, Kuala Terengganu, Terengganu

Researchers' Institution(s):

Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Sultanah Nur Zahirah, 20400 Kuala Terengganu, Terengganu

Corresponding author:

Dr Anhar Syazwan Muhammad Anuar
Neonatal Intensive Care Unit, Department of Paediatrics,
Hospital Sultanah Nur Zahirah, Kuala Terengganu
anharsyazwan@gmail.com

Additional corresponding author:

Abstract Text:

Mucormycosis has emerged as a critical infection in neonates, characterized by a high mortality rate. This case series systematically reviews all instances of mucormycosis in the NICU of Hospital Sultanah Nur Zahirah, Kuala Terengganu, from January 1, 2023, to December 30, 2023. Over the year, 25 confirmed cases were identified, with two presenting as cutaneous mucormycosis and the remaining 23 as gastrointestinal mucormycosis. Local management guidelines were established based on host factors, clinical presentations, radiological findings, and mycological criteria. The diagnosis was confirmed through histopathological examination and gastric aspirate fungal PCR, with Rhizopus species isolated in 12 out of 25 cases (48%).

Our analysis revealed no significant difference in gestational age between term and preterm infants, with a median gestational age of 37 weeks and a median weight of 2.61 kg. Common risk factors included persistent pulmonary hypertension of the newborn (PPHN) and perinatal asphyxia. Symptoms typically appear between 48 to 120 hours of life. Gastrointestinal mucormycosis often mimics necrotizing enterocolitis (NEC) and presents radiologically as the absence of stomach shadow with fresh blood aspirate. Treatment primarily involved a combination of surgical intervention and antifungal agents. Thirteen patients received amphotericin B without surgical intervention for 14 days, followed by oral fluconazole for an additional 14 days, totalling a 28-day treatment regimen. Twelve patients underwent laparotomy, with intraoperative findings showing a macerated stomach in 75% of cases. All confirmed cases were screened for fungal balls via echocardiography and abdominal ultrasound, yielding negative results. The overall mortality rate was 44%.

Mucormycosis is a life-threatening infection in neonates, with a distinct pattern of gastrointestinal and cutaneous involvement. Given the lack of a gold standard for prompt detection, histopathology remains the cornerstone of diagnosis. A high index of suspicion and thorough clinical assessment are crucial for early identification and treatment of this devastating infection.

Keywords:

neonatal, mucormycosis, gastrointestinal, stomach

Abstract ID: A-0082

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Time for Expanded Newborn Screening for Inborn Errors of Metabolism?

Authors & Institutions:

D. Theva[1], M. Anand[1], Hui Bein[2], Jia Ni[2]

[1]Paediatric Department, Hospital Bintulu, Sarawak, Malaysia
[2]Genetic Department, Hospital Kuala Lumpur

Researchers' Institution(s):

Hospital Bintulu Sarawak

Corresponding author: **Additional corresponding author:**

D Thevabarathy a/p Davan
Hospital Bintulu Sarawak
theva_thy@yahoo.com

Abstract Text:

Background: Inborn errors of metabolism (IEM) are genetic disorders caused by defects in metabolic pathways, leading to the accumulation of toxic intermediate metabolites. Without early diagnosis and treatment, these conditions can result in significant neonatal mortality and morbidity.

Case Report: We present two cases of newborns with Methylmalonic Aciduria (MMA) with differing outcomes due to variations in the timing of diagnosis.

Case 1: A term baby was admitted in a collapsed state on day 4 of life, with a history of poor feeding and lethargy. The non-consanguineous parents reported no history of early neonatal death. The baby had experienced two episodes of hypoglycaemia, acute kidney injury, and severe metabolic acidosis. Despite intubation, fluid resuscitation, and inotropic support, the baby had succumbed to the illness before the IEM results, which indicated MMA, were available. The baby had been presumptively treated for meningitis with antibiotics, though the blood cultures were negative.

Case 2: A premature baby, born at 34 weeks and 4 days, had an older sibling with MMA. Amniocentesis at 17 weeks gestation had suggested a high likelihood of MMA. A comprehensive prenatal plan was prepared by the genetic team. Post-delivery, the baby received intravenous lipids (2g/kg/day), L-carnitine (60 mg TDS), and special milk. IEM screening confirmed MMA. Currently, the baby is active, tolerating feeds well, and has normal blood gas and baseline investigations.

Conclusion: Early recognition and treatment of IEMs in newborns are crucial to prevent serious complications, including permanent neurological damage and death. Identifying newborns at risk, even if they appear healthy, is essential. The support of policymakers and medical personnel involved in newborn care is vital for implementing expanded newborn screening (NBS) for IEMs in Malaysia.

Keywords:

Inborn error of metabolism

Abstract ID: A-0083

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Congenital Cytomegalovirus Infection with Multi-System Involvement

Authors & Institutions:

Norizzati Shaqirah Zainuddin, Dayang Noryanti Yusof, Maslina Mohamed

Neonatal Intensive Care Unit, Paediatrics Department Hospital Putrajaya

Researchers' Institution(s):

Neonatal Intensive Care Unit, Paediatrics Department Hospital Putrajaya

Corresponding author:

Dayang Noryanti Yusof,
Neonatal Intensive Care Unit, Paediatrics Department Hospital Putrajaya
nshaqirah91@gmail.com

Additional corresponding author:

Maslina Mohamed
Neonatal Intensive Care Unit, Paediatrics Department Hospital Putrajaya

Abstract Text:

Background: Congenital Cytomegalovirus (cCMV) infection is the commonest TORCHES group of congenital infections and nongenetic cause of neurodevelopmental disorders in paediatrics. cCMV infection that happens during the first half of pregnancy significantly increases risk of adverse fetal effects. Early initiation of antiviral treatment with Ganciclovir can benefit patients.

Case Report:
A male preterm, born at 34 weeks to non-consanguineous parents, with birth weight of 1.48 kg, was delivered via emergency lower segment caesarean section for intrauterine growth restriction with absent end-diastolic flow on Doppler. Antenatally Madam R had gestational diabetes on medications. He was admitted for respiratory distress syndrome.
Since birth, he experienced prolonged thrombocytopenia which subsequently normalized. At day 28 of life, he started to develop transaminitis which subsequently becomes persistent. The initial TORCHES screening was negative. The repeated TORCHES screening 4 weeks later showed significantly reactive CMV IgM in the plasma and urine..
Further investigations showed systemic involvement of cCMV including thrombocytopenia, transaminitis with clinical evidence of hepatosplenomegaly, cerebral calcifications seen on cranial ultrasound and pneumonitis evidenced by difficulty in weaning from ventilator support and chest x-ray findings.
He was started on intravenous Ganciclovir, however after 4 weeks the treatment was discontinued in view of worsening transaminitis without bone marrow suppression. Repeated urine CMV tests showed a marked reduction in CMV IgM levels, indicating a good response to the treatment.

Conclusion: Congenital CMV infection is the most prevalent among TORCHES infections and can manifest with varying degrees of severity. In a symptomatic patient with negative TORCHES screening, we still need to maintain a high suspicion and conduct continuous assessment before concluding that it is not a congenital CMV infection. Knowing the adverse effects such as neutropenia, thrombocytopenia, renal, and liver failure are associated with Ganciclovir, a thorough periodic monitoring should be conducted throughout the treatment.

Keywords:

congenital CMV

Abstract ID: A-0085

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Anteroposterior Vs. Right Lateral Radiographs for Assessing UVC Tip

Authors & Institutions:

Chuin Hen LIEW[1,2], Sin Yee TEO[3], Siti Khairunnisaak ABDUL RAHMAN[4], Zurina ABDUL WAHAB[4]

[1]Paediatric Department, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia.
[2]Clinical Research Centre, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia.
[3]Radiology Department, Hospital Segamat, Jalan Genuang, Segamat, Ministry of Health Malaysia.
[4]Radiology Department, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia.

Researchers' Institution(s):

Paediatric Department, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia

Corresponding author: **Additional corresponding author:**

Chuin Hen LIEW
Paediatric Department, Hospital Tuanku Ampuan Najihah, Kuala Pilah, Ministry of Health Malaysia
chuinhen@hotmail.com

Abstract Text:

Background: Ultrasonography is the gold standard for confirming umbilical venous catheter (UVC) tip placement. However, resource-limited hospitals often rely on X-ray radiographs. The umbilical vein passes posterosuperiorly across the diaphragm before draining into the inferior vena cava and the right atrium, suggesting that anteroposterior (AP) radiographs might not be the best modality for assessing UVC tip position.

Objectives: This study aims to describe and compare the anteroposterior (AP) and right lateral (RL) radiographs in assessing UVC tip position.

Methods: A prospective cross-sectional study was conducted at Hospital Tuanku Ampuan Najihah from April 1, 2023, to April 13, 2024. Newborns requiring UVC placement underwent both AP and RL X-ray examinations. Two radiologists evaluated all radiographs and measured the distance from the catheter tip to the right hemidiaphragm.

Results: The study included radiographs from 66 newborns: 18% with extremely low birth weight (ELBW), 27% with very LBW, and 23% with LBW. In two cases, the UVC tip position to the right hemidiaphragm was indeterminate on the AP radiograph but visible on the RL radiograph. There was a discrepancy of more than 5mm in 31% (20 pairs) of the radiographs when measuring the distance from the catheter tip to the right hemidiaphragm. The correlation between AP and RL radiograph findings was 0.92, indicating that the interpretations from different views did not achieve full agreement. When determining whether the UVC tip was above or below the right hemidiaphragm, 4 pairs (6%) of radiographs showed discordant interpretations. No UVC dislodgements or migrations occurred during X-ray positioning, and no patients required increased respiratory or circulatory support following the examination.

Conclusion: AP radiographs showed substantial discrepancies compared to RL radiographs in determining UVC tip position. Lateral radiographs may be more appropriate for UVC tip assessment, where validation with ultrasonography is required.

Keywords:

umbilical venous catheter, right lateral radiograph

Abstract ID: A-0086

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Evolving Neonatal Blistering Skin Condition: A case of Incontinentia Pigmenti

Authors & Institutions:

Izyan Khalidah HAMIZI[1], Zhi Chiing PANG[1], Kaysha-Lin LEXMINARAYANA[1], Zhi Wei CHOO[1], Kai Ning TAN[1], Chee Sing WONG[1], Su Yuen NG[1], Kar Yee CHIEW[2]

[1] Department of Paediatrics, Hospital Raja Permaisuri Bainun Ipoh, Perak
[2] Department of Pathology, Hospital Raja Permaisuri Bainun Ipoh, Perak

Researchers' Institution(s):

Department of Paediatrics, Hospital Raja Permaisuri Bainun, Ipoh

Corresponding author:

Dr Izyan Khalidah Hamizi
Department of Paediatrics, Hospital Raja Permaisuri
Bainun, Ipoh
izyanhamizi@gmail.com

Additional corresponding author:

Abstract Text:

Background: Incontinentia Pigmenti (IP) or Bloch-Sulzberger syndrome is a rare X-linked dominant genodermatosis. It is caused by mutations in the IKBKG gene on chromosome Xq28. The birth prevalence is approximately 1/143,000, with female to male ratio is 20:1. It is associated with skin, eye, teeth and central nervous system (CNS) abnormalities. One of the major diagnostic criteria of IP is the typical 4 stages of skin changes alongside the lines of Blaschko: (I) Inflammatory or vesiculobullous, (II) Verrucous, (III) Hyperpigmented, (IV) Atrophic or hypopigmented stage.

Case Report:
We report a case of a female newborn who was born with extensive vesicular lesions. She also has micrognathia and cleft palate. She was empirically treated for Neonatal Herpes due to vesicular lesions. Morphology of skin lesions gradually evolved with distribution along Blaschko line. Skin biopsy done on day 7 of life confirmed the diagnosis of IP.

Conclusion: As IP is potentially associated with severe eye and CNS involvement, and prompt clinical diagnosis is required to avoid severe complications of the disease.

Keywords:

Incontinentia Pigmenti, genodermatosis, Bloch-Sulzberger syndrome, IKBKG/NEMO mutation, cleft palate

Abstract ID: A-0087

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Research Study

Abstract Title:

Occurrence of Necrotizing Enterocolitis in Neonates Treated with Diazoxide in a Children's Hospital.

Authors & Institutions:

Danishta a/p Tamil Selvan , Liaw Siew Ching , Seah Kwi Sing, Matthew Chong Hon Loon , Lim Song Hai

Department of Paediatrics, Sabah Women and Children's Hospital

Researchers' Institution(s):

Paediatric Department Sabah Women and Children's Hospital

Corresponding author:

Dr. Danishta Selvan
Paediatric Department
Sabah Women and Children's Hospital
danishta6@hotmail.com

Additional corresponding author:

Abstract Text:

Background: Neonatal hypoglycaemia is a common condition in neonatal intensive care unit (NICU). Hyperinsulinism may account for rare incidence of persistent or refractory hypoglycaemia. Diazoxide is an effective treatment in hyperinsulinism hypoglycaemia, but lately there were two studies which had reported necrotizing enterocolitis (NEC) developing in 13% and 20% of their patients treated with diazoxide. We aim to investigate the occurrence of NEC in patients treated with diazoxide in our unit.

Method: This is a retrospective descriptive study. We retrieved patient lists from our pharmacy records of diazoxide usage from NICU from January 2020 to December 2023. Further clinical details regarding the event of hypoglycemia were collected from our department summary database. Hyperinsulinsemic hypoglycaemia is defined as non-ketotic hypoglycaemia receiving high glucose infusion rate of more than 10 mg/kg/min with concurrent inappropriately elevated plasma insulin level. NEC was diagnosed using the Modified Bells staging criteria.

Results: A **total** of 20 patients (male:female ratio 1:1) were treated with diazoxide during the study period. 17 patients had stress induced hyperinsulinism, two had Beckwith Wiedemann syndrome (BWS), and one had congenital hyperinsulinism. The mean starting dose of diazoxide was 5 ± 0.94 mg/kg/day and maximum dose was 8 ± 4.13 mg/kg/day. The mean age of starting diazoxide was 13 ± 14.5 days of life.

Two patients (one congenital hyperinsulinism and one BWS) developed NEC, with a prevalence of 10% in this cohort. The congenital hyperinsulinism case had 2 episodes of necrotizing enterocolitis, and the second episode had concurrent octereotide treatment. The BWS was born premature at 32 weeks gestation and had a corrected omphalocoele. Both cases developed NEC within 48 hours at a diazoxide dose of 5mg/kg/day.

Conclusion: Our cohort showed a slightly lower prevalence of NEC. Although the causal relationship is unclear, we must be cautious about NEC when using diazoxide to treat patients with hyperinsulinism.

Keywords:

diazoxide, necrotizing enterocolitis, neonates

Abstract ID: A-0088

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Silent Threat: PICC Line Migration and Cardiac Tamponade in a 26-Week Preemie

Authors & Institutions:

Nurshafinaz Salmah Mohd Fezal[1,], Ahmad Zulhairie Abd Rahman[1,3], Farohah Che Mat Zain[1], Noraida Ramli[1], Nor Rosidah Ibrahim[1]

[1] Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia
[2] Department of Paediatrics, Kuliyyah of Medicine, International Islamic Universiti Malaysia (IIUM)

Researchers' Institution(s):

Department of Paediatric, School of Medical Sciences, Universiti Sains MalaysiaKubang KerianKelantan

Corresponding author:

Dr Farohah Che Mat Zain
Department of Pediatrisc, School of Medical Sciences,
Universiti Sains Malaysia, Kubang Kerian Kelantan
drfarohah@gmail.com

Additional corresponding author:

Abstract Text:

Case Report:

A peripherally inserted central catheter (PICC) is frequently used for long-term intravenous access in neonatal intensive care unit (NICU), often for neonates who require continuous administration of medications, nutrition, or fluids. A female infant born at 26 weeks and 5 days gestation, weighing 774 grams required PICC line for nutrition and medication administration. On the sixth day of life, the baby experienced sudden cardiorespiratory deterioration requiring resuscitation. Bedside echocardiography had revealed pericardial effusion with cardiac tamponade. Urgent pericardiocentesis was performed, which had drained 10cc milky fluid consistent with the total parenteral nutrition. A chest radiograph confirmed migration of the PICC line towards the right atrial wall. Following pericardiocentesis and PICC removal, the baby's condition improved, leading to successful extubation and eventually discharge at 4 months of age. This case highlights the importance of maintaining a high index of suspicion for PICC-related complications in neonate, particularly pericardial effusion and cardiac tamponade which can be rapidly fatal if not promptly diagnosed and treated. Early recognition, immediate cessation of infusions, and urgent pericardiocentesis are crucial interventions that can be lifesaving in such cases.

Keywords:

PICC, Pericardial effusion, Pericardial tamponade, Pericardiocentesis

Abstract ID: A-0090

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

I Was Reborn on Day 3 of Life

Authors & Institutions:

Tze Shin Ang[1], Kamal Muniandy[1], Choo Hau Lim[1], Gaik Siew Ch'ng[2], Lip Hen Moey[2]

[1] Department of Paediatrics, Hospital Seberang Jaya, Pulau Pinang
[2] Department of Genetics, Hospital Pulau Pinang, Pulau Pinang

Researchers' Institution(s):

Department of Paediatrics, Hospital Seberang Jaya, Pulau Pinang

Corresponding author:	Additional corresponding author:
Tze Shin Ang Department of Paediatrics, Hospital Seberang Jaya, Pulau Pinang tzeshin010893@gmail.com	Kamal Muniandy Department of Paediatrics, Hospital Seberang Jaya, Pulau Pinang kamalroy28384@gmail.com

Abstract Text:

Background: Long-Chain Fatty Acid Oxidation Disorders (LC-FAODs) are rare, life-threatening autosomal recessive inherited metabolic disorders (IMD), caused by defects in mitochondrial carnitine enzymes involved in the beta-oxidation of long-chain fatty acids. Classical symptoms include hypoketotic hypoglycaemia, hyperammonaemia, hepatic dysfunction, recurrent rhabdomyolysis, and cardiomyopathy.

Case Report:

A term baby boy collapsed on day 3 of life, revived after 45 minutes of extensive resuscitation. He had severe metabolic acidosis and hypoketotic hypoglycaemia. He fitted for an hour upon admission, which was aborted with intravenous(IV) Phenobarbitone. Physical examination revealed hypotonia and hepatomegaly. He was treated for neonatal seizure and septic shock. Initial ammonia level was 209 µmol/L. His condition improved with antibiotics and thus extubated. One week later, his condition deteriorated requiring re-intubation. At that time, ammonia rose to 1573 µmol/L, he had worsening metabolic acidosis, hypertrophic cardiomyopathy, worsening hepatomegaly and portal vein thrombosis. He was treated with IV arginine, sodium benzoate, sodium phenylbutyrate, oral carglumic acid, L-carnitine and high dextrose-containing fluid. Urgent workup revealed elevation of long-chain acylcarnitines C14, C16, C16:1 and C18, and inversed acylcarnitine : free carnitine ratio which is strongly suggestive of LC-FAOD. Urine organic acid showed lactic acidosis. He was started immediately with special milk formula to provide high carbohydrate diet and restrict long-chain dietary fat, in addition to the medium-chain triglycerides supplement. He improved gradually and was discharged six weeks later.

Conclusion: IMD should be suspected in all neonates presenting with sudden collapse. Urgent investigation of IMD is important for diagnosis and further treatment.

Keywords:

Long-Chain Fatty Acid Oxidation Disorders

Abstract ID: A-0091

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

A Rare Case of Infected Maternal Ductal Ectasia Causing Septicaemia in Premature Baby

Authors & Institutions:

Nur 'Amahirah binti Hasan Zaki, Noraida Ramli, Farah Farhana binti A'idrus

Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia

Researchers' Institution(s):

Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia

Corresponding author:

Ass Prof Noraida Ramli
Department of Paediatrics, School of Medical Sciences,
Universiti Sains Malaysia
aidaramli@usm.my

Additional corresponding author:

Abstract Text:

Background: Breast milk is the best nutrition for babies especially for premature infants. Improper expression and storage of breats milk are known to be a source of infection. Our case illustrates an infected galactocele causing septicaemia in a premature baby.

Case Report:

A premature baby of 32 weeks gestation was born to a primipara with antenatal co-morbid of diabetes mellitus. Emergency LSCS was done for severe IUGR and abnormal umbilical artery Doppler. Following delivery, expressed breastmilk (EBM) was given and baby reached full feeding within 2 weeks. Unfortunately, she developed abdominal distension and developed septic shock on day 17 of life. Blood culture grew multisensitive *Klebsiella pneumoniae*. Three consecutive expressed breast milk which was done with good technique also grew the same organism. Assessment on mother's technique of EBM expression was adequate. There was no breast pain and skin overlying changes. An ultrasound of the breast confirm presence of infected galactocele and ductal ectasia of the left breast. A course of antibiotics was prescribed to the mother. The mother had a history of puerperal sepsis with lower limb cellulitis on day 10 post-delivery. There was no positive blood culture.

Conclusion: Infected EBM is not necessarily be due to contamination during expression. Persistence of bacteria in EBM should alert us on concomitant infected galactocoele in the mother.

Keywords:

Infected galactocoele, expressed breast milk

Abstract ID: A-0093

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Multisystem Inflammatory Syndrome in Newborns (MIS-N) with Coronary Artery Abnormalities: Hospital Raja Perempuan Zainab II (HRPZ II) Experience

Authors & Institutions:

Mohd Badrul Hisyam Alias[1], Siti Hazar Salamon[1], Shazreen@Fatihah Shaari[2], Noraihan Ibrahim[1], Rozitah Razman[1], Nor Fadhilah Zahari[3], Abdul Rahim Wong[3]
[1]Neonatal Unit, Paediatrics Department HRPZ II [2]Infectious Disease Unit, Paediatrics Department HRPZ II
[3]Cardiology Unit, Paediatrics Department HRPZ II

Researchers' Institution(s):

Neonatology Unit, Paediatrics Dept. HRPZ II

Corresponding author: **Additional corresponding author:**

Dr. Noraihan Ibrahim
Neonatology Unit, Paediatrics Dept. HRPZ II
inoraihan@gmail.com

Abstract Text:

Background: **MIS-C** is well-described and occurs in children as a complication of COVID-19. It involves an overreaction of the body's immune system, leading to inflammation in multiple organ systems[1]. Symptoms can affect the heart, lungs, gastrointestinal system, skin, eyes, and more. Unlike MIS-C, which primarily affects older children, MIS-N seems to occur in newborns. It results from the transplacental passage of maternal COVID-19 antibodies. Given the rarity of MIS-N and its potential impact on neonates, it's crucial to delve deeper into this area. These case series delineate clinical presentation, treatment and outcomes of MIS-N.

Case series:

Case 1:
A male newborn born at 36 weeks with a history of maternal COVID-19 infection during the first trimester. He was intubated due to respiratory distress and persistent pulmonary hypertension. From assessment, he was positive COVID antibody, elevated inflammatory markers, and a coronary aneurysm suggestive of MIS-N. He was treated with immunoglobulin and dexamethasone, resulting in good clinical recovery.

Case 2:
A term baby boy born via caesarean section due to poor labour progress. Mother had COVID-19 infection during the second trimester. He was intubated at birth for respiratory distress, but unfortunately experienced multiorgan failure. Positive COVID antibody, high inflammatory parameters, and coronary aneurysm. Despite treatment with immunoglobulin and methylprednisolone, he succumbed to massive pulmonary haemorrhage.

Case 3:
A term baby girl born to a diabetic mother. She developed recurrent seizures post-delivery and required intubation. MRI revealed intracranial bleeding, managed conservatively by a neurosurgeon. Positive COVID antibody and presence of a coronary artery aneurysm. She received immunoglobulin and methylprednisolone. She successfully extubated and discharged home with oral clopidogrel.

Conclusion: This case series highlights the diverse clinical presentations and echocardiographic findings associated with MIS-N. Early diagnosis and appropriate management are crucial for achieving favourable outcomes. Further research and awareness in this area are essential to improve neonatal care.

Keywords:

MIS-N, MIS-C, Covid Antibody, Coronary artery aneurysm, Immunoglobulin

Abstract ID: A-0095

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Obstetrics	Case Report

Abstract Title:

Delivering a patient with platelet 1, an Obstetrician's Nightmare- A Case Report

Authors & Institutions:

Nor Izzati MOHD RADZALI, Vimaladevi ANNAMALAI, Neha Sethi NARESH SETHI, Vallikkannu NARAYANAN

Department of Obstetrics and Gynaecology, University of Malaya, Kuala Lumpur, Malaysia

Researchers' Institution(s):

Department of Obstetrics and Gynaecology University of Malaya

Corresponding author:

Dr. Nor Izzati binti Mohd Radzali
Department Obstetrics and Gynaecology
University of Malaya
norizzatimohdradzali@gmail.com

Additional corresponding author:

Vimaladevi ANNAMALAI
Department Obstetrics and Gynaecology
University of Malaya
vimaladevi@ummc.edu.my

Abstract Text:

Background: Immune (idiopathic) thrombocytopenic purpura (ITP) is an uncommon, but important cause of thrombocytopenia in pregnancy. It is a diagnosis of exclusion and characterized by moderate-to-severe thrombocytopenia commonly diagnosed in the first or early second trimester of pregnancy.

Case Report:

We present a case of new onset severe thrombocytopenia in third trimester. Patient is a 35-years-old woman in her second pregnancy presented to us with complaints of spontaneous bruises and generalised petechiae at 35 weeks period of amenorrhea. She was a low-risk pregnancy and was well with no labour symptoms at the presentation. Further investigations revealed a single digit platelet level which was 2 on admission and dropped to 1 on the same day. Her baseline platelet was normal and prior to admission, it was 314×10^9/L at 33 weeks. She was co-managed with haematologist and was started on IV methylprednisolone and subsequently transferred to ICU for close monitoring. On the midnight same day, she experienced sudden onset of regular contractions and spontaneous rupture of membranes with blood-stained liquor, approximately after 12 hours of hospitalization. She progressed and successfully delivered a healthy baby girl weighing 2.17kg via spontaneous vaginal delivery with intact perineum and estimated blood loss of 200ml.There was no retroplacental clot noted. She was transfused with 4-unit platelet and regular IV tranexamic acid was started. The baby was admitted for fetal thrombocytopenia with platelet level ranging 100-120×10^9/L and no fetal intracranial haemorrhage is diagnosed. Post-delivery maternal platelet level remained critically low and she required IV immunoglobulin and tapering dose of steroids. Bone marrow aspiration biopsy result revealed peripheral platelet destruction with no evidence of haematological malignancies.

The severity of thrombocytopenia has adverse implications on both maternal and fetal well-being. Management should be based on a multidisciplinary care approach.

Keywords:

ITP, thrombocytopenia, platelet

Abstract ID: A-0096

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Obstetrics	Case Report

Abstract Title:

Influenza In Pregnancy and Outcome: A Case Series

Authors & Institutions:

Zaidatul Husna MN , Atiqah ZA , Rasidah MY , Jamiyah H

Department of Obstetrics and Gynaecology, Hospital Al-Sultan Abdullah, UiTM Puncak Alam, Faculty of Medicine, Sg Buloh Campus, Universiti Teknologi MARA, Selangor, Malaysia

Researchers' Institution(s):

Department of Obstetrics and Gynaecology, Hospital Al-Sultan Abdullah, UiTM Puncak Alam, Faculty of Medicine, Sg Buloh Campus, Universiti Teknologi MARA, Selangor, Malaysia

Corresponding author: **Additional corresponding author:**

Jamiyah Hassan
Department of Obstetrics and Gynaecology,
Hospital Al-Sultan Abdullah, Faculty of Medicine,
Universiti Teknologi MARA, Selangor, Malaysia
jamiyah1960@gmail.com

Abstract Text:

Background: Women are often exposed to infectious agents that can be harmful not only to the mother but also to the fetus. Maternal adaptation during pregnancy results in a hypo-immune state in pregnant women who have increased vulnerability to viral infections, especially pulmonary infections. Influenza is a common infection, and pregnant women with influenza infection, especially in the third trimester, are associated with an increased risk of hospital admission and complications including preterm delivery, pneumonia, intrauterine fetal death, small for gestational age, and mother needing intensive care and maternal death. Maternal immunisation with the influenza vaccine is an essential strategy to reduce the complications from influenza infection in pregnancy.

Case Report:
From July 2023 to June 2024, 10 pregnant women with confirmed diagnosis of influenza infections were admitted to our hospital. Their median age was 32 years old. Two of them were in the first trimester, and the rest were in the third trimester. One patient had Parainfluenza 3, one with Influenza A, RSV A, and RSV B, while others were reported with Influenza A. 6 out of 10 cases were complicated with a concomitant bacterial infection. All of them were admitted for 4-7 days. One patient with multiple pregnancies required prolonged ICU admission and NIV support for severe Influenza A infection complicated with acute exacerbation of bronchial asthma secondary to Influenza A pneumonia. Unfortunately, a pregnant woman at 28 weeks had an intrauterine fetal demise from concealed abruption placenta. None of the pregnant women had any influenza vaccine during pregnancy. All pregnant mothers were discharged well and completed Oseltamivir for 5 days.

Conclusion: Maternal influenza infections can result in serious maternal and fetal complications. Therefore, it is recommended that all pregnant women be immunised with an influenza vaccine.

Keywords:

Influenza, pregnancy, vaccine

Abstract ID: A-0097

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Nursing	Research Study

Abstract Title:

Impact of Revised Disinfection Protocol of Incubators in Neonatal Intensive Care Setting - An Experience in Mucormycosis Outbreak

Authors & Institutions:

Noorliana MAZELAN[1], Farizam MOHD[2], Radhiah Abu BAKAR[1], Nor Zubaidah KADIR[1], Norlela OTHMAN[3]

[1] Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Sultanah Nur Zahirah, Malaysia
[2] Department of Infection Control Unit, Hospital Sultanah Nur Zahirah, Malaysia
[3] Department of Pathology, Hospital Sultanah Nur Zahirah, Malaysia

Researchers' Institution(s):

Neonatal Intensive Care Unit, Department of Paediatrics, Hospital Sultanah Nur Zahirah, Malaysia

Corresponding author:

Noorliana Mazelan
Neonatal Intensive Care Unit, Department of Paediatrics,
Hospital Sultanah Nur Zahirah, Malaysia
noorlianamazelan@gmail.com

Additional corresponding author:

Abstract Text:

Introduction: Globally over the years, Mucormycosis remains a rare but fatal infection in neonatal intensive care. Our centre shares the same experience with a high mortality rate of 44% over a 1-year period. Several contributing factors were identified based on environmental sampling investigation which includes deficient equipment (incubators) disinfection, contaminated linen and defective ventilation system and water leakage.

Objective: To determine the effectiveness of revised disinfection protocols for incubators in controlling Mucormycetes contamination.

Method: We collected qualitatively 2 groups of incubators for mucormycetes decontamination using a culture method.

Results: We obtained a significance difference in Mucormycetes decontamination using The Revised Disinfection Protocol of incubators in a Neonatal Intensive Care setting.

Conclusion: A systematic (revised) disinfection protocols of incubators in Neonatal Intensive Care setting proven to be effective in Mucormycetes decontamination.

Keywords:

Neonatal Intensive Care, mucormycosis, disinfection, incubators

Abstract ID: A-0098

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Childhood and neonatal maltreatment: The impact of conflict on Palestinian children's health in besieged Gaza

Authors & Institutions:

Mossad Abdelhak Shaban Mohamed[1], Asrar Abubakar[2], Taufiq Hidayat Hasan[3].
[1] Associate professor of paediatrics. Paediatric Department. International Islamic University Malaysia (*IIUM*). Malaysia
[2] Assistant professor of paediatrics. Paediatric Department. International Islamic University Malaysia (*IIUM*). Malaysia
[3] Assistant professor of paediatrics. Paediatric Department. International Islamic University Malaysia (*IIUM*). Malaysia

Researchers' Institution(s):

A clinical specialist in Paediatrics and Neonatology. IIUM/ SASMEC. Malaysia

Corresponding author: **Additional corresponding author:**

Associate prof: Mossad Abdelhak Shaban Mohamed
A clinical specialist in Paediatrics and Neonatology. IIUM/
SASMEC. Malaysia
mossadshaban@iium.edu.my

Abstract Text:

Introduction: Childhood maltreatment includes neglect, emotional, physical and sexual abuse, along with unreasonable and unjustified withdrawal of services or support. This article highlights the extent of collateral damage among children involved in the recent Gaza conflict.

Body: During the ongoing conflict, Gaza's children suffered immensely - facing injuries, hunger, and loneliness amid fear, pain, and hardship. This crisis triggered a large-scale economic crisis and resulted in a devastating toll: at least 15,964 deaths, 36,227 injuries, 786,300 left homeless, and over 36,349 children orphaned to date. Sixty-seven children died of starvation due to severe shortages of food, milk, and water. Regrettably, hospitals were indiscriminately targeted, resulting in care after children and newborns in neonatal care units were exposed, leading to in-hospital deaths. In the 267 days of conflict, fundamental human rights were ignored. This included cutting off essential supplies of water, electricity, fuel, food, and medicine and obstructing hospital access by targeting roads. Indiscriminate bombardment from air, land, and sea to highly populated civilian areas and makeshift refugee camps housing children were reported. Military attacks on medical personnel, ambulances, and intensive care units, with the denial of emergency medical and food supplies from multinational humanitarian organizations. Recovery will likely span years, if not decades, as cities and communities have been devastated, leaving children to endure both medical and social challenges. These include issues with literacy, psychological health, communicable and non-communicable diseases, and access to preventive medicine like vaccines.

Conclusion: Significant gaps will need to be addressed as we anticipate high rates of mortality, morbidity, and psychological trauma among children in Gaza. Accurate and forward-looking data is essential to facilitate the development of health and social interventions on a global scale, as assisted by the World Health Organization, United Nations, and World Food Authority, among others.

Keywords:

Child abuse and maltreatment, Child protection, Gaza conflict, human rights. Crisis

Abstract ID: A-0099

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Consequences of Teenage Pregnancy and the Way Forward: A Case Report

Authors & Institutions:

Mossad Abdelhak Shaban Mohamed, Asrar Abubakar, Taufiq Hidayat Hasan

Paediatric Department. International Islamic University Malaysia (*IIUM*). Malaysia

Researchers' Institution(s):

Paediatric Department. International Islamic University Malaysia (*IIUM*). Malaysia

Corresponding author: **Additional corresponding author:**

Associate Prof: Mossad Abdelhak Shaban Mohamed
Paediatric Department. International Islamic University Malaysia
(*IIUM*). Malaysia
mossadshaban@iium.edu.my

Abstract Text:

Introduction: Teenage pregnancy is defined as a pregnant woman under 20 years old. This includes girls as young as ten years of age but usually occurs in those between 15-19 years old. Studies have observed around 50% of teenage mothers never graduated from high school, less than 2% earn a college degree and risk losing job opportunities and 80% of teenage dads don't espouse the mother of their child. In Malaysia, approximately 14 in every 1,000 teenage girls become pregnant each year.

Case report: An unbooked 15-year-old primigravida had an emergency caesarean section at 38 weeks due to foetal distress and secondary arrest. She had a history of tuberculoid leprosy and completed a one-year antimycobacterial regimen. A baby girl was born with a low birth weight 2.1 kg. At birth, she was non-vigorous and needed intubation and mechanical ventilation. After half an hour, oxygen saturation was difficult to achieve, with a discrepancy of 10% between preductal and postductal readings raising suspicion of persistent pulmonary hypertension secondary to congenital pneumonia. She needed high-frequency oscillatory ventilation coupled with inhaled nitric oxide, triple inotropes, and antibiotics. She improved gradually and was extubated on day ten of life. Brain MRI was unremarkable, but she remains under neurodevelopment follow-up. The mother has been referred to social welfare services to assist her and her newborn and improve their well-being.

Conclusion: Teenage pregnancy may lead to health problems for both mothers and babies. Care should be taken in adolescent marriage and conception by integrating health education on sexual and reproductive health, rights, and responsibilities, addressing sexual violence, and reducing familial and community pressures to marry without considering the potential consequences. Poor perinatal outcomes pose a greater risk of perinatal death and additionally, lower IQ, and reduced academic performances, particularly those born prematurely or with low birth weight, further complicate teenage pregnancies.

Keywords:

Teenage pregnancy

Abstract ID: A-0100

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Obstetrics	Case Report

Abstract Title:

Fetal growth restriction with cardiac rhabdomyoma - a case report

Authors & Institutions:

Aida Atirah A. , Yussarmila Y. , Nordiana Z. , Muhammad Badrul H , Jamiyah H

Researchers' Institution(s):

Department of Obstetrics and Gynaecology, Hospital Al-Sultan Abdullah, Puncak Alam, Faculty of Medicine, Sg Buloh Campus, Universiti Teknologi MARA, Selangor, Malaysia

Corresponding author: **Additional corresponding author:**

Jamiyah Hassan
Department of Obstetrics and Gynaecology,
Hospital Al-Sultan Abdullah, Puncak Alam, Faculty of Medicine, Sg Buloh Campus, Universiti Teknologi MARA, Selangor, Malaysia
jamiyah1960@gmail.com

Abstract Text:

Background: Cardiac tumors are very rare in neonates, rhabdomyoma being the commonest, accounting for up to 60% of cases which may be associated with tuberous sclerosis. Rhabdomyomas are benign hamartomas of muscle cells, occurring most commonly involving ventricular and septal walls. Rarely, they block circulation within the heart causing heart failure. Problem may resolve as baby's heart grows. During the prenatal period, early cardiac tumor detection provides important information about fetal wellbeing, delivery planning, and necessary postnatal care.

Case presentation:
We report a 33-year-old Malay woman in her second pregnancy at 34 weeks 6 days gestational age had incidental findings of intrauterine single hyperechoic lesion located near the left mitral valve measuring 7x7mm during routine ultrasound. Mother had undergone an emergency lower segment caesarean section for severe pre-eclampsia. The male baby weighing 1920 gm was admitted to the neonatal intensive care for prematurity with fetal growth restriction and for close observation of the cardiac mass. Postnatally the baby was followed up in Hospital Serdang and latest ECHO in May 2024, showed that the mass has reduced in size and the baby is currently on annual follow up.

Conclusion: Rhabdomyomas are extremely rare and unique tumors. These tumors are very dangerous, but they usually regress after birth. Although a rarely reported case, we hope this cardiac rhabdomyoma case report and literature review can increase cardiac tumor awareness.

Keywords:

ultrasound, fetal growth restriction, rhabdomyoma

Abstract ID: A-0101

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Congenital Dislocation of the Knee

Authors & Institutions:

Nor Farrizah OSMAN[1], Nurul Azwa IDRIS[1], Aliyyah MOHAMMAD KHUZAINI[1,2]

[1]Paediatric Department, Hospital Ampang, Ampang, Malaysia
[2]Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Nilai, Malaysia

Researchers' Institution(s):

Paediatric Department, Hospital Ampang, Ampang, Malaysia

Corresponding author:

Dr Nor Farrizah Osman
Paediatric Department, Hospital Ampang, Ampang, Malaysia
norfarrizah@gmail.com

Additional corresponding author:

Abstract Text:

Background: Congenital dislocation of the knee is a rare condition and characterised by hyperextension of the knee with or without joint dislocation. It may occur as an isolated deformity, associated with other musculoskeletal disorder or occur as part of a genetic syndrome, such as Larsen, Noonan or Escobar Syndromes. Early intervention has been shown to yield almost normal function of the limbs affected.

Case Report

We report a case of a newborn baby girl with congenital dislocation of the knee. Her mother was a 22-year-old para 2 woman who had gestational diabetes mellitus. There were no history of breech presentation or oligohydramnios during pregnancy. A detailed scan performed at 22 weeks of gestation was normal. The patient was born via emergency lower segment caesarean section for poor progress of labour. Clinical examination after delivery showed excessive hyperextension of the right knee. All other joints were normal. She had almond-shaped eyes, a flat nasal bridge, and a wide sandal gap. She was managed conservatively with closed manual reduction and was placed in an above knee back slab within the first day of life. There was no other evidence of other systems involvement. She was discharged well on the back slab at day 5 of life. Subsequently, the back slab was replaced by a thermoplastic splint after 6 weeks of age to maintain her knee in extended position. Despite parental non-compliance to the splint, by 3 months of age, her active and passive range of movement of the right knee have improved significantly and she remains under the paediatric and orthopaedic team follow-up. Genetic studies have been performed and are still pending.

Conclusion: This case highlights the importance of early detection and prompt intervention of this rare congenital anomaly, to ensure optimal joint rehabilitation and screening of other associated complications.

Keywords:

congenital knee dislocation

Abstract ID: A-0102

Status:	Format of Presentation:	Abstract Category:	Format of Study:
Accepted	Poster	Neonatal	Case Report

Abstract Title:

Management of a Newborn with Prader-Willi Syndrome and Central Hypoventilation Syndrome: A Case Report

Authors & Institutions:

Adam Al-Anas Mat Ali[1], Azri Fikry[1], Hans Van Rostenberghe[2], Thong Meow Keong[3], Tae Sok Kun[3], Shih Ying Hng[4], Kah Peng Eg[2], Anna Marie Nathan[2]

[1]Department of Paediatrics, Putra Specialist Hospital, Melaka, Malaysia
[2]Department of Paediatrics, Paediatrics and Sleep Unit, University Malaya Medical Centre
[3]Department of Paediatrics, Genetic Unit, University Malaya Medical Centre
[4]Department of Paediatrics, Paediatrics and Sleep Unit, University Malaya Medical Centre

Researchers' Institution(s):

Department of Paediatrics, Putra Specialist Hospital, Melaka, Malaysia

Corresponding author:

Dr Adam Al-Anas bin Mat Ali
Department of Paediatrics, Putra Specialist Hospital,
Melaka, Malaysia
damleha_87@yahoo.com.my

Additional corresponding author:

Abstract Text:

Background: Prader-Willi syndrome (PWS) is a fingerprint disease caused by the loss of paternally inherited chromosome 15q11.2-q13. However, PWS is often misdiagnosed in neonates due to its general presentation of hypotonia, respiratory insufficiency and poor sucking reflex that could pose a diagnostic challenge at the beginning.

Case Report
A 10-month-old boy was a late preterm born at 36 weeks of gestation to a gravida four mother. She had regular antenatal visits and was diagnosed with gestational diabetes mellitus requiring treatment with insulin. The baby was born with a weak cry, and Apgar scored 7 in the 1st minute and 8 in the 5th minute. He required nasal prong oxygen for respiratory distress, which had to be escalated to non-invasive ventilation on day 9 of life due to bradypnea, shallow breathing and respiratory acidosis.
He had severe central hypotonia with features typical of PWS: suck-swallow incoordination requiring nasogastric tube feeding and undescended testes. He was later confirmed to have PWS via DNA methylation test. Titration polysomnography (PSG) was suggestive of alveolar hypoventilation. The patient was discharged with home BIPAP. We encountered challenges in parent acceptance of their child's disease.

Conclusion: Awareness of the typical features of PWS is crucial. Prompt detection, even with confounding factors such as prematurity is essential. An early diagnosis allows for proper care for the patient and counselling of the family, especially to manage their future expectations.

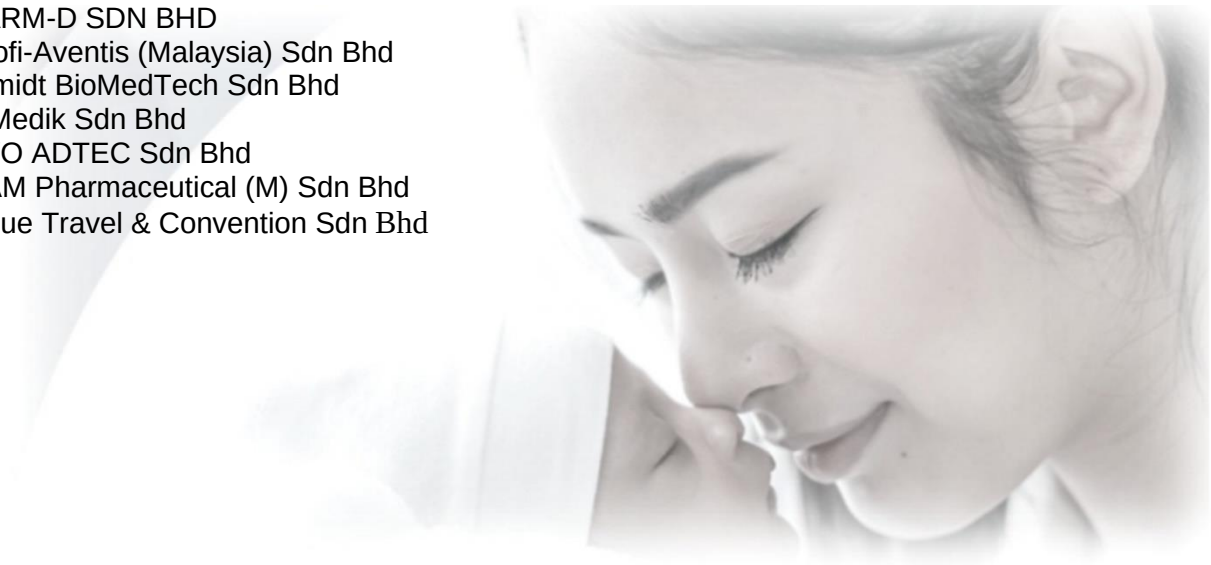
Keywords:

PWS, Neonatal hypotonia, Respiratory abnormalities, Hypoventilation

ACKNOWLEDGEMENT

The organising Committee wish to express their utmost appreciation to the following for their support and assistance, as well as others who have contributed in one way or another towards the success of this Congress:

1. Patron Y.T.M Raja Dato' Seri Eleena binti Almarhum Sultan Azlan Muhibbuddin Shah Al-Maghfur-lah
2. Speakers & Chairpersons
3. Judges for the Oral Free Papers and Posters, Panelists for the Forum
4. JKN Melaka
5. Local Organising Committee (Hospital Melaka)
6. Dr Sharifah Halimah Jaafar
7. Abbvie Sdn. Bhd
8. Arasy Medicare System
9. AstraZeneca Sdn Bhd
10. CVS Medical Sdn Bhd
11. Danmedik sdn. Bhd.
12. Daya Cergas (M) Sdn Bhd
13. Draeger Malaysia Sdn Bhd
14. Fresenius Kabi Malaysia Sdn Bhd
15. GlaxoSmithKline Pharmaceutical Sdn Bhd
16. Hospimetrix Sdn Bhd
17. Infinity Medical Sdn. Bhd.
18. Insan Damai Sdn Bhd
19. Mediwide Sdn. Bhd
20. Obstetrical & Gynaecological Society of Malaysia
21. Pfizer (Malaysia) Sdn Bhd
22. PHARM-D SDN BHD
23. Sanofi-Aventis (Malaysia) Sdn Bhd
24. Schmidt BioMedTech Sdn Bhd
25. SY Medik Sdn Bhd
26. TOYO ADTEC Sdn Bhd
27. UNAM Pharmaceutical (M) Sdn Bhd
28. Unique Travel & Convention Sdn Bhd



SOUVENIR PROGRAMME BOOK EDITORS

DR ROZITA ABDUL RASHID
DR. IRENE CHEAH GUAT SIM