

Publications in 2020

Critical Care. 2020 Jan 31;24(1):31.doi: 10.1186/s13054-020-2741-x.

The Impact of High Frequency Oscillatory Ventilation on Mortality in Paediatric Acute Respiratory Distress Syndrome

Judith Ju-Ming Wong, Siqi Liu, Hongxing Dang, Nattachai Anantasit, Phuc Huu Phan, Suwannee Phumeetham, Suyun Qian, Jacqueline Soo May Ong, Chin Seng Gan, Yek Kee Chor, Rujipat Samransamruajkit, Tsee Foong Loh, Mengling Feng, Jan Hau Lee, Pediatric Acute & Critical care Medicine Asian Network (PACCMAN)

Pediatric Critical Care Medicine. October 7, 2020

Traumatic Brain Injury Outcomes in 10 Asian Pediatric ICUs: A Pediatric Acute and Critical Care Medicine Asian Network Retrospective Study

Shu-Ling Chong, Hongxing Dang, Meixiu Ming, Maznisah Mahmood, Charles Q. S. Zheng, Chin Seng Gan, Olive P. E. Lee, Jian Ji, Lawrence C. N. Chan, Jacqueline S. M. Ong, Hiroshi Kurosawa, Jan Hau Lee, The Pediatric Acute & Critical Care Medicine Asian Network (PACCMAN)



- PACCMAN publications
- PARDS in press
- New members
- Studies update



PACCMAN in Press ...

PARDS featured in Singapore Chinese Press, Lianhe Zaobao

Direct link to the article:

https://www.zaobao.com.sg/news/fukan/lohas/story20201110-1099734

儿童急性呼吸窘迫综合征

儿童急性呼吸窘迫综合 孙慧纹 / 报道 征通常是严重肺部发炎所导 致,在儿童群体中并不常 见。但如果患儿没有得到适 当的早期医治,死亡率和发 病率颇高。竹脚妇幼医院与 亚洲10家医院合作展开对 此病的研究。

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照片由受访者提供 急性呼吸窘迫综合征 (Acute Respiratory Distress Syndrome, ARDS) 通常用于 - 描述发生在成人身上的严重肟损 伤。儿童急性呼吸窘迫综合征 (Paediatric Acute Respiratory Distress Syndrome, 简称

PARDS)则指儿童因肺部感染 问题所引发的严重肺损伤 亚洲儿童急症和重症医学 网络委员会属下重症医学科学 委员会会长黄相明医生指出, PARDS在一般儿童群体中并不 常见。然而,在那些入住医院 重症监护病房的儿童患者中 PARDS的发生率 10%。也是竹脚妇幼医院儿童 重症监护部顾问医生的黄祖明也

Lianhe Zaobao published the story that was pitched on Paediatric Acute Respiratory Distress Syndrome (PARDS). Within the piece, it notes that the condition is uncommon but has a high death rate. The story carried responses from Dr Judith Wong Ju-Ming, Critical Care Chair of PACCMAN Scientific Committee and Dr Lee Jan Hau, Chair of PACCMAN, who shared about the condition of PARDS, risk factors, treatment and how the condition has evolved during Covid-19. Findings from the study were also mentioned in the article. The article also included a quote from Dr Danny Soon, Executive Director, Singapore Clinical Research Institute (SCRI) and Chief Executive Officer, Consortium for Clinical Research and Innovation Singapore (CRIS) who shared more on the benefits of a multi-centre research study and SCRI's role in the clinical research.



儿童急性呼吸窘迫综合征在儿童群体中并不常见,但入住医院重症监护病房的儿童患者中,PARDS的发 (iStock 图片 生率可介于4至10%。 原因、临床表现和肋部X光影像

检查的结果共同完成。医生必须

说,单在竹脚如幼医院里,医生 每年治疗约40名PARDS患者。



的综合征, 内、肺外多种 病因都可能引发,如病毒感染肟 部,比较少见的病因包括吸入性 肺炎,或因溺水导致水进入肺部

责福明医生指出, 自冠病疫 情暴发的这六到九个月以来, PARDS的发病率则有所下降, 因为患上呼吸道感染的儿童数 量有所减少。她解释 '在新 加坡患冠病的儿童病例中,我 们并未看到因感染了冠病而引 发PARDS。尽管在世界其他 地区有零星的报告对此情况做 了描述,但我们认为冠病引发 PARDS仍很少见。

有证据表明患儿的肺部无法进行 氧气交换,以及肺部X光影像呈 现出变化、才能确诊。 治疗方面,黄祖阴医生指 出,有创机械通气(invasive mechanical ventilation)是用 于PARDS患儿的主要疗法。她 说: "我们使用肺保护性通气方 法为PARDS患儿做机械通气。 有证据表明, 轻柔的通气方法

使病患有更好的损后。考虑到意 儿伪肺部已经受伤,该方法使用 较低的充气压和容量,并且确保 在机械通气过程中质部不塌陷。 这种机械通气会同时与其他疗法 结合使用。例如,为患儿做俯卧 护理,使肺部后方得以遥气,同 时施予镇静处理,确保患者感 到舒适,不会出现呼吸窘迫现



治疗方法和结果。利用这些数 据,我们可进一步研究和可改善这些儿童治疗结果的领域。 新加坡临床研究所(Singapore Clinica Research

Institute, 简称 SCBI) 在建立 电子数据收集 系统等方面 提供了大力支 SCRI执行 孙光伟 董事兼新加坡

持。"

SCRI以协作 临床研究与创 方式将不同地 新联合团首席 方的患者数据 执行官孙光伟 集合在一起, 指出,SCRI协助将研究人员 提高此研究结 果的遥用性。 与同一疾病领域的相关医疗合作伙伴等组织联

系起来,为患者提供更好的治疗 结果。他说 "为了使研究获得 可靠结果,临床试验需要有足够 患者。在某些医学专业,每家医 院接受调查的患者人数可能相当 少。因此,我们通过协作方式将 许多不同地方的患者数据集合在 起,研究低频率的疾病,并通 过比较研究,提高此研究结果的 通用性。 研究主要发现

New Members in 2020...



Dr Chong Jia Yueh, Women and Children's Hospital, Malaysia Dr Yuki Enomoto, University of Tsukuba Hospital, Japan Dr Yujiro Matsuishi, University of Tsukuba Hospital, Japan Dr Osamu Saito, Tokyo Metropolitan Children's Medical Center, Japan Dr Ichiro Watanabe, Tokyo Metropolitan Children's Medical Center, Japan Dr Tadashi Kodani, Tokyo Metropolitan Children's Medical Center, Japan Dr Mioko Kasagi, Tokyo Metropolitan Children's Medical Center, Japan Dr Mioko Kasagi, Tokyo Metropolitan Children's Medical Center, Japan Dr Pon Kah Min, Penang Hospital, Malaysia Dr Takanari Ikeyama, Aichi Children's Health Medical Center, Malaysia Dr Cheng Yibing, Henan Children's Hospital, China Dr Zhang Furong, Wuhan Children's Hospital, China Dr Hwa Jin Cho, Chonnam National University Children's Hospital, korea Dr Joongbum Cho, Samsung Medical Center, Korea



We do not have a fixed criteria to join as member. We welcome anyone who is keen to collaborate and share common goal of developing best practices to improve survival in critically ill children in Asia. If you have any colleagues or friends who are interested, please do refer them to us.

Study Updates 1 ... Manuscript submitted

Early coagulopathy in pediatric traumatic brain injury: A Pediatric Acute and Critical Care Medicine Asian Network (PACCMAN) retrospective study

Study lead: Dr Chong Shu Ling, Department of Emergency Medicine, KK Women's and Children's Hospital

Background and Aims

We aim to describe the coagulation profiles in children with moderate to severe TBI, identify predictors of early coagulopathy and investigate the association between early coagulopathy, mortality and functional outcomes in pediatric TBI.

Methods

Using the Pediatric Acute & Critical Care Medicine Asian Network (PACCMAN) TBI retrospective cohort we identified all patients < 16 years old with a Glasgow Coma Scale (GCS) ≤ 13. We compared prothrombin time (PT), activated partial thromboplastin time (APTT), platelets, and outcomes between children with isolated TBI and those with TBI in the presence of multiple trauma. We performed logistic regression analyses to identify predictors of early coagulopathy and to study the association with mortality and poor functional outcomes.

Results

Among 371 children with complete coagulation profiles, the mean age was 5.4 years (SD 4.1). PT was commonly deranged in both isolated TBI (53/173, 30.6%) and multiple trauma (102/198, 51.5%). Independent predictors for early coagulopathy were young age [adjusted odds ratio aOR 0.93, 95% confidence interval (CI) 0.88 – 0.99, p=0.018], low GCS (aOR 0.91, 95%CI 0.86 – 0.97, p=0.002) and presence of multiple trauma (aOR 2.19, 95%CI 1.36 – 3.57, p=0.001). After adjusting for age, gender, GCS, multiple trauma and presence of intracranial bleed, children with early coagulopathy were more likely to die (aOR 7.70, 95%CI 3.09 – 23.53, p<0.001) and have poor neurological outcome (aOR 2.25, 95%CI 1.31 – 3.91, p=0.004).

Conclusion

Early coagulopathy is common and independently associated with death and long term poor neurological function among children with TBI. Future trials are required to study the impact of correction of early coagulopathy on clinical outcomes.

Study Updates 2 ...

Paediatric Traumatic Brain Injury (pTBI): Prospective design

Study lead: Dr Chong Shu Ling, Department of Emergency Medicine, KK Women's and Children's Hospital

Title: Does 3% hypertonic saline decrease mortality and improve long-term neurological outcomes among children with traumatic brain injury?

Recruitment summary as of 09 December 2020 --

Country	Recruited
China, Beijing	34
China, Chongqing	31
Singapore, KKH	18
Malaysia, KL (UMMC)	18
China, Shanghai	10
Singapore, NUH	7
Malaysia, Sarawak	3
Japan, Kobe	2
Thailand, Bangkok (Ramathibodi Hospital)	2
Malaysia, KL (Universiti Kebangsaan Malaysia Medical Centre)	1
Pakistan, Karachi	Pending recruitment
Thailand, Bangkok (Chulalongkorn University)	Pending recruitment
Malaysia, KL (Hospital Tunku Azizah Kuala Lumpur)	Pending recruitment
China, Shenyang (Pediatric department of Shengjing hospital, China Medical University)	New site join in Dec 2020
Total	126

Study Updates 3 ...



Paediatric severe sepsis and shock in three Asian countries: A retrospective study of outcomes in nine Paediatric intensive care units

Study lead: Prof Rujipat Samransamruajkit, King Chulalongkorn Memorial Hospital, Thailand



Manuscript submitted to Pediatric Critical Care Medicine

No.	Site name	n	Percent
1	Maharaj Nakorn Chiang Mai, Thailand	30	11.07
2	National University Hospital, Singapore	29	10.7
3	Sarawak General Hospital, Malaysia	20	7.38
4	Ramathibodi Hospital, Thailand	30	11.07
5	King Chulalongkorn University Hospital,	44	16.24
6	Faculty of Medicine Siriraj Hospital, T	13	4.8
7	KK Women & children hospital, Singapore	50	18.45
8	Hat Yai Medical Center, Thailand	39	14.39
9	Universiti Kebangsaan Malaysia Medical	16	5.9
	Total	271	100

Study Updates 4 ...

Pediatric Acute Respiratory Distress Syndrome: A prospective Multicentre Study in Asia (PARDSProAsia 1)

Study lead: Dr Judith Wong, KK Women's and Children's Hospital, Singapore

Abstract

Mortality rates in children with pediatric acute respiratory distress syndrome (PARDS) are higher in Asia compared to other regions. A recent retrospective study of ventilation practices in Asia showed varying practices with regards to pulmonary and non-pulmonary therapies, including ventilation. We aim to determine the prevalence, management and outcomes of PARDS in the Pediatric Acute and Critical Care Medicine Asian Network (PACCMAN) by conducting a regional prospective observational study. 20 centers enrolling subjects 80% recruitment completed



Site Enrolled

Data entered

KK Women's and Children's Hospital National University Hospital, Singapore National Hospital of Pediatrics Hvogo Prefectural Kobe Children's Hospital Guangzhou Women and Children's Medical Center Universiti Kebangsaan Malaysia Sarawak General Hospital Children's Hospital of Chongqing Medical University Harapan Kita Children and Women hospital Hong Kong Children's Hospital Shengjing hospital of China Medical University Sanglah Hospital Denpasar Sultanah Aminah Hospital Ramathibodi hospital Children's Hospital of Fudan University PGIMER, Chandigarh University Malaya Medical Centre Penang General Hospital Hospital Tunku Azizah

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Cont'd...

Lung Protection Mechanical Ventilation Strategies in

Paediatric Acute Respiratory Distress Syndrome: A Beforeand-After Comparison Study Design (PARDSProAsia 2)

Study lead: Dr Judith Wong, KK Women's and Children's Hospital, Singapore

Site	Standard of care	IRB	Approval by stakeholders Championed Training sessions Visual reminders Regular updates	Enrolled first patient
KK Women's and Children's Hospital	\checkmark	\checkmark	\checkmark	√ 1 Apr 18
National Hospital of Pediatrics		\checkmark		
Universiti Kebangsaan Malaysia		Pending		
Sarawak General Hospital		Pending		
Children's Hospital of Chongqing Medical University	\checkmark	NA	In progress	
Hong Kong Children's Hospital				
Ramathibodid Hospital			EAM	
Children's Hospital of Fudan	\checkmark	Pending	Nul W	ODI
PGIMER, Chandigarh			TAKES T	K
University Malaya Medical Centre			DPEA	HF
Penang General Hospital	\checkmark	Pending	CAM IN	0011
Hospital Tunku Azizah				KK





Severe Pneumonia in Children (S-PIC) Study: A Comparative Effectiveness Study of Children with Severe Pneumonia in Asia

Study lead: Dr Lee Jan Hau, Children's Intensive Care Unit, KK Women's and Children's Hospital, Singapore

ABSTRACT: Severe pneumonia is a leading cause of mortality and morbidity in children worldwide. Mortality rates from pediatric severe pneumonia are three times higher in South East Asia compared to the Western hemisphere. The lack of description of epidemiology, current management strategies and outcomes of children with severe pneumonia admitted to pediatric intensive care units (PICUs) in Asia is a barrier to improving paediatric critical care in the region. The lack of a sustainable paediatric critical care network in Asia makes multinational PICU studies challenging.

AIM: To estimate the burden of paediatric patients admitted to Asian PACCMAN PICUs due to severe pneumonia that develop pediatric acute respiratory distress syndrome; To characterize etiologies, identify risk factors associated with morbidity and mortality, and develop prognostic prediction models.



Sites recruitment are still open. Interested members please contact Dr Lee Jan Hau, <u>lee.jan.hau@singhealth.com.sg</u> or Patricia Tay, <u>patricia.tay@scri.edu.sg</u> for more study details.

Cont'd...



Recruitment summary as of Nov 2020 --

No	Participating Site	Country	Total no. of recruitment as reported by site (as of 30 Nov 2020)	Total no. of data entered in REDcap (as of 10 Dec 2020)
1	KK Women's and Children's Hospital	Singapore	16	16
2	National University Hospital	Singapore	3	1
3	National Hospital of Pediatrics	Vietnam	59	22
4	University Malaya Medical Centre	Malaysia	16	17
5	Universiti Kebangsaan Malaysia Medical Centre	Malaysia	11	9
6	Children's Hospital of Chongqing Medical University	China	57	47
7	Children's Hospital of Fudan University	China	39	9
8	Shengjing Hospital of China Medical University	China	5	5
9	Post Graduate Institute of Medical Education and Research (PGIMER)	India	4	2
10	Aga Khan University Hospital	Pakistan	15	9
11	Hong Kong Children's Hospital	Hong Kong	Pending	Pending
12	Harapan Kita Children and Women hospital	Indonesia	Pending	Pending
13	King Chulalongkorn Memorial Hospital	Thailand	Pending	Pending

Study Updates 6 ...

Pediatric Acute and Critical Care COVID-19 Registry of Asia (PACCOVRA)

Study lead: Dr Judith Wong, KK Women's and Children's Hospital, Sinagapore

Abstract

There is wide variation in the overall clinical impact of COVID-19 across countries worldwide. Changes adopted pertaining to the management of pediatric patients, in particular, the provision of respiratory support during the COVID-19 pandemic is poorly described in Asia. We performed a multicentre survey of 20 Asian pediatric hospitals to determine workflow changes adopted during the pandemic. Data from centers of high income (HIC), upper-middle income (UMIC) and lower-middle income (LMIC) countries were compared. All 20 sites over 9 countries [HIC - Japan (4), Singapore (2), UMIC – China (3), Malaysia (3), Thailand (2), and LMIC – India (1), Indonesia (2), Pakistan (1), Philippines (2)] responded to this survey. This survey demonstrated substantial outbreak adaptability. The major differences between the three income categories were that HICs were 1) more able/willing to minimise use of non-invasive ventilation or high flow nasal cannula therapy in favour of early intubation, and 2) had greater availability of negative pressure rooms and powered airpurifying respirators. Further research into best practices for respiratory support are warranted. In particular, innovation on cost-effective measures in infection control and respiratory support in the LMIC setting should be considered in preparation for future waves of COVID-19 infection.

NOTICE

Manuscript "Changes Adopted for Infection Control and Respiratory Support in Asian Paediatric Hospital During the COVID-19 Pandemic: A Report from the Paediatric Acute Care and Critical Care COVID-19 Registry of Asia (PACCOVRA)", accepted on Nov 30th

> Journal of Pediatric Intensive Care



Study updates 7 ...

Delphi Study to Establish Paediatric Critical Care Nursing Research Priorities in Asian Countries

Study lead: Nurse Poh Pei Fen

Background: Studies showed that nursing care improves patient outcomes, however there are gaps between translation of evidence into clinical practice. Such studies had been done in the USA, Australia and European countries. However, due to cultural, social and economic differences between the Western countries and Asia, the findings from the Western studies may not apply in Asia. Thus a need for the study to be done in an Asia context. This study aims to identify priorities in nursing research as defined by paediatric intensive care nurses across Asia

Data collection status:

• eDelphi Round 1 (Completed)

3 to 5 areas of research topics that are considered important are listed by the nurses Content analysis will be performed and reduced to research topics then divided into categories

- eDelphi Round 2 (Work in progress) Nurses will rate the research topics on importance (Likert Scale)
- eDelphi Round 3 (Work in progress) Nurses will rate again taking into consideration the mean values of the group response from Round 2

Thank you for your support to the study!



Centres participated in Round 1

Country	Center
China	Children's Hospital of Chongqing Medical University
	Guangzhou Women and Children's Medical Center
	Children's Hospital of Fudan University
	Beijing Children's Hospital
	Shengjing hospital of China Medical University
	Zhengzhou Children's Hospital
	Wuhan Children's Hospital
India	Post graduate Institute of Medical Education and Research (PGIMER)
Indonesia	Sanglah Hospital Denpasar - Bali
	Haji Adam Malik Central General Hospital, Medan
	Harapan Kita Children and Women Hospital
Japan	University of Tsukuba Hospital
	Tokyo Metropolitan Children's Medical Center
Malaysia	Sarawak General Hospital
	Sultanah Aminah Hospital
	Universiti Malaya Medical Centre
	Hospital Tunku Azizah Kuala Lumpur
Pakistan	Pediatrics and Child Health, Aga Khan University Hospital, Karachi, Pakistan
Singapore	KK Women's and Children's Hospital
	National University Hospital
Vietnam	Vietnam National Children's Hospital

Join Us ...



WELCOME

To become one of us, please go to: <u>https://www.scri.edu.sg/crn/pediatric-acute-critical-care-medicine-asian-network/members/</u> to download the registration form. Kindly submit the completed form to <u>patricia.tay@scri.cris.edu.sg</u>.

If you have any feedback or would like to feature updates from your country in the PACCMAN newsletter, kindly write to Ms Patricia Tay, PACCMAN secretariat, at <u>patricia.tay@scri.cris.sg</u>.



We do not have a fixed criteria to join as member. We welcome anyone who is keen to collaborate and share common goal of developing best practices to improve survival in critically ill children in Asia. If you have any colleagues or friends who are interested, please do refer them to us.

