SSEM 2023

Scientific Symposium on Emergency Medicine 2023

院前急救 環環相扣

First Response Lasting Impact

Programme & Abstracts

Organized by:

Hong Kong College of Emergency Medicine

Supported by:

Hong Kong Society for Emergency Medicine and Surgery

Hong Kong College of Emergency Nursing

Hong Kong Emergency Nurses Association

Endorsed by:

Asian Society for Emergency Medicine

International Federation for Emergency Medicine

OLYMPUS

VISERA ELITE III

VISERA ELITE III Video System Center

OTV-S700

4K Multi-Specialty Video Processor with Upgradeable 3D/IR Capability

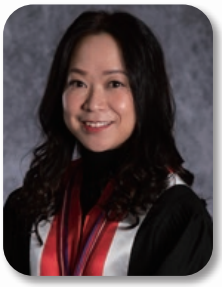
3D | Full Color IR | Future

OLYMPUS HK AND CHINA LIMITED
Tel: 21705678 Fax: 21705679

www.olympusmedical.com.hk

TABLE OF CONTENT

WELCOME MESSAGE



Dr Clara WY Wu

Dr Sam SM Yang

Ms Fanny YF Leung

Ms Ashley YP Sze-To

Dr Ben KA Wan

On behalf of the Organizing Committee, we are pleased to announce that the annual Scientific Symposium on Emergency Medicine (SSEM) 2023, with the theme of "First Response Lasting Impact", will be held on 28 October 2023 at Hong Kong Academy of Medicine Jockey Club Building.

SSEM has become a signature event for Hong Kong College of Emergency Medicine, bringing together healthcare practitioners, researchers and students to exchange knowledge, best practices, and new ideas. The conference provides an opportunity for participants to learn from experts in the field, network with peers, and stay up to date on the latest developments and innovations in emergency medicine.

SSEM 2023 is supported by a number of renowned organizations in the field of emergency medicine, including Hong Kong Society for Emergency Medicine and Surgery, Hong Kong College of Emergency Nursing and Hong Kong Emergency Nurses Association. With their support, the conference will provide an engaging experience for all attendees. The scientific subcommittee has assembled a diverse program covering a broad range of topics in emergency medicine. Beyond the main conference, SSEM 2023 also features a variety of pre-conference workshops, where participants can hone their skills and deepen their knowledge. Additionally, the conference will host the SimWars 2023, an exciting competition where teams of healthcare providers demonstrate their clinical prowess in simulated patient scenarios.

We are confident that SSEM 2023 will provide a meaningful and enriching experience for all participants, and we look forward to welcoming you for this exciting event.

Dr Clara WY Wu
President
Hong Kong College of Emergency Medicine

Dr Sam SM Yang
President
Hong Kong Society for Emergency Medicine and Surgery

Ms Fanny YF Leung
President
Hong Kong College of Emergency Nursing

Ms Ashley YP Sze-To
President
Hong Kong Emergency Nurses Association

Dr Ben KA Wan
Chairperson, Organizing Committee
Scientific Symposium on Emergency Medicine 2023

ORGANIZER, SUPPORTING ORGANIZATIONS AND ORGANIZING COMMITTEE

ORGANIZER

Hong Kong College of Emergency Medicine

SUPPORTING ORGANIZATIONS

Hong Kong Society for Emergency Medicine and Surgery
Hong Kong College of Emergency Nursing
Hong Kong Emergency Nurses Association

ORGANIZING COMMITTEE

Advisors

Dr Clara WY Wu	President, Hong Kong College of Emergency Medicine
Dr Tony TN Chan	Chairman, Scientific Affairs Committee, Hong Kong College of Emergency Medicine
Dr Sam SM Yang	President, Hong Kong Society for Emergency Medicine and Surgery
Ms Fanny YF Leung	President, Hong Kong College of Emergency Nursing
Ms Ashley YP Sze-To	President, Hong Kong Emergency Nurses Association

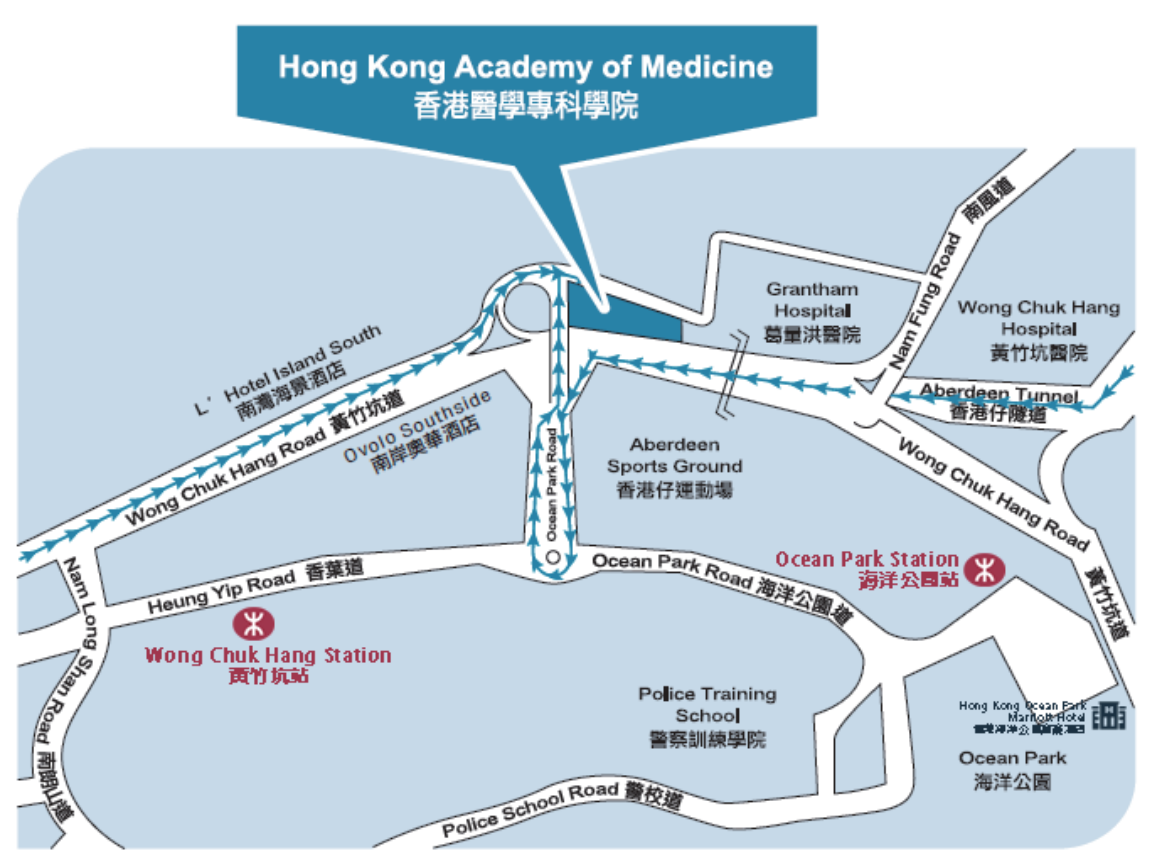
Chairperson	Dr Ben KA Wan
Vice-chairperson	Dr Oi-fung Wong
Members	Dr Yiu-Cheung Chan Dr Chin-San Leung Dr SF Lee Dr Irene WL Lo Dr Kaiser KY Chiu
Scientific Subcommittee	Dr Henry CY Wong (Chairperson) Dr Chi-Leung Tsui Dr Ka-Leung Mok Dr Kevin KC Hung Dr James SK Lau Dr Shing Ko Dr Tommy SK Lam Dr Manson CM Chu
Finance Subcommittee	Dr Louis CP Cheung
Publication Subcommittee	Dr Marcus YH Lo
Logistic Subcommittee	Dr Chi-Wai Chau (Chairperson) Dr Wendy Cheng Dr YK Chan Dr Stephen CY Yeung
IT Subcommittee	Dr Kin-Ming Poon

SYMPOSIUM INFORMATION

Date: 28 October 2023

Theme: First Response Lasting Impact
院前急救 環環相扣

Venue: Hong Kong Academy of Medicine Jockey Club Building,
99 Wong Chuk Hang Road, Aberdeen, Hong Kong



Official Language
English

Coffee/Tea
Coffee/tea will be served at the designated times.

Lunch
There will be sponsored lunch symposium, on a first-come-first-served basis.

Certificate
E-Certificate of attendance will be sent by email to attendees after the Conference.

Liability
The organizer will not be held liable for personal accidents, or any loss or damage of private property during the Conference. Participants should make their own arrangements with respect to personal insurance.

Disclaimer
Whilst every attempt will be made to ensure that all aspects of the Conference mentioned will take place as scheduled, the organizer reserve the right to make last minute changes should the need arises.

SYMPOSIUM INFORMATION

Opening Ceremony

Guest of Honour: Prof Chung-mau Lo, Secretary for Health, Health Bureau
The Government of the Hong Kong Special Administrative Region

Time: 09:00 to 09:30

Venue: Pao Yue Kong Auditorium, G/F

HKCEM Annual General Meeting

Time: 17:30 to 18:00

Venue: James Kung Meeting Room, 2/F

HKSEMS Annual General Meeting

Time: 18:00 to 18:30

Venue: James Kung Meeting Room, 2/F

Reception of HKCEM Conferment Ceremony

Time: 18:00 to 18:30

Venue: Foyer, 1/F

Conferment Ceremony

Time: 18:30 to 19:30

Venue: Run Run Shaw Hall, 1/F

Conference Dinner

Time: 19:30 to 22:00

Venue: Run Run Shaw Hall, 1/F

MOBILE CASUALTY TREATMENT CENTRE

MCTC will park at Hong Kong Academy of Medicine on 28 October for interested delegates to visit

Opening Hour : 08:30 – 17:30 (Lunch Break : 13:00 – 14:00)

Mobile Casualty Treatment Centre (MCTC) is fitted with lifting platform and protruding search lights. A surgical room is set up on each MCTC; it is equipped with a great variety of life supporting equipment for providing on-site medical treatment to casualties in the event of major incident.

MCTC will be dispatched to incident where there is a request for more than four ambulances. It serves as a temporary casualties treatment center used by medical and ambulance staff to carry out life-saving treatments and other emergent surgeries.

**Subject to final order arrangement of MCTC.*

PROGRAMME-AT-A-GLANCE

Time	Session				
08:15 - 09:00	**Plenary Lecture 1** *Pao Yue Kong Auditorium, G/F*				
09:00 - 09:30	**Opening Ceremony** *Pao Yue Kong Auditorium, G/F*				
09:30 - 10:15	**Plenary Lecture 2** *Pao Yue Kong Auditorium, G/F*				
10:15 - 11:00	**Plenary Lecture 3** *Pao Yue Kong Auditorium, G/F*				
11:00 - 11:30	Break				
11:30 - 13:00	**Prehospital Emergency Care** *Pao Yue Kong Auditorium, G/F*	**General Emergency Medicine** *Lim Por Yen Lecture Theatre, G/F*	**Young Fellow Chapter Webinar** *Function Room 2, 2/F*	**Emergency Medicine Nursing** *Function Room 1, 2/F*	
13:00 - 14:00	**Lunch Symposium** *(Sponsored by AstraZeneca)* *Run Run Shaw Hall, 1/F*				
14:00 - 15:30	**Prehospital Emergency Care** *Pao Yue Kong Auditorium, G/F*	**General Emergency Medicine** *Lim Por Yen Lecture Theatre, G/F*	**ASEM 25th Anniversary Webinar** *Function Room 2, 2/F*	**Free Paper Presentation 1** *Function Room 1, 2/F*	**Free Paper Presentation 2** *James Kung Meeting Room, 2/F*
15:30 - 16:00	Break				
16:00 - 17:30	**Prehospital/ Transport Medicine** *Pao Yue Kong Auditorium, G/F*	**SimWars 2023** *Lim Por Yen Lecture Theatre, G/F*	**Innovations in Emergency Medicine** *Function Room 1, 2/F*	**Sponsored Lecture** *(by AstraZeneca)* *Function Room 2, 2/F*	
17:30 - 18:00	**HKCEM Annual General Meeting** *James Kung Meeting Room, 2/F*				
18:00 - 18:30	**Reception of HKCEM Conferment Ceremony** *Foyer, 1/F*	**HKSEMS Annual General Meeting** *James Kung Meeting Room, 2/F*			
18:30 - 19:30	**Conferment Ceremony** *Run Run Shaw Hall, 1/F*				
19:30 - 22:00	**Conference Dinner** *Run Run Shaw Hall, 1/F*				

SCIENTIFIC PROGRAMME

Time	Session	
08:15-09:00	**Plenary Lecture 1** Pao Yue Kong Auditorium, G/F	Chairpersons: Dr. Tung-Ning Chan Dr. Gordon Lee
	TEE in Resuscitation	Dr. Adi Osman
09:00-09:30	**Opening Ceremony** Pao Yue Kong Auditorium, G/F	
09:30-10:15	**Plenary Lecture 2** Pao Yue Kong Auditorium, G/F	Chairpersons: Dr. Yiu-Cheung Chan Dr. Sam SM Yang
	Pre-hospital Medicine in Hong Kong: A Walkthrough of OHCA Survival in the Past 12 Years	Dr. Axel YC Siu
10:15-11:00	**Plenary Lecture 3** Pao Yue Kong Auditorium, G/F	Chairpersons: Dr. Chun-Tat Lui Dr. Clara WY Wu
	Digitization of Emergency Medicine	Prof. Kendall Ho
11:00-11:30	**Break** Exhibition Hall, G/F	
11:30-13:00	**Prehospital Emergency Care 1** Pao Yue Kong Auditorium, G/F	Chairpersons: Dr. Ben KA Wan Dr. Henry CY Wong
	Roles and Experiences of FSD in Rescue Missions: Rescue Operation in Türkiye	Mr. Men-Yeung Yiu
	Humanitarian Health Service on a Rescue Vessel on the Mid Mediterranean Sea	Dr. Wing-Yan Kwong
	Role and Experience of Hospital Authority in Prehospital Emergency Care	Dr. Michael LG Wong
11:30-13:00	**General Emergency Medicine 1** Lim Por Yen Lecture Theatre, G/F	Chairpersons: Dr. Kevin KC Hung Dr. James SK Lau
	Update on Management of ST-Elevation Myocardial Infarction	Dr. Jonathan G. Sung
	Catching the High-Speed Rail in Stroke Medicine, Where Are We?	Dr. Lap-Kiu Tsoi
	Hematological Emergencies – All You Need to Know	Dr. Harry Harinder Singh Gill

11:30-13:00	**Young Fellow Chapter** Function Room 2, 2/F	Chairpersons: Dr. Kaiser KY Chiu Dr. Shao-Yung Lin Dr. Wei-Xiang Ng
	Overcrowding in ED: Current Challenges and Coping Solutions	Dr. Anthony HL Chan Dr. Wayne SK Huang Dr. Moganapriya d/o Gunasegaren
	Panel Discussion	Dr. Anthony HL Chan Dr. Wayne SK Huang Dr. Moganapriya d/o Gunasegaren Dr. Chien-Chin Hsu Associate Prof. Steven HC Lim Dr. Clara WY Wu
11:30-13:00	**Emergency Medicine Nursing** Function Room 1, 2/F	Chairpersons: Ms. Chloe TM Hui Dr. Jane CY Yau
	Emergency Nursing in Mega Sports Event: HK ePrix	Mr. William YW Chan
	Transfer of Critically Ill Patients: Risks and Responsibilities	Mr. Yui-Ming Kong Mr. Chi-Hang Wong
13:00-14:00	**Lunch Symposium (sponsored by AstraZeneca)** Run Run Shaw Hall, 1/F	Chairpersons: Dr. Yiu-Cheung Chan Dr. Clara WY Wu
	Revolutionizing DOAC Bleeding Management with FXai-Specific Reversal Agent – Experience in Europe	Prof. Thorsten Steiner
	Emergent Management of Acute Myocardial Infraction: The Role of Antiplatelet Therapy	Dr. Andrew KY Ng
14:00-15:30	**Prehospital Emergency Care 2** Pao Yue Kong Auditorium, G/F	Chairpersons: Dr. Chi-Wai Chau Dr. Wendy Cheng
	The Challenges of Emergency Medical Care in Government Flying Service	Dr. Harris KC Lam
	Introduction of Ambulance and First Aid Services of Hong Kong St. John Ambulance	Dr. Hin-Keung Wong
	Volunteerism in Medical and Health Services	Mr. Alex YK Wong
14:00-15:30	**General Emergency Medicine 2** Lim Por Yen Lecture Theatre, G/F	Chairpersons: Dr. Herman KH Lee Dr. Kin-Ming Poon
	Infectious Disease Emergencies	Dr. Patrick Tsang
	Team-Based Trauma Resuscitation: Do the Most but the Shortest Time	Dr. Irene Lo
	Geriatric Trauma with Orthopedic Injuries - A Multi-disciplinary Approach	Dr. Albert YC Hsu

14:00-15:30	ASEM 25th Anniversary Webinar Function Room 2, 2/F	Chairpersons: Dr. Axel YC Siu Dr. Sam SM Yang
	Overview of ASEM in the Past 25 Years	Dr. Pauline Convocar
	Clinical Services: How should ASEM Move in Provision of Clinical Services Over the Next 25 Years?	Prof. Abu Hassan Asaari Abdullah
	Education and Training: What Should ASEM Do to Promote EM Education and Training in Asia Over the Next 25 Years?	Dr. Tamorish Kole
	Research: What is the Scope for Inter-Asian Collaboration in Research to Produce Asia-Based Evidence?	Prof. Venkataraman Anantharaman
14:00-15:30	**Free Paper Presentation 1*** Function Room 1, 2/F	Chairperson: Dr. Chi-Leung Tsui Judges: Dr. Manson CM Chu Dr. Anthony CP Wong
14:00-15:30	**Free Paper Presentation 2#** James Kung Meeting Room, 2/F	Chairperson: Dr. Tommy SK Lam Judges: Dr. Kevin KC Hung Dr. James SK Lau
15:30-16:00	**Break** Exhibition Hall, G/F	
16:00-16:45	**Sponsored Lecture (by AstraZeneca)** Function Room 2, 2/F	Chairpersons: Dr. Kaiser KY Chiu Dr. Chi-Leung Tsui
	Asthma Update: Key Highlights from GINA 2023	Prof. Roland Buhl
16:00-17:30	**Prehospital/ Transport Medicine** Pao Yue Kong Auditorium, G/F	Chairpersons: Dr. Kin-Ming Poon Dr. Marc LC Yang
	Critical Care Transport	Dr. Ping Wu
	Maternal Transfer in Emergency Medicine: An Obstetrician's Perspective	Dr. Lee-Ting Kwong
	Prehospital Management of Sepsis in Adults - Advances and Challenges	Dr. Rex PK Lam
16:00-17:30	**SimWars 2023** Lim Por Yen Lecture Theatre, G/F	Chairpersons: Dr. Shing Ko Dr. Oi-Fung Wong
16:00-17:30	**Innovations in Emergency Medicine** Function Room 1, 2/F	Chairpersons: Dr. Wendy Cheng Dr. Manson CM Chu
	BC 8-1-1: A Community Based Virtual Care Model for Emergencies	Prof. Kendall Ho
	Data is Petroleum – The Value of Digital Transformation and Digital Twin in Smart Healthcare and Smart ED	Dr. Chun-Tat Lui
	Experience and Prospects of AI in EM Teaching and Clinical Application	Dr. Wilson WS Liu

The programme is subject to change without prior notice.

**# Please refer to P.58.*

PLENARY SPEAKERS

"TEE IN RESUSCITATION"

Dr. Adi Osman
Senior Consultant Emergency Physician and ED Critical Care
Department of Trauma and Emergency Medicine
Hospital Raja Permaisuri Bainun
Malaysia

"PRE-HOSPITAL MEDICINE IN HONG KONG: A WALKTHROUGH OF OHCA SURVIVAL IN THE PAST 12 YEARS"

Dr. Axel YC Siu
Past President (2017-2020)
Hong Kong College of Emergency Medicine
Hong Kong

"DIGITIZATION OF EMERGENCY MEDICINE"

Prof. Kendall Ho
Professor in Emergency Medicine
University of British Columbia Faculty of Medicine
Canada

SPEAKERS

(Listing according to alphabetical order)

Prof. Abu Hassan Asaari Abdullah	Past President (2007-2009), Asian Society for Emergency Medicine
Prof. Venkataraman Anantharaman	Founding President, Asian Society for Emergency Medicine
Prof. Roland Buhl	Professor of Medicine, Johannes Gutenberg University of Mainz
Dr. Anthony HL Chan	Resident Trainee, Emergency Department, North District Hospital
Mr. William YW Chan	Nurse Consultant, Accident & Emergency Department, New Territories West Cluster
Dr. Pauline Convocar	President, Asian Society for Emergency Medicine
Dr. Moganapriya d/o Gunasegaren	Emergency Medicine Resident, National Healthcare Group
Dr. Harry Harinder Singh Gill	Clinical Assistant Professor, Department of Medicine, The University of Hong Kong
Prof. Kendall Ho	Professor in Emergency Medicine, University of British Columbia Faculty of Medicine
Dr. Albert YC Hsu	Consultant, Department of Orthopaedics, United Christian Hospital
Dr. Wayne SK Huang	Resident Physician, Department of Emergeny Medicine, National Taiwan University Hospital, Hsinchu Branch
Dr. Tamorish Kole	Past President (2019-2021), Asian Society for Emergency Medicine
Mr. Yui-Ming Kong	Associate Nurse Consultant (Emergency Care), Accident & Emergency Department, United Christian Hospital
Dr. Lee-Ting Kwong	Associate Consultant, Department of Obstetrics & Gynecology, Tuen Mun Hospital
Dr. Wing-Yan Kwong	Associate Consultant and Specialist in Emergency Medicine, Queen Elizabeth Hospital
Dr. Harris KC Lam	Administration Officer (Clinical Services), Government Flying Service
Dr. Rex PK Lam	Clinical Associate Professor of Practice, Department of Emergency Medicine, The University of Hong Kong
Dr. Wilson WS Liu	Resident, Accident and Emergency Department, Caritas Medical Centre
Dr. Irene Lo	Consultant, Department of Surgery, Queen Elizabeth Hospital
Dr. Chun-Tat Lui	Clinical Consultant, Emergency Department, Tuen Mun Hospital
Dr. Andrew KY Ng	Interventional Cardiologist, Gleneagles Hospital Hong Kong
Dr. Adi Osman	Senior Consultant Emergency Physician and ED Critical Care Department of Trauma and Emergency Medicine Hospital Raja Permaisuri Bainun, Malaysia
Dr. Axel YC Siu	Past President (2017 - 2020), Hong Kong College of Emergency Medicine
Prof. Thorsten Steiner	Director, Department of Neurology, Klinikum Frankfurt Höchst
Dr. Jonathan G. Sung	Associate Consultant, Department of Medicine and Geriatrics, Tuen Mun Hospital
Dr. Patrick HK Tsang	Consultant, CUHK Medical Centre
Dr. Lap-Kiu Tsoi	Associate Consultant, Department of Medicine and Geriatric, New Territories West Cluster
Mr. Alex YK Wong	Chief Staff Officer, Auxiliary Medical Service

Mr. Chi-Hang Wong	Associate Nurse Consultant, Accident and Emergency Department, Tseung Kwan O Hospital
Dr. Hin-Keung Wong	Chief Superintendent, Administrative Region, New Territories Command, Hong Kong St John Ambulance Brigade
Dr. Michael LG Wong	Director (Quality and Safety), Hospital Authority
Dr. Ping Wu	Associate Consultant, ICU, Tuen Mun Hospital
Mr. Men-Yeung Yiu	Deputy Chief Fire Officer (Operational Support and Professional Development), Fire Services Department

CHAIRPERSONS & JUDGES

Dr. Tung-Ning Chan	Chief of Service, Accident and Emergency Department, Kwong Wah Hospital
Dr. Yiu-Cheung Chan	Consultant, Accident & Emergency Department, United Christian Hospital
Dr. Chi-Wai Chau	Consultant, Accident and Emergency Department, Queen Elizabeth Hospital
Dr. Wendy Cheng	Associate Consultant, Accident and Emergency Department, Queen Elizabeth Hospital
Dr. Kaiser KY Chiu	Associate Consultant, Accident and Emergency Department, Caritas Medical Centre
Dr. Manson CM Chu	Associate Consultant, Accident and Emergency Department, Pok Oi Hospital
Ms. Chloe TM Hui	Advanced Practice Nurse, Accident and Emergency Department, North Lantau Hospital
Dr. Kevin KC Hung	Clinical Assistant Professor, Accident & Emergency Medicine Academic Unit, The Chinese University of Hong Kong
Dr. Shing Ko	Consultant, Accident and Emergency Department, North Lantau Hospital
Dr. Tommy SK Lam	Consultant, Accident and Emergency Department, Tuen Mun Hospital
Dr. James SK Lau	Associate Consultant, Accident and Emergency Department, Ruttonjee Hospital
Dr. Gordon Lee	Chief of Service, Accident and Emergency Department, Caritas Medical Centre
Dr. Herman KH Lee	Consultant, Accident and Emergency Department, United Christian Hospital
Dr. Chin-San Leung	Consultant, Accident and Emergency Department, Princess Margaret Hospital
Dr. Shao-Yung Lin	Emergency Medicine Resident Physician, National Taiwan University Hospital
Dr Wei-Xiang Ng	Junior Resident, National Healthcare Group
Dr. Kin-Ming Poon	Associate Consultant, Accident & Emergency Department, Tin Shui Wai Hospital
Dr. Chi-Leung Tsui	Associate Consultant, Emergency Department, Prince of Wales Hospital
Dr. Ben KA Wan	Chairperson, Organizing Committee of the Scientific Symposium on Emergency Medicine 2023
Dr. Anthony CP Wong	Adventist Health Physician, Resident Consultant In Emergency Medicine, Hong Kong Adventist Hospital
Dr. Henry CY Wong	Honorary Clinical Assistant Professor, Accident and Emergency Medicine Academic Unit, The Chinese University of Hong Kong
Dr. Oi-Fung Wong	Consultant, Accident and Emergency Department, North Lantau Hospital
Dr. Clara WY Wu	President, Hong Kong College of Emergency Medicine
Dr. Marc LC Yang	Clinical Associate Professor (Honorary), Accident and Emergency Medicine Academic Unit, The Chinese University of Hong Kong
Dr. Sam SM Yang	President, Hong Kong Society for Emergency Medicine and Surgery
Dr. Jane CY Yau	Department Operations Manager, Accident & Emergency Department, Queen Elizabeth Hospital

ACADEMIC ACCREDITATION

CME and CNE points have been accredited by the following colleges and programme for local delegates:

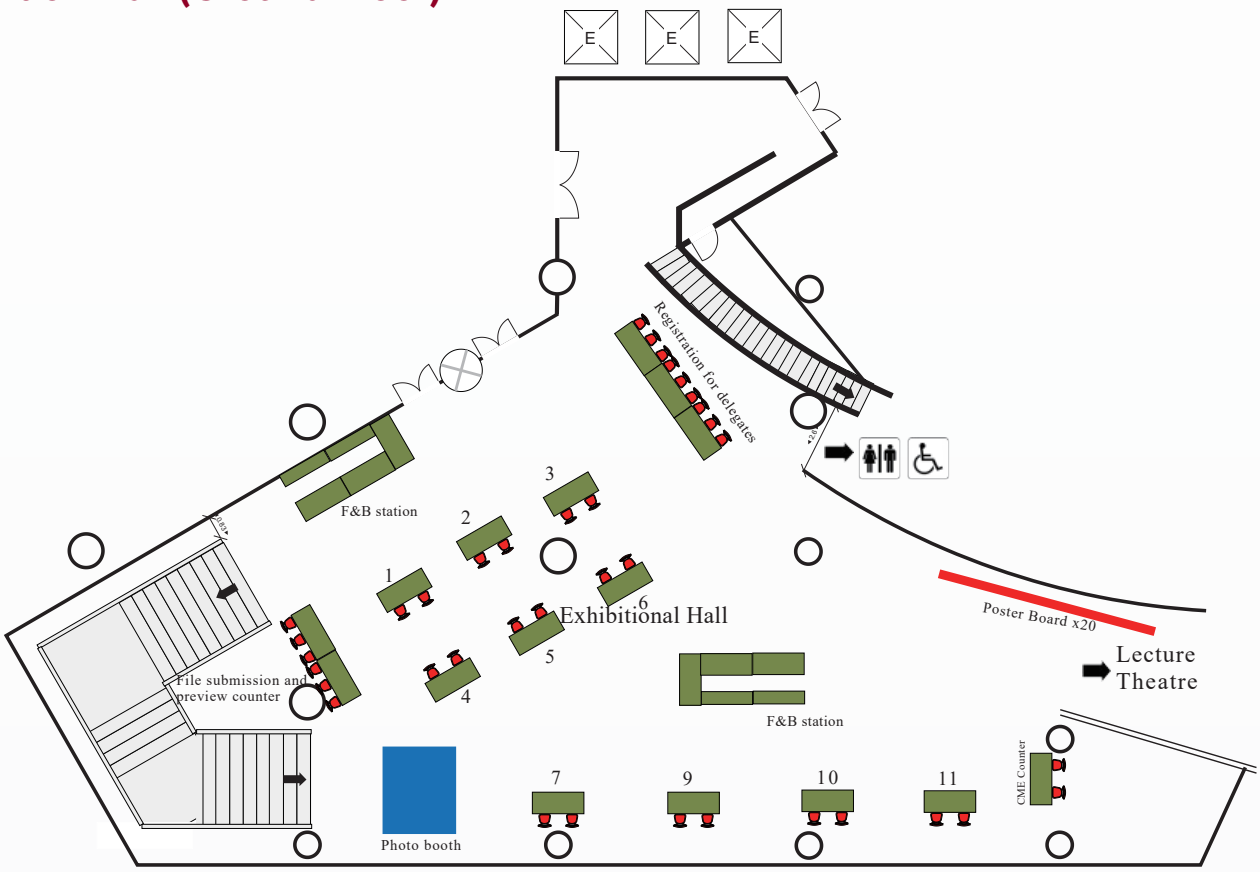
College/Association	Points Awarded for Whole Symposium	Category and Remarks
CME		
The Hong Kong College of Anaesthesiologists	8	PP-NA
Hong Kong College of Community Medicine	6	PP-PP
The College of Dental Surgeons of Hong Kong	Pending	
Hong Kong College of Emergency Medicine	6	Passive
	5	Training Point (Cat. A)
The Hong Kong College of Family Physicians	5	OEA-5.02
The Hong Kong College of Obstetricians and Gynaecologists	5	PP-PN
The College of Ophthalmologists of Hong Kong	Pending	
The Hong Kong College of Orthopaedic Surgeons	5	PP-B
The Hong Kong College of Otorhinolaryngologists	4	PP-2.2
Hong Kong College of Paediatricians	6	A-PP
The Hong Kong College of Pathologists	8	CME-PP
Hong Kong College of Physicians	4	PP-PP
The Hong Kong College of Psychiatrists	6	PP-OP
Hong Kong College of Radiologists	7.5	B-PP
The College of Surgeons of Hong Kong	6	CME-PP
MCHK CME Programme (Accredited by HKAM)	5	CME-PASSIVECME
CNE		
Hong Kong Emergency Nurses Association	7.5	-

The final accreditations will be at the discretion of individual college / association.
Participants are required to sign-up the attendance sheet which will be displayed at the venue.

(as of 24 October 2023)

EXHIBITION

Exhibition Hall (Ground Floor)



Booth no.	Company / Organization
10	Abbott Laboratories Ltd.
4	AstraZeneca Hong Kong Ltd.
3	Baxter Healthcare Ltd.
9	bioMerieux China Ltd.
5	Fisher & Paykel Healthcare Ltd.
2	Hong Kong Red Cross
11	KARL STORZ Endoscopy China Ltd.
7	Legend Master Technology Ltd.
6	Pacific Medical Systems Ltd.
1	Prism Technologies Ltd.

ABSTRACTS

Plenary Lecture 1
TEE in Resuscitation

Dr. Adi Osman
Senior Consultant Emergency Physician and ED Critical Care
Department of Trauma and Emergency Medicine
Hospital Raja Permaisuri Bainun
Malaysia

Dr. Adi Osman is currently a Senior Consultant Emergency Physician and ED Critical Care in Hospital Raja Permaisuri Bainun, Ipoh, Malaysia. He obtained his M. Med (EM) in 2003 and fellowship in Critical Care and fellowship in Critical Care Ultrasound in Milan Italy in 2011.Dr Adi has been a past WINFOCUS board of directors (2008 – 2023) and associate editor for The Ultrasound Journal Springer Nature since 2014. He is currently serves as a national coordinator for emergency critical care fellowship program, ministry of health Malaysia and director for emergency & trauma services, state of Perak, Malaysia. He is one of the appointed supervisors for European Diploma in Advanced Critical Care Echocardiography (EDEC) organized by European Society of Intensive Care Medicine (ESICM). His current research interests and publications include non-invasive ventilation, airway ultrasound, resuscitative TEE in critical care and ultrasound-guided procedures.

Abstract

TEE has expanded from its traditional indications (ie, cardiac surgery, valve evaluation, or cardioversion in atrial fibrillation), to assist the hemodynamic evaluation of patients with acute decompensation shock, and cardiac arrest. Following landmark publications demonstrating the feasibility of EP-performed TEE, a number of institutions have implemented ED-based TEE programs. EP and intensivist-performed TEE examinations are feasible, safe, and clinically im- pactful in the management of critically ill patients. The primary indication for use of resuscitative TEE in the ED is during cardiac arrest.[1] However, TEE can be clinically influential in several other clinical scenarios:

1. Evaluation of patients in shock and pulseless arrest who have inadequate transthoracic windows.[2,3,4]
2. Assessment of fluid responsiveness in mechanically ventilated patients using SVC and VTI variation.
3. The guided chest compression in CPR.[5]

References

1. Adi Osman, Chan PF, Shaik FAW, Nova Panebianco, Felipe Teran,Transesophageal Echocardiography at the Golden Hour: Identification of Blunt Traumatic Aortic Injuries in the Emergency Department,The Journal of Emergency Medicine,Volume 59, Issue 3 ,2020,
2. Adi, Osman., Ahmad, A.H., Fong, C.P. et al. Resuscitative transesophageal echocardiography in the diagnosis of post-CABG loculated pericardial clot causing cardiac tamponade. The Ultrasound Journal 13, 22 (2021).
3. Azma HA, Adi Osman, Hafis S, et al.Early Diagnosis of Pulmonary Embolism In Emergency Department: Role of Resuscitative Transesophageal Echocardiography. Critical Care 2019, 23(2).
4. Adi Osman, Chan PF , Azma HA, Asri R. Point of Care Transesophageal Echocardiography (TEE) in Early Diagnosis of Traumatic Aortic Injury (TAI) At Emergency Department. Critical Care 2019, 23(2).
5. Adi Osman, Hafis S, Azma HA Cheong CY Asri RA. Ineffective Left Ventricular Compressions and LVOT Compression During Chest Compressions in CPR: Resuscitative Transesophageal Echocardiography (TEE) Findings.. Critical Care 2019, 23(2).

ABSTRACTS

Plenary Lecture 2

Pre-hospital Medicine in Hong Kong: A Walkthrough of OHCA Survival in the Past 12 Years

Dr. Axel YC Siu
Past President (2017-2020)
Hong Kong College of Emergency Medicine
Hong Kong

Dr. SIU became the Fellow of Hong Kong College of Emergency Medicine & Fellow of Hong Kong Academy of Medicine (Emergency Medicine) since 2000. Dr. SIU is now the Chief of Service, A&E Department, Ruttonjee Hospital, Deputizing Chief of Service, A&E Department, Pamela Youde Nethersole Eastern Hospital and Advisor, A&E Department, St John's Hospital. From 2009 to 2022, Dr. Siu was seconded to the Fire Services Department as the Medical Director of the Fire and Ambulance Services Academy.

Dr. SIU served as the President of Hong Kong College of Emergency Medicine from 2017 to 2020 and the President of Hong Kong Society for Emergency Medicine and Surgery from 2011 to 2015. He was the President of Asian Society for Emergency Medicine from 21 to 2023. He is currently the Honorary Secretary of Resuscitation Council of Asia. Dr. Siu was awarded with the Order of International Federation of Emergency Medicine in 2016 in recognition to his contribution to the field of emergency medicine. He also received the HKSAR Chief Executive Commendation for his dedicated contribution in fighting against COVID-19, including the escorts of detained Hong Kong citizens from Wuhan in 2020. Besides, Dr. SIU is the Advisor of Resuscitation Council of Hong Kong, the Sudden Arrhythmia Death Syndrome Foundation, Hong Kong and Council Member of Hong Kong Red Cross.

Dr. SIU is interested in Resuscitation, Prehospital Medicine, and Wilderness Medicine.

Abstract

Out-of-Hospital Cardiac Arrest (OHCA) is one of the major health challenges and the survival of patients after OHCA is always considered as one of the key performance indicators to reflect the effectiveness of the health care system. Hong Kong is one of the most developed regions in Asia, it is understandable that our OHCA survival is expected to be comparable to our counterparts in Asia. Unfortunately, based on a local territory wide survey, the survival to discharge rate of OHCA patients in Hong Kong was only 2.3% in 2012-13. A search for improvement is definitely required.

The Global Resuscitation Alliance (GRA) was established in 2015 and pledged to advance resuscitation through the Resuscitation Academy model by accelerating community implementation of effective programs through a quality improvement strategy to measure and improve. GRA has advocated the ten steps to improve cardiac arrest survival.

1. Establish a cardiac arrest registry
2. Begin Telephone-Cardiopulmonary Resuscitation (CPR) with ongoing training and quality improvement
3. Begin high-performance Emergency Medical Services (EMS) CPR with ongoing training and quality improvement

4. Begin rapid dispatch
5. Measure professional resuscitation using the defibrillator recording (and voice if possible)
6. Begin an Automated External Defibrillator (AED) program for first responders, including police officers, guards, and other security personnel
7. Use smart technologies to extend CPR and public access defibrillation programs to notify volunteer bystanders who can respond to a nearby arrest to provide early CPR and defibrillation
8. Make CPR and AED training mandatory in schools and the community
9. Work toward accountability – submit annual reports to the community
10. Work toward a culture of excellence
11. Taking reference from these ten steps of strategies, we should consider to strive for a better performance in future by:
    (A) Education and training
    (B) Removal of hurdles for bystander CPR
    (C) Application of smart technology
    (D) Collection and analysis of local data to monitor and search for strategy for improvement

ABSTRACTS

Plenary Lecture 3

Digitization of Emergency Medicine

Prof. Kendall Ho
Professor in Emergency Medicine
University of British Columbia Faculty of Medicine
Canada

Dr. Kendall Ho is an emergency medicine specialist, Medical Director of BC Ministry of Health 811 Virtual Physician Program, a Professor in the University of British Columbia Faculty of Medicine and lead the Digital Emergency Medicine Unit. Dr. Ho is actively involved in digital health research in virtual health to increase access and quality of care, sensors and wearables in clinical monitoring for disease management, data analytics and artificial intelligence, and raising digital health literacy of patients and health professionals. Dr. Ho collaborates with provincial partners on establishing a learning health system for the BC Real Time Virtual Support Network. His body of work in digital health has received provincial and national awards. In 2022, he was awarded the BC Medal of Good Citizenship. He is a visiting professor of the Nanyang Technological University Lee Kong Chian School of Medicine, and an adjunct professor of the University of Victoria.

Abstract

Digital Health (DH) and Machine Learning/Artificial Intelligence (ML/AI) is rapidly flourishing in Emergency Medicine (EM) – Digital Emergency Medicine. Specific opportunities include:

1. Pre-hospital triage and monitoring to stratify patients needing immediate in-person EM care versus those that don't,
2. ED triaging to allocate limited bed resources to patients in overcrowded ED waiting rooms based on patients' acuity
3. Clinical decision support for better and more rapid discernment of ED patients for timely disposition decisions,
4. Improved experiences of patient convalescence post discharge for optimal self-management and clinical outcome

This presentation will apply the principles of DH/ML/AI into implementation in the EM context. The BC pan-provincial digital front door for patients with urgent issues – HealthlinkBC, additional digital experiences in BC and elsewhere, and challenges in research and implementation will be shared. A glimpse into the future of Digital Emergency Medicine and what steps we should undertake now will be discussed.

ABSTRACTS

Prehospital Emergency Care 1

Roles and Experiences of FSD in Rescue Missions: Rescue Operation in Türkiye

Mr. Men-Yeung Yiu
Deputy Chief Fire Officer (Operational Support and Professional Development)
Fire Services Department

Mr. Yiu Men Yeung is a dedicated and accomplished officer who has made significant contributions to the field of fire and rescue services. He holds the position of Deputy Chief Fire Officers of the Operational Support and Professional Development Command, as well as Commandant of the Fire and Ambulance Services Academy of Hong Kong Fire Services Department. He was previously assigned the Commandant of the Hong Kong search and rescue team, leading a team of 59 members from the Security Bureau, the Hong Kong Fire Services Department, the Immigration Department and the Department of Health to assist in search and rescue efforts following the catastrophic earthquakes in Türkiye from 8.2.2023 to 17.2.2023. Under his guidance, the team displayed extraordinary bravery and professionalism, working tirelessly to locate and rescue survivors trapped in the rubble. In recognition of their outstanding performance, the team was awarded the Chief Executive's Award for Exemplary Performance.

Abstract

In February this year, a strong earthquake of magnitude 7.8 struck Türkiye, resulting in significant loss of life. The HKSAR Government swiftly deployed the HKSAR search and rescue Team to carry out search and rescue operations in quake-stricken areas in Türkiye.

The 59-strong search and rescue team comprised members from the Security Bureau, the Hong Kong Fire Services Department, the Department of Health and the Immigration Department. Bringing along two search and rescue dogs and rescue equipment with a weight of about eight tones, the team embarked on a mission to the quake-stricken areas in Türkiye.

Over the course of a 216-hour operation, the team bravely rescued four people and recovered remains of six victims from underneath the debris. During the rescue operation in Türkiye, the team members encountered immense hardship and faced numerous difficulties. They worked in extreme weather conditions, putting their lives at risk to save those who were trapped. Frequent minor earthquakes following the initial quake throughout their operation made the rescue operation even more challenging.

As the Commandant of the Hong Kong search and rescue team, Mr. YIU Men-yeung, will share firsthand the difficulties encountered, the search and rescue techniques employed and the invaluable experience gained from the rescue operations in Türkiye.

ABSTRACTS

Prehospital Emergency Care 1

Humanitarian Health Service on a Rescue Vessel on the Mid Mediterranean Sea

Dr. Wing-Yan Kwong
Associate Consultant and Specialist in Emergency Medicine
Queen Elizabeth Hospital

Dr. Kwong Wing Yan is an associate consultant and specialist in emergency medicine at Queen Elizabeth Hospital. She graduated from the CUHK in 2010 and obtained the diploma in tropical medicine and hygiene in 2015. Dr. Kwong's clinical interest is in traumatology, infectious disease, and end-of-life care in the ED, as reflected in her peer-reviewed publications. She is also a member of the college subcommittee on prehospital & disaster medicine and infectious disease. Dr. Kwong has been an avid humanitarian worker. She has taken an extramural year in Cameroon while studying medicine, where she volunteered as a health educator in the Malaria and HIV-stricken community. She provided medical care during the aftermath of the massive 2015 Nepal earthquake. She was awarded the 2016 Hong Kong Humanity Award and the Distinguished Young Fellow Award in 2020 for her contribution to humanitarian service. Most recently, Dr. Kwong rescued more than 600 shipwreck survivors in the Mediterranean as a doctor on board a rescue vessel operated by the SOS & Red Cross.

Abstract

Migration and refugee flows into Europe from sub-Saharan and North Africa and the Middle East are among the most hazardous in the world, signalling acute humanitarian needs for many people on the move. In recent years, there has been a sharp increase in the number of migrants attempting the deadly Central Mediterranean route. As the world's largest humanitarian network, the International Federation of Red Cross and Red Crescent Societies (IFRC) approaches migration from a purely humanitarian perspective, which is reducing human suffering and preventing loss of life, by working in partnership with NGO "SOS Mediterranée" through a well-equipped rescue ship called "Ocean Viking".

Humanitarian Service Point at Sea (HSP@Sea) Operation is part of the IFRC's 3-year route-based migration plan of action, and was launched in August 2021. In general, SOS Mediterranee will focus on the Search & Rescue (SAR) operation while the IFRC will focus on the post-rescue services on board the SAR vessel. The post-rescue services will include first aid, healthcare services, maternal healthcare, food and non-food items, psychosocial support (PSS), protection for vulnerable groups, as well as Restoring Family Links (RFL).

Since 2022, Hong Kong Red Cross (HKRC) has deployed three medical volunteers to participate in the International Red Cross' rescue mission in the Mediterranean Sea. Dr. Kwong Wing Yan joined the Ocean Viking mission in late July 2023 for four weeks to provide medical care to the rescued survivors. During the mission period, she and her fellow crew members had completed the ship's largest ever rescue operation – saving 623 people from unsafe vessels within 48 hours and helping them safely disembark in Italy.

ABSTRACTS

Prehospital Emergency Care 1

Role and Experience of Hospital Authority in Prehospital Emergency Care

Dr. Michael LG Wong
Director (Quality and Safety)
Hospital Authority

Dr. Wong currently serves as the Director of Quality and Safety at the Hospital Authority (HA). In this role, he provides leadership and guidance to the Quality & Safety Division, which oversees various critical areas such as quality standards, patient safety, clinical incident management, patient relations management, healthcare technology assessment, disaster response, and infection control across the public hospitals under the HA.

Dr. Wong is a specialist in haematology and haematological oncology, holding fellowship qualifications in pathology as well. Prior to his current position, he has held several key roles, including Chief Manager (Cluster Performance) at the Head Office, Chief Manager of the Kowloon West Cluster, Deputy Hospital Chief Executive at North Lantau Hospital, and Deputy Hospital Chief Executive (Operation) at Princess Margaret Hospital.

Abstract

This presentation sheds light on the significant role and extensive experience of the Hospital Authority (HA) in prehospital emergency care, which has been established since 1999 in collaboration with the Fire Services Department (FSD). Drawing lessons from past tragedies, HA and FSD have developed a mechanism to coordinate and divert disaster patients at the scene for a more effective response.

The presentation begins by introducing HA's service provision and its well-structured organizational framework, including the Three Tier Response System and Emergency Command Structure. It then explores the four key pillars of HA's disaster response: command, control, coordination, and communication. The operations of the HA Head Office Major Incident Control Centre (MICC) and the HA Emergency Operation Command (HAEOC) are highlighted.

Next, the presentation focuses on the management of Mass Casualty Incidents (MCI) and highlights the contemporary mechanisms employed. This includes Field Triage, Pre-set Quotas for Casualty Diversion, the Operation of the Hospital Major Incident Control Centre (HOMICC), Casualty Diversion by Hospital Operations Duty Officer (HODO), as well as the Dispatch of Hospital Authority Mobile Casualty Operations (MCO) and Emergency Medical Teams (EMT), with an emphasis on leveraging technology.

Lastly, the presentation underscores the importance of drill and exercise planning in prehospital medical disaster response. It showcases HA's proactive approach in conducting drills and exercises in collaboration with strategic partners. These exercises serve to test and refine emergency response and contingency plans, identify areas for improvement, and enhance overall readiness in prehospital care. Several past HA drills and exercises are highlighted as examples of these efforts.

Overall, this presentation demonstrates HA's pivotal role in prehospital emergency care and its commitment to ongoing preparedness, collaboration, and innovation in ensuring effective disaster response.

ABSTRACTS

General Emergency Medicine 1

Update on Management of ST-Elevation Myocardial Infarction

Dr. Jonathan G. Sung
Associate Consultant
Department of Medicine and Geriatrics
Tuen Mun Hospital

Dr. Jonathan Sung graduated from the CUHK in 2010 and underwent general cardiology training in Tuen Mun Hospital. He received his interventional cardiology fellowship in Brigham & Women's Hospital, Harvard Medical School in 2021. His area of interest includes AMI care, complex PCI and use of mechanical circulatory support.

Abstract

Cardiovascular disease (CVD) is the most common cause of mortality and morbidity worldwide. Acute coronary syndrome (ACS) is often the first clinical manifestation of CVD. ACS should be considered a spectrum, which encompasses both non-ST-elevation (NSTE)-ACS and ST-elevation MI (STEMI). Of these, STEMI usually warrants emergency reperfusion strategy to improve outcome. To facilitate immediate reperfusion, management of STEMI should start from first medical contact (FMC) which in Hong Kong often happens at the Accident & Emergency Department. Latest trials and updated guidelines in recent years have provided new insights on the emergency care of STEMI, including pre-hospital logistics, pre-treatment of P2Y12 inhibitors and emphasis on patient perspectives.

Individuals experiencing acute chest pain in the community represent an undifferentiated population. These patients should undergo immediate risk assessment and triage following local established protocols. A diagnosis of STEMI signifies a high risk of immediate life-threatening complications. Triage to STEMI pathways should trigger treatment decisions in the pre-hospital setting, including the choice of target hospital, and serve to determine the timing of early investigations and interventions. Accordingly, there is an indication for initiating an emergency reperfusion strategy and direct transfer to a center with 24/7 percutaneous coronary intervention (PCI) service.

Pre-treatment with a P2Y12 receptor inhibitor in STEMI patients has been downgraded from a class I, LoE A to a class IIb, LoE B recommendation. The change is explained by the generally neutral results of clinical studies (e.g. ATLANTIC), potential need for open heart surgery (e.g. bypass surgery or valvular repair) and the emergence of parenteral antiplatelet agents (e.g. Cangrelor) in P2Y12 receptor inhibitor-naïve patients at the time of PCI.

Physicians taking care of patients with STEMI or NSTE-ACS should not merely take into account the best available evidence regarding treatment strategies, but should be mindful of individual patient's needs, values and preferences. Engaging and educating our patients is a key component of ACS care and should take place from first medical contact through the entire hospital journey.

ABSTRACTS

General Emergency Medicine 1

Catching the High-Speed Rail in Stroke Medicine, Where Are We?

Dr. Lap-Kiu Tsoi
Associate Consultant
Department of Medicine and Geriatric
New Territories West Cluster

Dr. Lap-Kiu Tsoi graduated from Chinese University of Hong Kong (MBChB). He completed his training in advanced internal medicine and neurology in Tuen Mun Hospital. Dr. Tsoi has special interest in stroke medicine and autoimmune neurology. One of the publications from him is about stroke outcome in Systemic Lupus patient. Dr. Tsoi is also keen on medical education. He helped in various education courses for both junior doctors and nursing in general medicine and neurology.

Currently, Dr. Tsoi serves as Associate Consultant in Department of Medicine and Geriatrics and cluster coordinator of Quality & Safety Division in NTWC. He is also council member of Hong Kong Multiple Sclerosis Society.

Abstract

Year 2015 is also known as the Dawn of modern stroke medicine when several landmark trials on Intra-arterial IA thrombectomy have proved its success on functional improvement in large vessel occlusion LVO. Since then, the development of acute stroke medicine is so rapid as if we were seating in the High-Speed Rail.

In this 25-minute talk, current and latest evidence on intravenous IV thrombolysis as well as IA thrombectomy will be revised, for example the use of Tenecteplase TNK, IV thrombolysis beyond 4.5 hours, etc. As emergency physicians, it is crucial to identify promptly stroke patients who suffer from LVO. The talk will cover some screening tools for patients with potential LVO who is eligible for reperfusion therapy. Finally, this talk will also provide some insight and updates on Transient ischemic attack TIA and emergency treatment of intracerebral haemorrhage.

ABSTRACTS

General Emergency Medicine 1

Hematological Emergencies – All You Need to Know

Dr. Harry Harinder Singh Gill
Clinical Assistant Professor
Department of Medicine
The University of Hong Kong

Dr. Gill graduated from the University of Hong Kong in 2006 and joined the Department of Medicine, Queen Mary Hospital in 2007. He completed his training in Haematology and Advanced Internal Medicine and joined the University of Hong Kong in July 2014. Following that, he underwent training in Haematopathology and was conferred Fellow of The Royal College of Pathologists in 2019. He completed his doctorate degree in 2019 focusing on the genomics of myeloproliferative neoplasms (MPN).

One of his key research areas since 2010 is the application of oral arsenic trioxide (ATO) in the treatment of acute promyelocytic leukaemia (APL). He steered the research and development the first GMP grade oral formulation of ATO worldwide.

Dr. Gill also leads research on Myelodysplastic syndrome (MDS) and MPN with specific focus on molecular alterations and novel therapeutics in these disorders. Dr Gill leads key regional studies on myeloid malignancies in Asia.

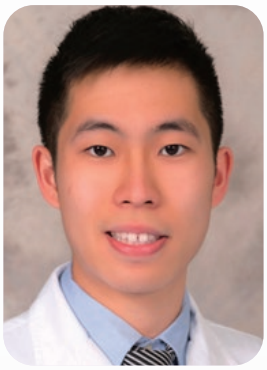
Abstract

In this lecture, lift-threatening haematological conditions encountered in the acute medicine setting and the role of emergency medicine physicians will be discussed. In particular, acute promyelocytic leukaemia (APL) is a specific subtype of acute myeloid leukaemia (AML) associated with life-threatening bleeding tendency and significant risks of early deaths if diagnosis and treatment is delayed. High clinical suspicion for APL is essential in patients presenting with severe bleeding tendencies. In the prevention of early deaths, timely diagnosis, prompt initiation of all-trans retinoic acid (ATRA) and correction of bleeding are crucial. Others emergencies that will be discussed include febrile neutropenia, thrombotic thrombocytopenic purpura and emergencies in lymphomas.

ABSTRACTS

Young Fellow Chapter

Overcrowding in ED: Current Challenges and Coping Solutions



Dr. Anthony HL Chan
Resident Trainee
Emergency Department
North District Hospital

Dr. Anthony Chan is currently a resident trainee of the emergency department in North District Hospital (Hong Kong) after graduating from the Medical school of The Chinese University of Hong Kong. He is also a trainee representative of North District Hospital and a committee member of the Hong Kong Emergency Medicine Trainee Network (HKEMTN).

Joining the emergency department at the time of global pandemic, he appreciated the pivotal role of the emergency department in the healthcare system, and at the same time the effects of pandemic on worsening the overcrowding situation of the emergency department.

Abstract

Overcrowding is one of the most important issues faced by emergency departments (ED) around the globe. The widespread harmful effects of overcrowding are increased patient morbidity and mortality, impaired emergency department operation, increased ED violence, and also increased ED staff burnouts.

Although often quoted as “ED overcrowding”, the root cause lies very often out of the ED. The phenomenon of ED overcrowding is a manifestation of high inpatient bed occupancy and ineffective admission pathway which together contributed to ED boarding or admission block.

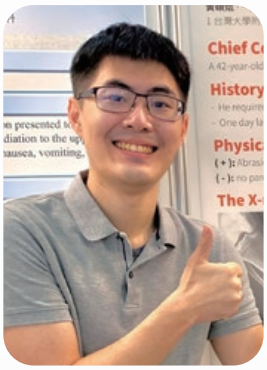
Various measures had been put by different EDs and proposed in literature, but at the end of the day, the most effective measure is highly context specific, and could be different from country to country, or even among hospitals of the same region. Each ED may have their own bottleneck in combating overcrowding.

The Hong Kong public healthcare system is renowned for its effectiveness in economic terms, but ED overcrowding is still a leading problem faced by EDs in Hong Kong which happens on a daily basis. In this review, a brief report on ED overcrowding in Hong Kong including its causes and possible solution is presented.

ABSTRACTS

Young Fellow Chapter

Overcrowding in ED: Current Challenges and Coping Solutions



Dr. Wayne SK Huang
Resident Physician
Department of Emergeny Medicine
National Taiwan University Hospital, Hsinchu Branch

Dr. Huang Shuo-Kun is a third-year resident physician at National Taiwan University Hospital, Hsinchu Branch. He specializes in critical care ultrasonography, pre-hospital emergency service and evidence-based medicine. He has previously won the championship in a Taiwan POCUS game competition and has published 2 articles in Resuscitation journal. Due to his training program, he works at two of Taiwan's most congested emergency departments, witnessing a constant influx of patients, and is involved in the analysis of emergency department quality indicators. Today, he will utilize evidence-based medicine to introduce the current situation of congestion in Taiwan and the effectiveness of various intervention measures.

Abstract

This presentation address the critical issue of Emergency Department (ED) overcrowding in Taiwan. The speech starts with a day of ED crowding on the NTUH-Hsinchu branch where the speaker works. This regional hospital has 4,800 monthly ED visits and 40 available ED beds. Notably, all 40 beds are consistently occupied before 11 a.m., extending this overcrowding ordeal for 8 hours. The NEDOCS score unequivocally classifies this situation as "severely overcrowded," marked by a peak of 50 patients during the busiest hour, 2 patients under ventilator support, and admissions waiting up to 16 hours. A detailed journey of three patients with varying triage shows that the significance of admission block as a major contributor to overcrowding, despite the provision of timely medical care. It's important to note the affordability of ED services, with patients typically paid less than 1,000 NTD in out-of-pocket expenses due to comprehensive national health insurance coverage.

48-hour ED stays is three times more frequently (7.5% vs. 2.5%) in tertiary hospitals compared to regional hospitals in Taiwan. The NTUH, the most overcrowded ED in Taiwan has a 48-hour ED stay rate of 22.9% in 2021. Over the past 15 years, ED visits increased by 20%.

There were various interventions to mitigate ED overcrowding, including regional transfer plans, real-time information monitoring, hospital certification, accreditation, and the introduction of hospitalists systems. While many of these interventions yielded positive outcomes, new challenges emerged in the post-COVID period.

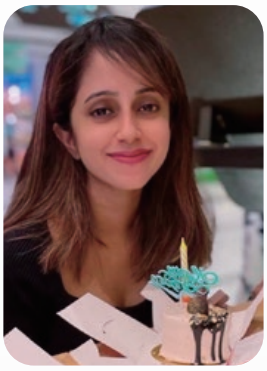
The presentation underscores the effectiveness of a bed-to-bed transfer program, resulting in shorter ED and hospital stays for transferred patients. Hospitalist programs have demonstrated favorable outcomes, particularly in reducing ED length of stay and mortality rates. Notably, the increase in ED co-payment did not deter patient visits.

Nursing shortages following the pandemic leading to inpatient bed closures and further intensifying ED overcrowding. This comprehensive study provides critical insights into ED overcrowding in Taiwan, emphasizing the urgent need for multifaceted solutions to ensure efficient and timely patient care in overcrowded EDs.

ABSTRACTS

Young Fellow Chapter

Overcrowding in ED: Current Challenges and Coping Solutions



Dr. Moganapriya d/o Gunasegaren
Emergency Medicine Resident
National Healthcare Group

A first year emergency medicine resident from Singapore! Currently surviving the general surgical rotation. Juggling my passion for emergency medicine while being a mum to a toddler!

Abstract

Overcrowding in the emergency department! Causes and challenges that occur due to this and some Solutions that Singapore has implemented!

ABSTRACTS

Emergency Medicine Nursing

Emergency Nursing in Mega Sports Event: HK ePrix

Mr. William YW Chan
Nurse Consultant
Accident & Emergency Department
New territories West Cluster

Mr. Chan Yuk Wing, William currently serving as a Nurse Consultant at the A&E department of NTWC, HA.

Mr. Chan's professional achievements have been recognized through prestigious awards and nominations. In 2006, he received a Gallantry Award in recognition of his professionalism as part of the Mobile Emergency Medical Team (EMT) dispatched during the hostile protest in WTO MC6 on December 17, 2005. In 2012, he was nominated for the HA Outstanding Staff and Team Award by the New Territories West Cluster (NTWC). In 2023, he was interviewed for the cover story of HA Links, titled "Flying to Rescue," and participated in a live radio interview on RTHK discussing flight nursing in Hong Kong.

Furthermore, Mr. Chan has been involved in motorsport medicine since 2011. He has actively participated as a volunteer in various events, including the 2011 HKAA Autosport Challenge Provisional at the Guangdong International Circuit and the FIA Formula E in Hong Kong in 2017, 2018, and 2019 as part of the Track Medical Team.

Mr. Chan's diverse experiences and contributions demonstrate his dedication to the field of emergency nursing, disaster care, and motorsport medicine.

Abstract

Electric motorsport medicine is a relatively new concept for emergency nursing in Hong Kong. Medical preparation and care will be more critical than ever when dealing with electric-powered cars and their associated risks. Besides, it represents a unique challenge due to the potential for many spectators and the possibility of a mass-casualty situation.

The FIA Formula E HKT Hong Kong ePrix first raced in the 2016–17 season as the first major international motorsport event held at the Hong Kong Central Harbourfront Circuit in Hong Kong.
To share the training in motorsport medicine.

- Motorsport-specific knowledge: the specific characteristics of electric-powered cars used in Formula E racing. e.g., includes understanding the potential risks associated with electric vehicle technology and the specific safety measures in place for these vehicles.
- Safety and extrication procedures: comprehensive training on safety protocols and extrication procedures specific to motorsport events. e.g., this includes understanding the unique challenges of accessing and extracting drivers from electric racing cars in the event of an accident.
- Rescue workflow of crash Formula E cars: specific rescue workflow for crash situations involving Formula E cars. e.g., this includes understanding the potential injuries associated with high-speed crashes and the necessary steps for providing immediate medical assistance and securing the scene.
- Medical command in Formula E: the overall workflow of medical command in Formula E events.

ABSTRACTS

Emergency Medicine Nursing

Transfer of Critically Ill Patients: Risks and Responsibilities

Mr. Yui-Ming Kong
Associate Nurse Consultant (Emergency Care)
Accident & Emergency Department
United Christian Hospital

Mr. Yui-Ming Kong recently worked as Associate Nurse Consultant (Emergency Care) in UCH AED under KEC. Besides, training experiences such as being a BLS/ACLS/TNCC instructor helps him to grow up with enthusiasm in nurse education. With strong beliefs in 'err is human' and 'Swiss Cheese Model', great effort has been put by him on nurse training so as to ensure patient safety, maintain good patient care quality and improve standard of nursing care.

Mr. Chi-Hang Wong
Associate Nurse Consultant
Accident and Emergency Department
Tseung Kwan O Hospital

Mr. Wong Chi Hang is an Associate Nurse Consultant (ANC)in Accident and Emergency Department of Tseung Kwan O Hospital. Hiu nursing career started in 2009 and started working in A&E since 2010. His specialty training completed in 2014 and promoted to Advanced Practice Nurse in 2016. He was recruited as a member of HA Emergency Responses Operations Outside Hong Kong (EROOHK) in 2022. Mr. Wong implement numerous SMART projects in the department including, electronic-AED, electronic laboratory result screening, electronic handover. etc . He was promoted in ANC in 2023 and willing to accept any challenges in the future.

Abstract

Inter-hospital patient transfer may be indispensable to Accident & Emergency Department. It could also be a great challenge to both patient and escort team as numerous variable factors may affect patient's outcome such as road traffic conditions and limited resources. Eliminating human errors is the key concept. In this presentation, speakers will share their experience and thoughts about challenges in transporting critically-ill patient with vivid examples and most importantly, how to manage the situations, prevent recurrence and enhance patient safety during transfer in the future.

ABSTRACTS

Lunch Symposium *(Sponsored by AstraZeneca)*

Revolutionizing DOAC Bleeding Management with FXai-Specific Reversal Agent – Experience in Europe

Prof. Thorsten Steiner
Director
Department of Neurology
Klinikum Frankfurt Höchst

Prof. Thorsten Steiner is Professor of Neurology and Neurointensive Care and Head of the Department of Neurology at the clinical centre in Frankfurt Höchst, Germany. He is a member of the School of Medicine at the University of Heidelberg.

Prof. Thorsten Steiner undertook his medical training at the University of Heidelberg and the Johns Hopkins School of Medicine in Baltimore, Maryland, USA. He received his diploma certificate “Master of Medical Education” at the University of Bern, Switzerland.

Professor Steiner qualified as a professor of Neurology in the field of “malignant infarctions of the middle cerebral artery”. His main research interests are intensive stroke care, strategies to treat increased intracranial pressure and invasive cerebral monitoring. He has contributed to various clinical stroke trials on haemostatics in intracranial haemorrhage and thrombolysis and neuroprotectants in ischaemic stroke.

Abstract

The consumption of direct oral anticoagulants (DOACs), especially in more developed countries, have been increasing over the past decade, accompanied with a recent decrease in warfarin consumption. As a complication of DOAC therapy, major bleeds occur in about 2% to 4% of OAC-treated patients per year. Major DOAC-related bleeding is associated with substantial morbidity and mortality. As a class, DOACs increase the risk of bleeding from the gastrointestinal tract, the most frequent site of haemorrhage. Intracranial haemorrhage, although uncommon, is associated with a risk of 30-day mortality that approaches 50%. Concerns about bleeding also likely influence decisions to withhold OACs in eligible patients and to use inappropriately low doses of DOACs for which net clinical benefit is not established. Over the next 50 years, the number of patients with indications for OACs is expected to increase ≥2.5-fold, making OAC-related bleeding complications a growing major health issue.

Prof. Steiner will deliver a keynote lecture to cover the epidemiology, management and unmet need of DOAC-related bleeding, as well as the experience he has with the factor Xa inhibitor (FXai)-specific reversal agent in Germany.

ABSTRACTS

Lunch Symposium *(Sponsored by AstraZeneca)*

Emergent Management of Acute Myocardial Infraction: The Role of Antiplatelet Therapy

Dr. Andrew KY Ng
Interventional Cardiologist
Gleneagles Hospital Hong Kong

Dr. Andrew Ng is currently an Interventional Cardiologist underwent extensive training in Interventional Fellowship in Brigham and Women's Hospital / Harvard Medical School and Hospital Authority (Hong Kong), comfortable with independently performing cardiac invasive procedures.

Extensive training in Brigham and Women's Hospital / Harvard Medical School for:

- Complex and high risk Percutaneous Coronary Intervention (PCI) including chronic total occlusions and left main lesions.
- Impella and ECMO placement for hemodynamic support.
- Transcatheter Aortic Valve Replacement (TAVR).
- EKOS and IVC filter placement and retrieval for pulmonary embolism and venous thromboembolism.
- Percutaneous PFO and ASD closure.
- CardioMEMS placement for heart failure monitoring.

Abstract

Acute myocardial infarction (AMI) requires immediate intervention. Early loading of antiplatelet therapy is crucial in AMI management, preventing cardiac events and mortality. This presentation highlights antiplatelet therapy's significance, mechanism, classes, and impact on platelet function.

The evidence supporting dual antiplatelet therapy in AMI patients undergoing percutaneous coronary intervention (PCI) or fibrinolytic therapy or medically treatment is discussed, including benefits, risks, and optimal duration.

Local data on various P2Y12 inhibitors in relationship to thrombotic and bleeding outcomes will be presented and discussed.

ABSTRACTS

Prehospital Emergency Care 2

The Challenges of Emergency Medical Care in Government Flying Service

Dr. Harris KC Lam
Administration Officer (Clinical Services)
Government Flying Service

Dr. Lam graduated as a Registered Nurse in Hong Kong in 1985. Further studied in Australia to obtain specialist qualification in Emergency Nursing from University of Sydney, Master of Nursing in Advanced Practice from University of Newcastle, Master of Health Administration from University of New South Wales, and the Doctorate of Business Administration from University of Management and Technology. For his past 40 years' health care experience, he was an Emergency Nurse Specialist for 14 years, managed a paramedical training center for 5 years and became the Department Operation Manager of an A&E Dept. in 2011 and now is the General Manager (Nursing) of Ruttonjee and Tang Shiu Kin Hospital. On the other hand, he has been the Air Medical Nursing Officer in Government Flying Service for 21 years and now is the Administration Officer of Clinical Service. In addition, he is also granted with specialty qualification in Occupational Health and Training Management.

Currently, he is the Vice President of Hong Kong College of Emergency Nursing and the member of Chartered Institute of Personnel & Development UK.

Abstract

After the RHKAAF was disbanded on 31 March 1993, the Government Flying Service (GFS), which transformed from a military reserve to a civilian aviation unit, was established on 1 April 1993.
One of the major responsibilities of the GFS lies with SAR operations. Although the area of responsibility covers the majority of the South China Sea up to 1300 km south of Hong Kong, most of the search and rescue operations take place within 400 nautical miles of Hong Kong.

GFS also provides a 24-hours air ambulance service. After receiving emergency callouts from clinics throughout the territory, the GFS helicopters can arrive on the scene within 20 minutes for locations within Island Zone such as Hong Kong Island, Cheung Chau, Hei Ling Chau, Lantau, Peng Chau and Soko Islands, and 30 minutes for elsewhere within the Hong Kong territory. On average, GFS helicopters fly approximately 1,500 casualties to hospitals per year.

Meanwhile, GFS provides a wide range of services to many different departments of the Hong Kong SAR Government, including the Fire Services Department, the Police, The Home Affairs Department, the Marine Department, the Civil Aviation Department, the Hong Kong Observatory, the Information Services Department and etc.

The emergency medical care provided by the Crew Officer is quite different from the usual practice. Most scenarios are in unstable conditions, chaotic environments with time and space constrain. Officers not only need to take care of the survivor but also handle the packaging, winching, and aviation safety stuff. Most common emergencies from survivors range from heat illness, medical emergencies, and heart attack to major trauma. Thus, the care mode, guidelines, equipment and training are talent made with the support of evidence-based practice

to meet the service needs.

In August 2000, the GFS and the Hong Kong College of Emergency Medicine jointly organized the "Air Medical Officer Programme" to train medical personnel to become Air Medical Officers and Air Medical Nursing Officers under the GFS Auxiliary Section. It aimed to equip them with the skills necessary to provide emergency treatment to injured or sick individuals on-site and during transit to the hospital. The team synergizes with the Crew Officers to provide quality emergency care to the survivors in a safe and efficient manner.

ABSTRACTS

Prehospital Emergency Care 2

Introduction of Ambulance and First Aid Services of Hong Kong St. John Ambulance

Dr. Hin-Keung Wong
Chief Superintendent
Administrative Region
New Territories Command
Hong Kong St John Ambulance Brigade

Dr. Wong graduated from the Faculty of Medicine, The University of Hong Kong in 1994. He became a specialist in Orthopaedics and Traumatology in 2003. He obtained his Master of Medical Sciences from The University of Hong Kong in 2008. He is currently the Chief of Service and Consultant of the Department of Orthopaedics & Traumatology, Princess Margaret Hospital and North Lantau Hospital. He is also an Honorary Clinical Associate Professor of the Department of Orthopaedics & Traumatology, Faculty of Medicine, The Chinese University of Hong Kong. He joined Hong Kong St. John Ambulance in 2012. He is currently the Chief Superintendent of the Administrative Region of the New Territories Command, Hong Kong St. John Ambulance Brigade and the Chairman of the Board of Public Relations and External Affairs of Hong Kong St. John Ambulance Association. He is also an instructor of Pre-hospital Trauma Life Support, Advanced Medical Life Support and Cardo-pulmonary Resuscitation & Automated External Defibrillation.

Abstract

Hong Kong St. John Ambulance is a charitable organization with a long history stretching back over a century and has been serving the community since 1884.

In Hong Kong, the St. John Ambulance Association was established in 1884, followed by the St. John Ambulance Brigade in 1916 and the Council in 1949. Adhered to its motto, “For the Service of Mankind”, the organization is dedicated to provide First Aid and ambulance services in emergency, dental care for the elderly and patients with special needs, youth services and courses of instructions on First Aid and Home Nursing for the general public. Fully equipped ambulances are stationed in three depots, attending to emergency calls from residents of Hong Kong Island, Kowloon and the New Territories on 24-hour basis. The emergency number is 1878 000 and the service is free.

In addition, we provide ambulance transfers to private hospitals and cross-cluster services. These ambulances are also available upon prior arrangement at races, sports meetings, walkathons and other public events with large number of people in attendance. On request from the public, members of the Brigade will be assigned to duties of any kind, for provision of first aid or allied services to the public on voluntary basis. However, since all members of the Brigade are volunteers from all walks of life, the First Aid teams are generally confined to duties over weekends and on public holidays, at athletic meets, football matches, races, sponsored walks and other public gatherings where people gather in large crowds and casualties are expected.

The trial run of the Cycle Response Unit (CRU) was started in 2006 and the first CRU was formed in 2009. We provided free emergency first aid services to support some large-scale public activities e.g. marathon, triathlon etc. CRU has started to provide regular services in Tai Po and Nam Sang Wai at weekends since 2016 and extended the services in Tsuen Wan in 2022.

ABSTRACTS

Prehospital Emergency Care 2

Volunteerism in Medical and Health Services

Mr. Alex YK Wong
Chief Staff Officer
Auxiliary Medical Service

Mr. Wong graduated with a Bachelor degree in Nursing from the Hong Kong Polytechnic University in 1995, Mr. WONG Ying-keung first worked as an emergency nurse in a public hospital for two years until he joined the Fire Services Department as an ambulance officer. From 1997 to 2019, Mr. WONG had been posted to different areas of work including frontline operations, training, headquarters administration, and community emergency preparedness education.

Until June 2019, Mr. WONG was appointed by the government as the Chief Staff Officer of the Auxiliary Medical Service (AMS), its Head of Department. Upon assuming the position, he led his team to provide almost 20 types of services to support the fight against the 3-year COVID epidemic. Besides, he also designed programs for the young generation to have early exposure to the medical and health profession. Currently under his supervision, AMS is working towards a new initiative to augment the delivery of community based health services.

Abstract

All over the world volunteers play significant roles in a vast variety of services for the needy. Such areas cover welfare, education, animal care, environment, community development, and lots of others. Some even require specialized training with work in a risky environment like volunteer firefighters, auxiliary police, etc. In the medical and health service industry, volunteers also contribute in different areas.

Locally, a lot of volunteers could be seen in hospitals to provide multi-faceted help, like guiding visitors, assisting patients, delivering specimens, and many others. The “flying doctors and nurses” of the Government Flying Services (GFS) volunteer themselves to provide specialist trauma and emergency treatment to the patients on board aircrafts during rescue operation.

The Auxiliary Medical Service (AMS), as a government department, commands more than 3000 volunteers to render a wide range of health and medical services to the public. From different walks of life, the volunteers sacrifice their personal time to serve the community. First aid service is one of the major areas. Others include augmenting non-emergency ambulance service, manning of methadone centres, providing public health education, and even assisting decontamination in case of territory-wide radioactive incidents.

During the 3-year COVID-19 epidemic in Hong Kong, AMS provided and augmented 20 types of services. Conveyance of close contacts and confirmed cases between quarantine centres (QC), hospitals and different places was the top-listed service. The volunteers even assisted in serving penalty tickets to non-compliance cases, marking the first ever law enforcement duty in the 73-year history of AMS. Others include manning of medical posts in QC, dead body handling in mortuaries, etc.

Managing such a vast contingent of volunteers is a big challenge. The speaker would share his views about the past and present of volunteerism in AMS. He would also project the future development including training in community-based healthcare concepts to the members, and its plans to nurture the young generation.

ABSTRACTS

General Emergency Medicine 2

Infectious Disease Emergencies

Dr. Patrick HK Tsang
Consultant Emergency Medicine Physician
Emergency Medicine Centre
CUHK Medical Centre

Dr. Patrick Tsang graduated from The Chinese University of Hong Kong in 2002. He then started training in general medicine and critical care medicine and got his first fellowship in Critical Care Medicine in 2010. To continue improvement in patient care, he further explored in the field of Toxicology and Emergency Medicine and attained the Diploma in clinical toxicology of the Hong Kong College of Emergency Medicine and his second fellowship in Emergency Medicine in 2018.

Dr. Tsang has special interest in infectious disease. He obtained the post graduate diploma in Infectious Diseases, the University of Hong Kong in 2009. He was previously the Infection Control Link Officer of the Accident and Emergency Department, North Lantau Hospital. He was the founding member of EM ID subcommittee since 2016. He also helped the subcommittee to establish the annual practical infectious disease workshop for Emergency Medicine physician. He will share with us the topic “Infectious disease emergency, from the perspective of EM physician”.

Abstract

An emergency can be defined as any sudden serious or dangerous event or situation requiring immediate action to deal with. Emergency medicine (EM) physicians commonly encounter patients presented with different emergency conditions (e.g., trauma, acute myocardial infarction, acute respiratory failure, acute abdomen) which if not promptly addressed, can compromise patient’s life. Infectious disease emergency (e.g., infection due to highly infectious microorganisms) in addition can jeopardize the health of medical team members if not identified in time and if medical personnel not protected with appropriate personal protection equipment. EM physicians, often considered as the gatekeeper of the hospital, also play a pivotal role in identifying infections of public health interest and to notify the government concerned to curb the spread of infection. With the resolution of the COVID-19 pandemic and resumption of travel between places, easily forgotten but important infections (e.g., malaria) may emerge again. This talk will outline some practical tips in early recognition and handling of infectious disease emergency in the accident and emergency department.

ABSTRACTS

General Emergency Medicine 2

Team-Based Trauma Resuscitation: Do the Most but the Shortest Time

Dr. Irene Lo
Consultant Surgeon
Department of Surgery
Queen Elizabeth Hospital

Dr. Irene Lo is a HBP consultant surgeon currently working in QEH. She is also the Kowloon Central Cluster (KCC) Trauma Director. Besides actively involved in teaching Advanced Trauma Life Support (ATLS) and Advance Surgical Trauma Course (ASTC) for years, she is also a qualified simulation trainer, coaching airway management and CPR simulation training in QEH. She is the course director of the Trauma Team Leadership Training Course (QEH) which provides simulation training focus on team- based trauma resuscitation.

Abstract

In HK, our trauma centers are of level I standard. We have abundant availability of ATLS providers from all trauma related sub-specialties. Technical support from intervention radiology and operating theater are also always promising. Therefore, in our daily practice, trauma resuscitation procedures are always team-based rather than an alone situation occurs in remote countryside area.

How can a team of experienced ATLS providers take the advantage of our build-in abundancy to deliver efficient airway, breathing and circulation management simultaneously instead of many repeated individual one-by-one sequence?

Clinical outcomes are always related to timing. When a team of individual experienced ATLS providers are working together under pressure to save life, how can we cooperate in an efficient way to achieve “do the most but the shortest time “?

ABSTRACTS

General Emergency Medicine 2

Geriatric Trauma with Orthopedic Injuries - A Multi-disciplinary Approach

Dr. Albert YC Hsu
Consultant
Department of Orthopaedics and Traumatology
United Christian Hospital

Dr. Albert Hsu graduated from Faculty of Medicine, the University of Hong Kong in 2001. He joined the Department of Orthopaedics & Traumatology, United Christian Hospital since 2002. He obtained his orthopaedic fellowship – FRCS (edin), FHKCOS, FHKAM (ortho) in 2008, and his orthopaedic rehabilitation subspecialty fellowship – FHKCOS (rehab) in 2018.

He has developed special interests in fragility fracture management. He pioneered in setting up the combined fragility fracture doctor and nurse clinic in 2013, and the first orthogeriatric specialty ward in Hong Kong in 2015. His mutidisciplinary orthogeriatric team has won local and international recognitions, including Merit award in HA Convention 2016, and the Best Practise Framework recognition (bonze level) of the Capture the Fracture Programme, International Osteoporosis Foundation, in 2018 (the first Hong Kong center receiving such recognition).

Abstract

With aging population, proportion of geriatric in trauma cases have been increasing over years. Hong Kong, being a city with the highest life expectancy since 2013 in the world, also witnessing increasing trend of geriatric trauma. Fractures are the most common presentation of geriatric trauma in view of concomitant osteoporosis. The injury mechanism is usually trivial, most commonly fall on level ground. Yet it can still result in similar severity of injury sustained by younger adult at much higher energy. The underlying aging, frailty syndrome, pre-existing comorbidity and medications result in challenge in identification and management of injury. Moreover, function and disability have multiple dimensions, affected by various factors including patients' activity, personal and environmental factors. Hence multi or even inter-disciplinary approach, with early geriatric intervention including comprehensive geriatric assessment is needed to ensure better outcomes during the early perioperative and long-term rehabilitation phase. Geriatric hip fractures, one commonest form of geriatric orthopaedic trauma, could be a good example of such approach. The local data of ortho-geriatric co-management and inter-disciplinary approach for hip fracture care will be presented to explain the potential benefits of such model of care.

ABSTRACTS

ASEM 25th Anniversary Webinar

Overview of ASEM in the Past 25 Years

Dr. Pauline Convocar
President
Asian Society for Emergency Medicine

Dr. Pauline Convocar is the current President of the Asian Society of Emergency Medicine and Chair of the Specialty Implementation Committee of International Federation of Emergency Medicine. She is Past President of the Philippine College of Emergency Medicine (PCEM) and current Chair of Section on Advocacy.

She finished her training in emergency medicine specialty from the University of the Philippines-Philippine General Hospital and postgraduate studies in the field of community healthcare management and occupational medicine. She is presently pursuing her Doctorate Degree in Public Heath – Health Promotion and Education from the University of the Philippines – Manila.

She is affiliated with the Manila Doctors Hospital as the Chair of the Emergency Department Services. She is one of the founding faculty members of the emergency medicine residency training programs of the Corazon Locsin Montelibano Memorial Medical Hospital in Bacolod City and Southern Philippines Medical Center (SPMC) in Davao City, Philippines.

Abstract

In commemorating the 25th anniversary of the Asian Society for Emergency Medicine, this presentation delves into the review of the organization's transformative journey over the past quarter-century.

Tracing its evolution, the session explores pivotal milestones, challenges overcome, and successes achieved, highlighting the significant contributions made to the field of emergency medicine across Asia.

Moreover, the presentation offers a period-in-time, forward-looking perspective as the rest of the webinar offers a platform to chart the roadmap for ASEM's future endeavors. By examining the past and envisioning the future, this session aims to inspire innovation, foster collaboration, and fortify the foundation for the next 25 years of excellence in Asian emergency medicine.

ABSTRACTS

ASEM 25th Anniversary Webinar

Clinical Services: How should ASEM Move in Provision of Clinical Services Over the Next 25 Years?

Prof. Abu Hassan Asaari Abdullah
Past President (2007-2009)
Asian Society for Emergency Medicine

Prof. Dato Sri Dr Abu Hassan Asaari Abdullah MBBS, FRCS (Edinburgh, FAMM, FAMS (Spore), FASEM is a very well known Medical Practitioner in Malaysia who is named as the “Father of Modern Emergency Medicine of Malaysia” for his effort in the redevelopment and establishment of the Emergency Medical and Trauma Services in Malaysia. He was trained as a Trauma Surgeon in the UK with a scholarship from the government of Malaysia and became the first Trauma Surgeon in Malaysia. He was appointed as the Head of Emergency Medical and Trauma Services of Ministry of Health Malaysia when he came back from United Kingdom in 1992 and while in that position he successfully established a well organised Emergency Medical and Trauma Service System, Universal Access number 999 system and also the Specialty of Emergency Medicine in Malaysia. Because of this great achievement, he was appointed as consultant to the Ministry of Health of a few countries including Indonesia and Sudan. After his retirement in 2017, he joined the corporate world of Healthcare Industries and heading many corporate bodies both in Malaysia and other countries.

Abstract

-

ABSTRACTS

ASEM 25th Anniversary Webinar

Education and Training: What Should ASEM Do to Promote EM Education and Training in Asia Over the Next 25 Years?

Dr. Tamorish Kole
Past President (2019-2021)
Asian Society for Emergency Medicine

Prof (Dr.) Tamorish Kole is the Board Member and Chief Functionary of Heart and Stroke Foundation of India (A subsidiary of the American Heart Association - AHA); advisor for emergency care training at Healthcare Sector Skill Council of India, Past President of Asian Society for Emergency Medicine, Past President of the Society for Emergency Medicine, India, & Vice Chair of the clinical practice committee of International Federation for Emergency Medicine (IFEM). He also serves as a Visiting Professor at University of South Wales in UK and is a member of IFEM-WHO Taskforce. Dr Kole is an alumnus of The International Visitor Leadership Program of US Government for the year 2013 in Crisis and Disaster Management. He is recently nominated as an expert of International Society for Quality in Health Care (ISQua) from India.

Abstract

In 2005, the World Health Organization (WHO) published recommendations for actions regarding emergency medical systems in low- and middle-income countries (LMICs). It was observed that emergencies are inevitable occurrences, and they utilised assets irrespective of the system's ability to attain favourable outcomes. However, improved planning, training, and capacity building resulted in the development of evidence-based EC systems tailored to the needs of LMICs. Due to increasing demand, massive expansion of emergency services across Asia, and glaring skill gaps, there is a staff shortage inside and outside the hospital to provide adequate care. This situation is worsened by violence against ED staff, paramedics, stress due to systemic burnout and COVID Pandemic.

Roadmap for upskilling in Asia
First, we must address the skill gap; there is no quick fix. While educational pathways for emergency medicine are established now in many countries, it is evident that it will take years to match the demand. In the interim, we must establish capacity-building measures in Phygital mode. This was tested and proven very useful during the COVID-19 pandemic. ASEM is already organising educational webinars for all professionals.

Second, Asia's prevailing scarcity of nursing professionals leads to a poor nurse-to-patient ratio. For example, as per WHO norms, India needs to add 4.3 million nurses by 2024. Additionally, limited resources for nurses' training to provide emergency and critical care is another problem. This has posed challenges during the COVID-19 pandemic; therefore, there is a dire need to enhance nursing training programs in emergency care.

Finally, the prehospital care professionals are coming under the ambit of the proposed Allied Health Council. A National Blueprint can only ensure standardisation of care and monitoring of good medical practice for emergency medical care.

Future Direction - Augmented Reality-Virtual Reality-eXtended Reality

eXtended Reality (XR) describes a continuum of immersive computing experiences that includes both Augmented Reality (AR) and Virtual Reality (VR). Furthermore, their development in recent years has enabled the implementation of simulation-based education (SBE) beyond the boundaries of the simulation laboratory, allowing SBE to become asynchronously accessible to learners across diverse global locations. These SBE approaches successfully inoculate stress among resuscitation team leaders in a psychologically safe learning environment, improve their situational awareness, decrease anxiety, and promote team building. Emergency medicine-based solutions are available across Asia and they must be tested, tried and encouraged.

ABSTRACTS

ASEM 25th Anniversary Webinar

What Is the Scope for Inter-Asian Collaboration in Research to Produce Asia-Based Evidence?

Prof. Venkataraman Anantharaman
Founding President
Asian Society for Emergency Medicine

Prof. Anantharaman is Emeritus Consultant at the Department of Emergency Medicine, Singapore General Hospital. He is Clinical Professor at the National University of Singapore and Duke-NUS Medical School and Adjunct Professor at Lee Kong Chian Medical School, Nanyang Technological University. He previously chaired the National Resuscitation Council, the College of Emergency Physicians, Singapore, Ministry of Health's Emergency Medicine Services Committee and Ministry of Home Affairs' Medical Advisory Committee. Professor Anantha was Chairman of his Emergency Department for nine years, founder President of the Society for Emergency Medicine, Singapore and the first President of the Asian Society for Emergency Medicine. He was the first Asian to be awarded the Order of the International Federation for Emergency Medicine. He has been one of the most active Asians in the international emergency medicine scene. He has published more than 130 scientific papers, and nearly 30 book chapters.

Abstract

Even though Asia occupies the largest land mass in the world and is home to 60% of the world's population, and Asians are built slight differently from counterparts in the rest of the world, the bulk of the science on which emergency care in Asia is based comes from the West which houses less than 17.5% of the people in the world. Asians also find it more convenient to copy from the west.

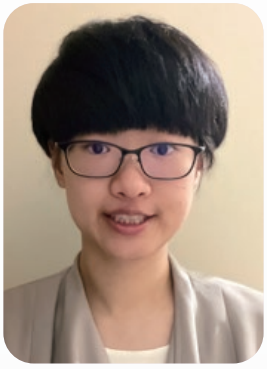
The last decade has produced two major emergency medicine research networks, PAROS and PATOS. Though the reach of these networks in the countries of Asia is not yet wide, they offer hope to those who wish to embark on Asia-based research programs. There is a need to create systems that allow the gathering of data from the majority of Asian countries and use these as the bases for understanding disease profiles and managing acute disease processes within Asia.

The challenges we face include Research governance, education of emergency physicians in research methodology and the need to understand the research needs of emergency physicians and emergency patients within Asia. Areas that need to be looked into include the creation of an Asian Emergency Medicine Research Registry for easier sharing of research ideas and outputs from Asia and a frequently produced Asian Journal of Emergency Medicine to provide more opportunities for Asian emergency physicians to publish. To get these going and encourage more Asia-based research, funding channels need to be established and standards of research work and publication to be world-class.

ABSTRACTS

Prehospital/ Transport Medicine

Critical Care Transport



Dr. Ping Wu
Associate Consultant
Intensive Care Unit
Tuen Mun Hospital

Dr. Wu work as associate consultant in the Intensive Care Unit of Tuen Mun Hospital. She also holds a European Diploma in Intensive Care and serves as instructor for various courses, including ventilator course, airway management, and ECMO training.

Abstract

Imagine you are tasked with safely transporting a patient on extracorporeal membrane oxygenation to another hospital. How would you plan the journey to ensure it would be “uneventful”? Transportation of critically ill patients could be hazardous. These patients often have deranged physiology, requiring invasive monitoring and organ support. Additionally, intervention during the transport could be challenging, with limited access to assistance and the potential for unexpected equipment problems. However, with careful planning and effective communication, it is possible to minimize the risks.

ABSTRACTS

Prehospital/ Transport Medicine

Maternal Transfer in Emergency Medicine: An Obstetrician's Perspective

Dr. Lee-Ting Kwong
Associate Consultant
Department of Obstetrics & Gynecology
Tuen Mun Hospital

Dr. Kwong graduated from The University of Hong Kong in 2013 and started her training in Obstetrics and Gynecology in Tuen Mun Hospital where she developed great interest in maternal and fetal medicine under good apprenticeship. After obtaining her specialist qualification in 2020, Dr Kwong was awarded Hong Kong Scholarship of Excellence and pursued Master of Science (Genomic Medicine) in Imperial College London where her interest in perinatal genetics cultivates. Currently, Dr Kwong is working in Tuen Mun Hospital as Associate Consultant and is under subspeciality training in Maternal and Fetal Medicine. She is devoted in improving safe maternity care and fostering perinatal mental health. Aside from being Advanced Life Support in Obstetrics (ALSO) instructor, Dr Kwong is actively engaging in coordinating various obstetrics emergency drills e.g. perimortem caesarean section, postpartum hemorrhage etc in her local hospital.

Abstract

Interhospital transfer of obstetric patients is common in our local setting to facilitate obstetric delivery care, tertiary maternal medical or surgical care, and neonatal intensive care. Over the past decades, we are facing a change in patients' populations to high risk obstetric group, e.g. advanced maternal age, obesity, complex medical and surgical background, conception by artificial reproductive technology and multiple caesarean sections. This brings along challenges in obstetric transport as we are expecting women with pregnancy-related hypertensive disorders, preterm labor, preterm prelabor rupture of membranes, antepartum or postpartum hemorrhage and more.

Several elements form the cornerstone of safe maternal transfer, including stabilization before transport, recognizing conditions which are not fit for transport, anticipation of difficulties and complications, and fetal monitoring. In this presentation, we shall discuss a spectrum of complex obstetric conditions, focusing on the key points to note during transport to facilitate safe obstetric care.

ABSTRACTS

Prehospital/ Transport Medicine

Prehospital Management of Sepsis in Adults — Advances and Challenges

Dr. Rex PK Lam
Clinical Associate Professor of Practice
Department of Emergency Medicine
The University of Hong Kong

Dr. Rex Lam is a Clinical Associate Professor of Practice in Emergency Medicine of the Department of Emergency Medicine, School of Clinical Medicine, Li Ka Shing Faculty of Medicine at the University of Hong Kong (HKU). He was the inaugural Chair of Speciality of the 24-hour Outpatient and Emergency Department of Gleneagles Hospital Hong Kong (GHK) under the HKU Health System from 2017 to 2022. Before joining HKU, he was the Deputy Service Director of the Hong Kong East Cluster Quality and Safety Office of the Hospital Authority.

A practicing emergency physician and medical teacher, Rex has a strong interest in clinical toxicology, management of medical emergencies and disaster response. In 2015, he collaborated with the François-Xavier Bagnoud Center for Health and Human Rights of Harvard T.H. Chan School of Public Health in conducting a multi-sectoral territory-wide scoping study on disaster preparedness of Hong Kong. Rex also seeks to improve patient-centred emergency care in Hong Kong through innovation and multidisciplinary partnership. Under his leadership, the emergency department of GHK has grown from a small unit to a recognised emergency care provider in the private healthcare sector in Hong Kong, with a nine-fold increase in the annual attendance within 5 years. In 2022, Dr Lam was awarded the Inaugural Clinical Service Excellence Award by the Li Ka Shing Faculty of Medicine of HKU.

Abstract

Sepsis is a time-critical medical emergency characterised by a dysregulated host immune response to in an infection, leading to organ dysfunction, multi-organ failure, shock and death. In the United States, the number of patients transported by emergency medical services (EMS) with sepsis exceeded those with acute myocardial infarction or stroke. In the face of an ageing population; increasing burden of chronic disease; growing use of immunosuppressive therapy, transplantation, chemotherapy, invasive procedures and devices; and the emergence of novel pathogens and multidrug-resistant infections, the burden of sepsis will continue to rise.

EMS is often the first medical contact with patients with sepsis. The prehospital phase represents opportunities for early sepsis recognition, risk stratification, notification of the receiving emergency department (ED) and prehospital resuscitation. However, prehospital sepsis screening and early treatment remain a daily challenge. Some of these challenges stem from the current Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3), which rely on an acute change in the Sequential Organ Failure Assessment (SOFA) score ≥ 2 for evidence of organ injury before a diagnosis of sepsis can be made. The calculation of the SOFA score in the prehospital environment is unrealistic. Unfortunately, the use of the vital sign-based quick SOFA score is no longer supported by the latest Surviving Sepsis Campaign Guidelines as a sepsis screening tool because of its low sensitivity.

The United Kingdom Sepsis Trust recommends EMS to screen for sepsis if patients clearly look unwell with presumed infection, or if they present with an individual National Early Warning Score (NEWS) of 3 or aggregate score of ≥ 4. Patients are further stratified into ‘Red Flag Sepsis’ and ‘Amber Flag Sepsis’ based on clinical criteria.

However, unlike in the UK, NEWS is not routinely calculated in Hong Kong. Prehospital point-of-care (POC) lactate testing may be useful in identifying septic patients with 'cryptic shock' and a level ≥ 4 mmol/L represents tissue hypoperfusion and anaerobic metabolism. End-tidal carbon dioxide (EtCO2) has also been recommended for prehospital sepsis screening because of its availability and association with lactate and in-hospital mortality. Notably, high-quality evidence from randomised controlled trials supporting routine prehospital use of POC lactate or EtCO2 for sepsis care is currently lacking.

Regarding prehospital treatment, supplemental oxygen and prehospital fluid resuscitation remain the mainstay but care must be taken to avoid fluid overload in susceptible patients, e.g., those with heart failure. The recent PHANTASi Trial that involved 10 large regional ambulance services and 2,698 patients in the Netherlands showed no survival benefit of giving antibiotics in the ambulance. The use of vasopressor in patients with refractory shock after fluid resuscitation is still highly restricted in many EMS.

Despite these challenges, EMS personnel still play an important role in early sepsis management in the whole acute care chain. A high index of vigilance and early notification may expedite subsequent sepsis care in the receiving ED and improve sepsis survival.

ABSTRACTS

Innovations in Emergency Medicine

BC 8-1-1: A Community Based Virtual Care Model for Emergencies

Prof. Kendall Ho
Professor in Emergency Medicine
University of British Columbia Faculty of Medicine
Canada

Dr. Kendall Ho is an emergency medicine specialist, Medical Director of BC Ministry of Health 811 Virtual Physician Program, a Professor in the University of British Columbia Faculty of Medicine and lead the Digital Emergency Medicine Unit. Dr. Ho is actively involved in digital health research in virtual health to increase access and quality of care, sensors and wearables in clinical monitoring for disease management, data analytics and artificial intelligence, and raising digital health literacy of patients and health professionals. Dr. Ho collaborates with provincial partners on establishing a learning health system for the BC Real Time Virtual Support Network. His body of work in digital health has received provincial and national awards. In 2022, he was awarded the BC Medal of Good Citizenship. He is a visiting professor of the Nanyang Technological University Lee Kong Chian School of Medicine, and an adjunct professor of the University of Victoria.

Abstract

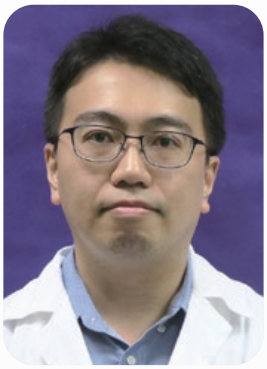
Overcrowding is a major issue for Emergency Departments globally. While statistics suggests that over 70% of patients presenting to ED likely don't need to use ED services, yet finding ways to reduce this volume can be challenging. In British Columbia, Canada, the 8-1-1 telephone service with a virtual interprofessional care team model of nurses, physicians, and pharmacists, have been established since the start of COVID to support patients at their homes, while reducing the need for many of these patients to present to ED if not necessary, thereby preserving the ED capacity. This presentation will explore:

1. How BC set up this 8-1-1 Virtual physician service in March 2020
2. The results of this service in supporting patient care and preserving ED capacity
3. The evolution of this service model and its expansion, including the use of machine learning and AI
4. How might there be collaboration with Hong Kong to explore a similar model

ABSTRACTS

Innovations in Emergency Medicine

Data is Petroleum – the Value of Digital Transformation and Digital Twin in Smart Healthcare and Smart ED



Dr. Chun-Tat Lui
Clinical Consultant
Emergency Department
Tuen Mun Hospital

Dr. Lui is a clinical consultant in the Emergency Department of Tuen Mun Hospital, Hospital Authority, Hong Kong. He is also the former chairman of Technology & Service Development Subcommittee of the Central Coordinating Committee of A&E Service of the Hospital Authority. He is the Chairman of the IT IS Committee and the Convenor of Smart Hospital Committee of the New Territories West Cluster. He is involved in the policy, strategy and tactics development in adoption of various medical and operational technology under smart hospital.

Abstract

Digital transformation of clinical documentation and workflow in busy emergency department with high throughput would be a good role-model to illustrate the practicality and gained value to achieve a less-paper or paperless clinical worksite. Digitalization is not just a value of modernization and being environmentally friendly, but dramatic impact on enhancement of quality and safety care, and healthcare sustainability. Digital transformation is the key enabler of various innovative ED service reform on top of workflow automation, artificial intelligence and big data analytics on digitalized data for decision support to improve workflow efficiencies. In addition, telehealth and virtual ED service would need to ride on digital transformation as infrastructure, and they could be enriched with integration of Internet of Medical Things (IoMT). Digital healthcare data and clinical digital twin, will be the foundation of future healthcare revolution.

ABSTRACTS

Innovations in Emergency Medicine

Experience and Prospects of AI in EM Teaching and Clinical Application

Dr. Wilson WS Liu
Resident
Accident and Emergency Department
Caritas Medical Centre

Dr. Wilson Liu is a resident trainee from the Caritas Medical Centre.

Dr. Liu graduated from the University of Hong Kong as Bachelor of Medicine and Bachelor of Surgery in 2021. During his study, he was awarded the Professor Michael Colbourne Prize for a clinical research under Human Research Project on the subject “HPV Knowledge, Risk Perceptions and Perceived Need for Safer Sexual Behaviour Among Hong Kong Female University Students with Different HPV Vaccination Status - A Comparative Cross-sectional Study”. He also earned the Regional Final Hult Prize second place held in Shanghai, competing with fifty teams from around the world on social startup ideas.

He represented Hong Kong and attended the annual conference for the International Federation of Medical Students’ Associations held in Tanzania in 2017. He gave a presentation on artificial intelligence in the Emergency Medicine Residents Forum held during the Annual Conference of Taiwan Society of Emergency Medicine in 2023.

Abstract

The use of artificial intelligence (AI) has revolutionised every industry, and emergency medicine (EM) is no exception. Hong Kong has been harnessing the power of AI to enhance the efficiency and productivity of emergency physicians to tackle the increasing need for fast and accurate medical service for the community. This presentation outlines the experience and prospects of AI in EM teaching and clinical application.

One of the most important applications of AI is in clinical imaging, to reduce perceptual errors of physicians. AI has been utilised in the interpretation of chest X ray (CXR), Hip X ray and images of computed tomography (CT) of the brain. CXR and Hip X ray AI run on the in-house model developed by the Hospital Authority (HA), while third party solutions are also available for the screening of CT brain images. They have shown promising results regarding the accuracy of results and satisfaction among physicians.

More projects involving AI are also underway. AI assisted triage has been under development to boost efficiency and consistency of triage results. An upcoming pilot study is planned. In the future, it is looking to integrate the past medical histories of patients and clinical prediction scores to improve the stratification of patients.

The principle of implementation of AI in EM is for decision support instead of decision making. It is of clinicians' liability to exercise clinical judgement. Albeit the accuracy of AI is on par if not better in some aspects, it is not without limitations. The success of AI application in EM hinges on improvements regarding the development of AI, pipeline leading to implementation of AI and involvement of physicians in the process. Building trust among the users is the prerequisite of increasing adoption of AI among EM physicians.

ABSTRACTS

Sponsored Lecture *(Sponsored by AstraZeneca)*

Asthma Update: Key Highlights from GINA 2023

Prof. Roland Buhl
Professor of Medicine
Johannes Gutenberg University of Mainz
Germany

Roland Buhl is Professor of Medicine at Johannes Gutenberg University of Mainz and Head of the Pulmonary Department at Mainz University Hospital, Germany.

After qualifying in medicine and obtaining his Doctor of Medicine degree from the University of Heidelberg, Professor Buhl started his professional career at the Pulmonary Hospital in Berlin and then joined the Pulmonary Department at Frankfurt University Hospital, Germany. In addition, he spent several years as a Research Fellow of the International Molecular Medicine Foundation at the Pulmonary Branch of the National Institute of Health, Bethesda, USA.

Professor Buhl's research and main clinical interests focus on the pharmacology and management of chronic obstructive airway diseases, in particular asthma and COPD. He is a member of the GINA Science Committee, currently Chair of the German Asthma Guideline Committee and member of the German Immunotherapy and COPD Guideline Committees. 2019 - 2020 he served as visiting professor at Harvard Medical School, Boston, USA. He has published more than 400 peer-reviewed papers, book chapters, editorials and reviews on these topics and is actively involved in clinical trials investigating novel treatments.

Abstract

The new term, 'anti-inflammatory reliever (AIR)', including as-needed ICS-formoterol and as-needed ICS-SABA combinations, reflects both the increasing importance and dual purpose of these reliever inhalers. It is important to distinguish between as-needed use of an anti-inflammatory reliever on its own ('AIR-only') in treatment steps 1–2, and maintenance and reliever therapy ('MART') with ICS/formoterol in steps 3–5. The GINA 2023 treatment figure for adults and adolescents has been updated to include as-needed combination ICS-SABA (an anti-inflammatory reliever) in GINA Track 2, based on a clinical trial in patients taking GINA steps 3–5 maintenance treatment, showing that using budesonide-salbutamol as the reliever reduced the risk of severe exacerbations, compared with a salbutamol reliever. Importantly, ICS-SABA is not recommended for regular maintenance therapy, so it cannot be used for maintenance and reliever therapy. Even so, GINA Track 1 with as-needed ICS-formoterol remains the preferred treatment approach for adults and adolescents.
In the GINA 2023 treatment figure for children 6–11 years mepolizumab, an anti-interleukin-5 antibody has been added to the preferred maintenance treatment options at step 5 for children with severe eosinophilic asthma, after optimization of treatment.

The recommendations to choose the right inhaler for the right patient now include environmental considerations: First, choose the most appropriate medication for the patient to reduce exacerbations and control symptoms and then, from the inhalers available for that medication, assess which inhaler the patient can use correctly after training. If there is more than one option, choose the inhaler with the lowest environmental impact, if the patient is satisfied with this specific inhaler. Reducing the risk of asthma exacerbations is a high-priority objective because of their burden to patients and to the healthcare system; urgent health care also has a high environmental impact.

The definition of mild asthma has been updated to highlight the limitations of the current retrospective definition of mild asthma, and the contrast between this academic definition and the common usage of 'mild asthma' in respiratory literature and in clinical practice. In severe asthma GINA recommends biologic therapy for asthma if asthma is severe, and if existing treatment has been optimized. With expanding indications for biologic therapy, additional non-asthma indications are mentioned if they are relevant to asthma management, or if the condition is commonly associated with asthma.

Advice has been added about management of asthma if patients acquire COVID-19, including potential drug interactions between anti-COVID-19 treatment such as ritonavir-boosted nirmatrelvir (NMV/r) and asthma medications including ICS-salmeterol and ICS-vilanterol. This advice is included because several key drug interaction websites recommend that LABAs should be stopped if NMV/r is prescribed, without advising that this could result in an asthma exacerbation. Advice about drug interactions has also been added in the section about management of allergic bronchopulmonary aspergillosis.

Finally, new evidence has been included about the benefit of physical activity in adults with moderate/severe asthma and additional evidence has been included about the safety of influenza vaccination in people with asthma. As yet, there is insufficient evidence to recommend routine pneumococcal or pertussis vaccination in adults.

FREE PAPER PRESENTATION 1*

Abstract Titles	Presenters
Ab. 01: Effectiveness of A Simulation-Based Training Course on Procedure Sedation and Analgesia	Dr. Lok-Sang Yuen
Ab. 02: Combination of the National Early Warning Score (NEWS) and Inflammatory Biomarkers Improves Risk Stratification of Suspected Sepsis Patients in Emergency Department	Dr. Ryan Y Chu
Ab. 13: Questionnaire Survey on Point-of-Care Ultrasound (POCUS) Utilization During Cardiac Arrest Among Emergency Physicians in Hong Kong	Dr. Kwong-Tat Lo
Ab. 15: Prognosis of Geriatric Patients Presenting with Decreased General Condition Compared to Those with Specific Complaints	Dr. Ka-Yan Lung
Ab. 04: The Determination of Causality of Chinese Herbal Medicine Related Hyponatremia	Dr. Ping Wu
Ab. 30: Relationship between Apparent Temperature and Incidence and Outcome of Out-of-hospital Cardiac Arrest (OHCA) in Hong Kong: A Retrospective Observational Study	Dr. Ella PY Chan

FREE PAPER PRESENTATION 2#

Abstract Titles	Presenters
Ab. 36: Comparing Acute Toxicities of Co-Exposure to Cocaine and Ethanol Versus Cocaine Alone in Emergency Department Patients in Hong Kong	Dr. Kwun-Lok Cheung
Ab. 09: Comparing Accuracy of Clinical Prediction Rules to Predict Pneumonia in Children and Adolescents with Acute Febrile Respiratory Illness	Dr. Yuet-Hong Wu
Ab. 20: Impact of COVID-19 on Major Trauma Patients in Hong Kong	Dr. Ho-Lam Chung
Ab. 27: 3 Parts Retrospective Cohort Study: Association, Pathophysiology and Prognostic Value of Hypercalcemia in COVID-19 Infection	Dr. Wing-Hung Lau
Ab. 29: Burnout in Emergency Physicians in Hong Kong: A Cross-sectional Study on its Prevalence, Associated Factors and Impact.	Dr. Tsz-Kit Chan
Ab. 34: A Comparative Study between Point-of-Care Hemoglobin (Capillary Samples) and Laboratory Hemoglobin Result (Venous Samples)	Dr. Chun-Hiu Yu
Ab. 35: Google Trends and Surveillance of Abusive Drug Use in Hong Kong	Dr. Yu-Tai Chan

ABSTRACTS (FREE PAPER PRESENTATION)

Ab01

Effectiveness of a Simulation-Based Training Course on Procedure Sedation and Analgesia

Dr. Lok-Sang Yuen
North Lantau Hospital

Objective

To elevate the effectiveness of an interprofessional simulation-based training on procedural sedation and analgesia (PSA).

Methods

We conducted a retrospective study comparing the pre and post-course test scores of the participants. Participants were also asked to rate their self-perceived level of competence before and after the course.

Results

From the period of June 2021 to June 2022, a total of six half day sessions were held. Totally 117 participants completed both the pre-course and post-course assessments. There is a mix of doctors and nurses with different levels of clinical experience in the participants. The mean score in the pre-course test was 13.7, and the mean score in the post-course test was 16.7, with a mean difference of 2.4 (95% confidence interval 1.8-2.9, p-value <0.001). The improvement in the post-course assessment score for doctors and nurses were compared. The mean in test improvement for doctors was 1.7, while that for nurses was 3.1. The nurse group had greater improvement by 1.4 points (95% confidence interval 0.3 – 2.5, p value =0.01). The improvement in post-course test was similar between less experienced and more experienced participants. The self-perceived competence level rose with an average of 0.8 (95% confidence interval 0.7-1.0, p-value <0.001).

Conclusions

Simulation training in medicine is an effective tool for healthcare professional to acquire knowledge, skills and techniques, regardless of their pre-existing experience or background. It significantly improves the confidence level of our participants in delivering safe and high quality PSA.

Figure 1. Improvement in assessment score across different experience level

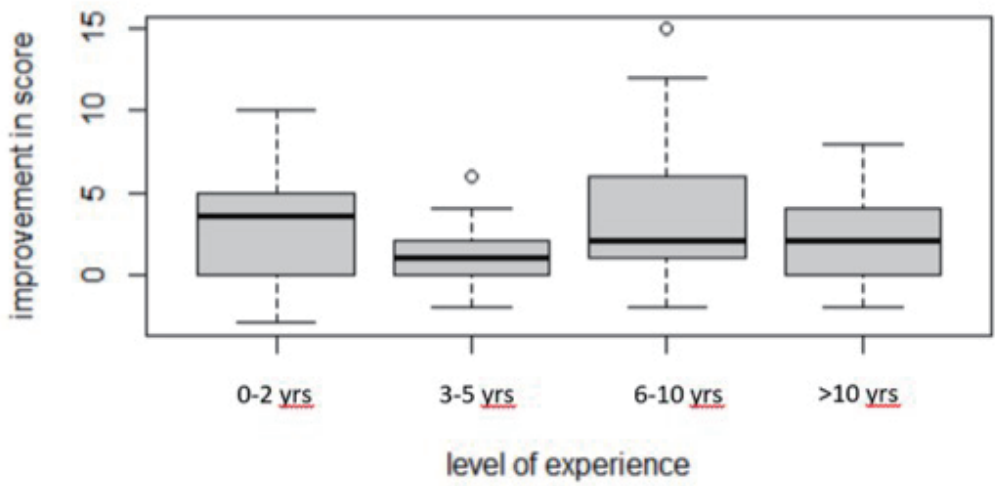


Table1. Characteristics of participants

Profession		Number (percentage)
Nurses		59
Years of clinical experience	0-2	15 (25%)
	3-5	6 (10%)
	6-10	16 (27%)
	>10	22(37%)
Doctors		58
Years of clinical experience	0-2	15 (26%)
	3-5	24 (41%)
	6-10	6 (10%)
	> 10	13 (22%)

ABSTRACTS (FREE PAPER PRESENTATION)

Ab02

Combination of the National Early Warning Score (NEWS) and Inflammatory Biomarkers Improves Risk Stratification of Suspected Sepsis Patients in Emergency Department

Dr. Ryan Yui Chu
Kwong Wah Hospital

Objective

The National Early Warning Score (NEWS) is a useful tool for early risk stratification of sepsis patients in emergency department (ED). This study aimed to investigate whether the prognostic value of the NEWS at ED admission could be further improved by adding inflammatory biomarkers (white blood cell (WBC), C-reaction protein (CRP) and procalcitonin (PCT).

Methods

This retrospective study analyzed data of 204 adult patients with suspected sepsis between January 1, 2021 and December 31, 2022. NEWS was calculated and blood inflammatory biomarkers were retrieved. The primary outcome was all-cause 30-day mortality. Secondary outcome was intensive care unit (ICU) admission. We used regression analyses to investigate associations of NEWS and biomarkers with outcomes and area under the receiver operating curve (AUC) as a measure of discrimination.

Results

The NEWS alone showed fair prognostic accuracy for all-cause 30-day mortality (AUC 0.740). The AUCs for the prediction of mortality using the inflammatory biomarkers WCC, CRP and PCT were 0.579, 0.604 and 0.711, respectively. Combining NEWS with all three inflammatory biomarkers or only with PCT clearly improved discrimination with an AUC of 0.792 (p=0.022) or 0.773 (p=0.040). Combining NEWS with all three inflammatory biomarkers or only with PCT also improved prediction of ICU admission (p=0.012 and 0.031 respectively).01).

Conclusions

NEWS is helpful in risk stratification of suspected sepsis patients at ED admission and can be further improved by the addition of inflammatory biomarkers, which encourages ED physician to pay attention not only patients' vital signs, but also better to obtain inflammatory biomarkers, especially PCT, when evaluating suspected sepsis patients. This also provides a baseline biomarker levels to help medical department for further level changes and trend for better patient management.

Table 2. Regression analysis for associations of NEWS and inflammatory biomarkers with primary and secondary outcomes

	30-day Mortality			ICU admission		
	Events, n (%)	**OR (95% CI)**	**P value**	**Events ,n (%)**	**OR (95% CI)**	**P value**
Total cohort	85/204 (41.67)			52/204 (25.49)		
NEWS						
Low	25/102 (24.51)	Ref.			Ref.	
Moderate	22/47 (46.81)	2.71 (1.31-5.62)	0.007	5/102 (4.90)	9.09 (3.06-27)	<.001
High	38/55 (69.09)	6.89 (3.32-14.26)	<.001	15/47 (31.91)	26.99 (9.48-76.86)	<.001
Continuous		1.34 (1.21-1.48)	<.001	32/55 (58.18)	1.35 (1.22-1.5)	<.001
WBC						
4.0-10.0	17/66 (25.76)	Ref.		4/66 (6.06)	Ref.	
10.01-15.0	26/59 (44.07)	2.27 (1.07-4.83)	0.033	14/59 (23.73)	4.82 (1.49-15.63)	0.009
>15.0	36/70 (51.43)	3.05 (1.48-6.3)	0.003	31/70 (44.29)	12.32 (4.04-37.6)	<.001
<4.0	6/9 (66.67)	5.77 (1.3-25.62)	0.021	3/9 (33.33)	7.75 (1.39-43.09)	0.019
Continuous		1.05 (1.01-1.09)	0.025		1.12 (1.07-1.17)	<.001
CRP						
1st quartile	17/51 (33.33)	Ref.		9/51 (17.65)	Ref.	
2nd quartile	20/52 (38.46)	1.25 (0.56-2.8)	0.588	8/52 (15.38)	0.85 (0.3-2.41)	0.757
3nd quartile	20/51 (39.22)	1.29 (0.57-2.9)	0.537	13/51 (25.49)	1.6 (0.61-4.16)	0.338
4nd quartile	28/50 (56.00)	2.55 (1.14-5.7)	0.023	22/50 (44.00)	3.67 (1.47-9.12)	0.005
Continuous		1.01 (1-1.01)	0.005		1.01 (1-1.01)	<.001
PCT						
1st quartile	7/52 (13.46)	Ref.		3/52 (5.77)	Ref.	
2nd quartile	24/50 (48.00)	5.93 (2.25-15.66)	<.001	10/50 (20.00)	4.08 (1.05-15.85)	0.042
3nd quartile	21/51 (41.18)	4.5 (1.7-11.9)	0.002	13/51 (25.49)	5.59 (1.49-21.02)	0.011
4nd quartile	33/51 (64.71)	11.79 (4.42-31.46)	<.001	26/51 (50.98)	16.99 (4.68-61.62)	<.001
Continuous		1.03 (1.01-1.05)	<.001		1.02 (1.01-1.04)	<.001

Table 3. Discriminative performance of NEWS and biomarkers for the prediction of primary and secondary outcomes

	AUC (95% CI)		AUC (95% CI)	
	30-day mortality	**P value**	**ICU admission**	**P value**
NEWS	0.740 (0.670-0.811)		0.826 (0.763-0.889)	
WBC	0.579 (0.496-0.661)		0.727 (0.642-0.811)	
CRP	0.604 (0.524-0.683)		0.652 (0.562-0.742)	
PCT	0.711 (0.641-0.781)		0.758 (0.683-0.832)	
All combined	0.792 (0.726-0.858)	0.022	0.901 (0.859-0.942)	0.012
NEWS and WBC	0.753 (0.683-0.823)	0.336	0.851 (0.790-0.913)	0.138
NEWS and CRP	0.773 (0.706-0.839)	0.059	0.857 (0.806-0.907)	0.177
NEWS and PCT	0.773 (0.705-0.840)	0.040	0.869 (0.818-0.921)	0.031

ABSTRACTS (FREE PAPER PRESENTATION)

Ab04

The Determination of Causality of Chinese Herbal Medicine Related Hyponatremia

Dr. Ping Wu[1], Dr. Chi-Keung Chan[2]
[1] Tuen Mun Hospital, [2]Hong Kong Poison Information Center

Background

Hyponatremia is one of the commonly enquired adverse effects related to Chinese Herbal Medicine (CHM) received by Hong Kong Poison Information Center. Hyponatremia as the adverse effect of the use of CHM however has never been investigated or reviewed.

Methods

This was a retrospective study evaluating the inquiries received by Hong Kong Poison Information Center about CHM related hyponatremia from 2008 to 2022 July. Cases were evaluated by 2 independent doctors (one physician and one clinical toxicologist) using the Adverse Drug Reaction Probability Scale (Naranjo algorithm), which is a scale validated for estimating the probability of adverse drug reactions. Percentage agreement and Kappa statistics were used to test interrater reliability.

Results

A total of 72 patients were evaluated to determine the possibility of CHM causing hyponatremia. Around 90% of the patients had biochemical profiles compatible with the syndrome of inappropriate secretion of anti-diuretics hormones. The majority (70.8%) of the patients had a probability likelihood of “Possible” as ranked by the Naranjo algorithm. 13.8% of the patients had the probability likelihood of “Probable” and 15.2% had the probability of “Doubtful”. In 19.5% of the hyponatremic patient taking CHM, no other apparent cause was found.

Conclusions

Among the inquiries of CHM related hyponatremia, most of the patients had the probability likelihood of “Possible” or “Probable” as ranked by the Naranjo algorithm. However, efforts must still be made to ensure no other alternative causes are present in a patient with hyponatremia taking CHM in order not to miss life-threatening underlying causes.

The above work has not been previously published.

Table 1. Demographic characteristics of study population (n = 72)

Variable	N = 72
Age (mean, standard deviation)	65.2, 16.9
Gender(female) N(%)	42 (58.3%)
Sodium level (mmol/L) Median (IQR)	116.5(121-110)
Serum osmolality (mOsm/kg) Median (IQR)	255(234-260)

Table 2. Adverse Drug Reaction (ADR) Probability Scale (Naranjo algorithm)

Likelihood	Frequency (N)	%
Doubtful	11	15.2
Possible	51	70.8
Probable	10	13.8
Definite	0	0

Table 3. Alternative causes for the hyponatremia

Alternative causes	Case number (%)
Infection related SIADH	14 (19.4%)
Malignancy related SIADH	12 (16.6%)
Endocrine related (including hypo-adrenalism and hypothyroidism)	10 (13.8%)
Antidiuretics related hyponatremia	10 (13.8%)
Anti-depressant/antipsychotics related SIADH	3 (4.1%)
Other drugs related SIADH	3 (4.1%)
Heart failure related hyponatremia	2 (2.7%)
Liver cirrhosis related hyponatremia	1 (1.3%)
Hyponatremia related to excessive water intake	1 (1.3%)
Hyponatremia related to reduce oral intake	1 (1.3%)
Diarrhea related hyponatremia	1 (1.3%)

Table 4. Agreement between observers applying the Naranjo Scale

Observer 1 / Observer 2	Doubtful	Possible	Probable	Definite	Total
Doubtful	11	0	0	0	11
Possible	1	49	1	0	51
Probable	0	2	8	0	10
Definite	0	0	0	0	0
Total	12	51	9	0	

97.2% agreement, kappa value of 0.878

ABSTRACTS (FREE PAPER PRESENTATION)

Ab09

Comparing Accuracy of Clinical Prediction Rules to Predict Pneumonia in Children and Adolescents with Acute Febrile Respiratory Illness

Dr. Yuet-Hong Wu[1], Dr. Jeremy Ho-Hei Chiu[3], Dr. Choi-Fung Tse[1], Dr. Fiona Yuet-Yan Chan[1], Dr. Kin-Ming Poon[2], Dr. Chun-Tat Lui[1]

[1] Tuen Mun Hospital, [2]Pok Oi Hospital, [3]Princess Margaret Hospital

Background

It is a common challenge for emergency physicians to differentiate pneumonia from simple upper respiratory tract infections. Several clinical prediction rules exist to assist the diagnosis process and guide the clinical decisions of ordering investigations such as chest X-ray (CXR).

Objective

This study aims to validate and compare the accuracy of various prediction rules in the setting of children and adolescents presenting with acute febrile respiratory illness.

Method

This was a prospective multicentre study. 355 patients, aged 6 to 18 years, were recruited. Patients with immunocompromised state or hypoxia were excluded. Pneumonia was defined as diagnosis by CXR or subsequent diagnosis of pneumonia upon re-attendance within seven days. Clinical rules including Diehr rule, Heckerling rule, Bilkis simpler rule, the Acute Febrile Respiratory Illness rule (AFRI), the Paediatric Acute Febrile Respiratory Illness rule (PAFRI) were compared in terms of accuracy of predicting pneumonia in the recruited subjects and presented as ROC curves.

Results

Five patients were excluded. In the 350 patients included, 38 were diagnosed as pneumonia by CXR and 1 was subsequently diagnosed as pneumonia upon re-attendance. The AUROC of Diehr rule, Heckerling rule, Bilkis simpler rule, AFRI rule and PAFRI rule were 0.703, 0.565, 0.59, 0.807 and 0.846 respectively. The PAFRI rule is superior to other prediction rules in terms of diagnostic accuracy. At the cut-off of PAFRI ≥ 0, the rule has high sensitivity of 97.44% and negative predictive value of 99.09%.

Conclusion

Among the rules compared, the PAFRI rule has the highest diagnostic accuracy in assisting emergency physicians to identify pneumonia among children and adolescents aged 6 to 18 years presenting with acute febrile respiratory illness.

ABSTRACTS (FREE PAPER PRESENTATION)

Ab13

Questionnaire Survey on Point-of-care Ultrasound (POCUS) utilization during cardiac arrest among Emergency Physicians in Hong Kong

Dr. Kwong-Tat Lo, Dr. Kin-Wing Suen
Queen Elizabeth Hospital

Introduction

Although Point-of-care Ultrasound (POCUS) is recognized as a useful diagnostic and prognostic tool during management of out-of-hospital cardiac arrest (OHCA), opposing viewpoints exist. The objectives of this study are to investigate the knowledge, attitude and practice in POCUS utilization during cardiac arrest among emergency medicine (EM) physicians in Hong Kong and to identify their barriers.

Methods

A cross-sectional survey was conducted among EM physicians in 9 Accident and Emergency Departments in Hong Kong. The survey assessed participants' demographics, knowledge, attitudes, practices and barriers on this issue. Composite scores for knowledge, attitude and practice (KAP) were calculated. Subgroup analysis and multiple regression analysis were used to explore the correlation between KAP and participants' demographics. Participants' barriers were evaluated by binary and open-ended questions.

Results

Total of 224 questionnaires were distributed and 150 questionnaires were returned (response rate: 67.0%). Statistically significant associations of knowledge and attitude with practice were demonstrated (both $p<0.001$). Independent predictors of more frequent POCUS use in OHCA included EM fellowship status ($p=0.005$), receiving training on this issue ($p<0.001$) and working in large hospital ($p=0.007$). The top-ranked barriers were chaotic environment (74%), no structural education on this practice (63%) and the lack of staff (61%).

Conclusion

The knowledge and attitude of performing POCUS during cardiac arrest were demonstrated to enhance EM physicians' practice. By improving physicians' knowledge and removing the possible barriers they are facing, POCUS can be optimally utilized during cardiac arrest to improve patient care.

TABLE 1: Domains of questions in the survey

No.	Questions	Remarks
Demographics of the participants		
Knowledge on POCUS utilization in cardiac arrest *(Total score: 8-40)*		
Q1K	**Number of cardiac arrest cases you manage per month**	5 choices provided in each questions. Score range for each question: 1-5. Q7K required participants to write in words
Q2K	**Which best describe your training in POCUS**	
Q3K	**Rate your confidence in performing POCUS during non-critical situations**	
Q4K	**Rate your confidence in performing POCUS during the 10-second pulse check in cardiac arrest**	
Q5K	**Rate your confidence in performing POCUS during the 10-second pulse check with Mechanical CPR device in-situ (e.g LUCAS) in cardiac arrest**	
Q6K	**Rate your confidence in performing POCUS during ongoing chest compression**	
Q7K	**State any 5 specific findings you would look for using POCUS during cardiac arrest**	
Q8K	**Do you know about the CASA-/ SESAME-protocol**	
Attitude on POCUS utilization in cardiac arrest *(Total score: 6-30)*		
Q9	**Do you think POCUS utilization during cardiac arrest (CA) can help in the following situations (a-e)**	Score range of each sub-question: 1-5
Q9aA	Making diagnosis	
Q9bA	Detecting Return of spontaneous circulation (ROSC)	
Q9cA	Determining the prognosis	
Q9dA	Determining termination of resuscitation	
Q9eA	Overall management	
Q10A	**How likely do you think a positive finding in POCUS during CA will lead you to an intervention that can improve patient's survival or outcome**	1 (Very Unlikely) to 5 (Very Likely)
Practice on POCUS utilization in cardiac arrest *(Total score: 1-5)*		
Q13P	**In the past 6 months, how frequent do you use POCUS in cardiac arrest cases**	1 (Never) to 5 (>75%)
Miscellaneous		
Q11M	**Do you think following a protocol for POCUS utilization during CA may help in resuscitation situation**	Yes/No
Q12M	**Do you think implementing a standard protocol for POCUS utilization during CA should be considered**	Yes/No
Q14M	**When you are using POCUS in CA cases, how frequent would you look for the following conditions:** Cardiac tamponade, Dilated Right ventricle or evidence of pulmonary embolism (PE), Pneumothorax, Size of Inferior vena cava (IVC), Abdominal pathology, Deep vein thrombosis (DVT), Cardiac contractility, Carotid pulse using Doppler mode	Total 8 sub-questions 0 (Never) to 4 (in all cases)
Q15M	**What factors may affect your decision on POCUS use during cardiac arrest:** Age, Premorbid status, Presentation in this episode, Downtime, Medico-legal concerns	Total 5 sub-questions Yes/No
Q16M	**What are the barriers for you to use POCUS during cardiac arrest:** USG machine availability in R Room, Number of staff available, POCUS may hinder the ACLS process, Chaotic environment, No structural education on this practice, No sufficient mentorship/supervision when doing so, Resistance from seniors/other staffs, Feeling non-confident to achieve good USG images, Feeling non-confident to proceed for intervention even POCUS showed significant findings	Total 9 sub-questions Yes/No
Q17M	**In what stage will you attempt POCUS during the process of Resuscitation**	Open-ended question
Q18M	**Any other barriers may stop you from doing POCUS during cardiac arrest**	Open-ended question

Abbreviations: POCUS = Point-of-care Ultrasound; CA = Cardiac arrest; CPR = Cardiopulmonary resuscitation; LUCAS = Lund University Cardiopulmonary Assist System; USG = Ultrasound; R Room = Resuscitation Room; ACLS = Advanced Cardiovascular Life Support

TABLE 2: Summary of the survey responses (n=150)

Question	Scoring (5-point Likert Scale)				
	1	2	3	4	5
Knowledge					
Q1K	7 (4.67%)	51 (34%)	49 (32.67%)	31 (20.67%)	12 (8%)
Q2K	26 (17.33%)	19 (12.67%)	84 (56%)	15 (10%)	6 (4%)
Q3K	9 (6%)	7 (4.67%)	59 (39.33%)	67 (44.67%)	8 (5.33%)
Q4K	23 (15.33%)	37 (24.67%)	51 (34%)	31 (20.67%)	8 (5.33%)
Q5K	36 (24%)	44 (29.33%)	47 (31.33%)	20 (13.33%)	3 (2%)
Q6K	47 (31.33%)	43 (28.67%)	46 (30.67%)	12 (8%)	2 (1.33%)
Q7K	18 (12%)	2 (1.33%)	12 (8%)	21 (14%)	97 (64.67%)
Q8K	99 (66%)	35 (23.33%)	8 (5.33%)	8 (5.33%)	NA
Attitude					
Q9aA	1 (0.67%)	9 (6%)	31 (20.67%)	75 (50%)	30 (20%)
Q9bA	8 (5.33%)	12 (8%)	35 (23.33%)	65 (43.33%)	26 (17.33%)
Q9cA	6 (4%)	24 (16%)	45 (30%)	59 (39.33%)	12 (8%)
Q9dA	8 (5.33%)	11 (7.33%)	28 (18.67%)	69 (46%)	30 (20%)
Q9eA	1 (0.67%)	5 (3.33%)	46 (30.67%)	79 (52.67%)	15 (10%)
Q10A	5 (3.33%)	24 (16%)	38 (25.33%)	63 (42%)	17 (11.33%)
Practice					
Q13P	31 (20.67%)	54 (36%)	27 (18%)	21 (14%)	15 (10%)

*Data are presented as No. (%)

TABLE 3: Knowledge, Attitude and Practice composite scores on POCUS utilization in cardiac arrest in various subgroups

Questionnaire question	Knowledge composite score		Attitude composite score		Practice composite score	
	Score	P value	Score	P value	Score	P value
Total (n=150)						
EM Experience		<0.001		0.002		0.103
- >10years (n=62)	24 (22-27)		23 (20.5-25.5)		3 (2-4)	
- </=10years (n=88)	21 (18-24)		22 (19-23)		2 (2-3)	
EM Fellowship status		<0.001		0.004		0.005
- Fellow (n=63)	24 (23-27.5)		23 (21-25)		3 (2-4)	
- Non-fellow (n=87)	20 (17.25-23.75)		21 (19-23)		2 (1.25-3)	
EM Trainee status		<0.001		0.093		0.115
- Higher trainee (n=46)	22 (19-25)		20 (19-23)		2 (2-3)	
- Basic trainee (n=33)	19 (16-21)		22 (20-24)		2 (1-3)	
Last USG course within 2years		0.236		0.255		0.988
- Yes (n=45)	21 (19-24)		22 (19-24)		2 (2-3)	
- No (n=105)	23 (19-26)		22 (19-24)		2 (2-3)	
Current Instructor of USG course		<0.001		0.131		0.031
- Yes (n=7)	33 (29-34.5)		25 (22.75-25)		3.5 (3-4.75)	
- No (n=143)	22 (19-25)		22 (19-24)		2 (2-3)	
Current Instructor of BLS/ACLS course		0.037		0.066		0.873
- Yes (n=19)	24 (22.5-27)		23 (22-26)		3 (2-3)	
- No (n=131)	22 (18-25)		22 (19-24)		2 (2-3)	
Received training/lecture on POCUS use during CA		<0.001		0.001		<0.001
- Yes (n=68)	24 (21-27)		23 (21.25-25)		3 (2-4)	
- No (n=82)	21 (17-24)		21 (18-23.25)		2 (1.25-3)	
Hospital capacity (taking daily attendance > or </= 400 as reference number)		0.072		0.022		0.007
- Large hospital	24 (19-26)		23 (20-25)		3 (2-4)	
- Small hospital	22 (18.25-24.75)		21 (18.5-24)		2 (2-3)	

Abbreviations: EM = Emergency Medicine; USG = Ultrasound; BLS = Basic Life Support; ACLS = Advanced Cardiovascular Life Support; POCUS = Point-of-care Ultrasound; CA = Cardiac arrest

*Data are shown as median (interquartile range)

TABLE 4: Multiple regression (standardized) predicting practical composite score

Predictor	Unstandardized coefficients (B) [95% CI]	Standard error of B	Standardized coefficients (β)	t statistic	P value
K composite score	0.13 [-0.1 to 0.73]	1.07	0.53	7.36	<0.001
A composite score	0.1 [-0.1 to 0.73]	1.19	0.33	4.19	<0.001
EM experience	0.31 [-0.1 to 0.73]	1.25	0.12	1.49	0.138
Fellow status	0.6 [-0.1 to 0.73]	1.22	0.24	2.95	0.004
USG course within 2years	0.02 [-0.1 to 0.73]	1.26	0.01	0.11	0.914
USG course Instructor	1.15 [-0.1 to 0.73]	1.24	0.19	2.24	0.027
BLS/ACLS Instructor	-0.04 [-0.1 to 0.73]	1.26	-0.01	-0.13	0.898
POCUS during CA training	0.87 [-0.1 to 0.73]	1.18	0.35	4.49	<0.001
Hospital capacity	0.6 [-0.1 to 0.73]	1.22	0.24	2.99	0.003

Abbreviations: EM = Emergency Medicine; USG = Ultrasound; BLS = Basic Life Support; ACLS = Advanced Cardiovascular Life Support; POCUS = Point-of-care Ultrasound; CA = Cardiac arrest; K composite score = Knowledge composite score; A composite score = Attitude composite score; CI = Confidence intervals

ABSTRACTS (FREE PAPER PRESENTATION)

Ab15

Prognosis of Geriatric Patients Presenting with Decreased General Condition Compared to Those with Specific Complaints

Dr. Ka-Yan Lung, Dr. Kai-Yip Lai
Princess Margaret Hospital

Objectives

Decreased general condition in the elderly is commonly encountered in the Accident and Emergency Department. The term 'decreased general condition' describes nonspecific decline in health and well-being. Elderly patients often have atypical presentation of illnesses due to comorbidities, cognitive/functional impairment and communication problem. There are no specific clinical guidelines for managing this group of patients. Consequently, most elderly patients presenting with 'decreased general condition' are admitted for further workup and observation in current practice. Previous studies showed that elderly patients presenting with decreased general condition are more prone to adverse outcomes, such as hospitalisation, longer length of stay and mortality. The aim of this study is to compare prognostic outcomes, including inpatient mortality, 90-day mortality and 1-week emergency department reattendance/readmission, of elderly patients with admission diagnosis of 'decreased general condition' (DGC) and those with specific complaints (SC).

Methods

A retrospective cohort study was conducted. Consecutive patients aged 65 years or above being admitted to the acute medical ward of a local hospital with diagnosis of 'decreased general condition' from 1 September 2022 to 31 October 2022 were recruited as study group. An equal number of patients with specific complaints in the same period were recruited as reference group. Matching was done according to age groups. Patient demographics, clinical data and outcomes were recorded. The primary outcome was inpatient mortality. Secondary outcomes were 1-week Accident and Emergency Department reattendance/readmission and 90-day mortality. Cox proportional hazard model for in-patient mortality was performed to calculate hazard ratio for inpatient mortality.

Results

A total of 442 patients were enrolled (221 in DGC group, 221 in SC group). Inpatient mortality was significantly higher in DGC group than in SC group (22.6% Vs 6.8%, $p<0.001$). There was no significant difference in 90-day mortality (9.5% Vs 12.2%, $p = 0.455$) or 1-week Accident and Emergency Department reattendance/readmission (9.5% Vs 12.2%, $p = 0.455$). In cox proportional hazard model for inpatient mortality, the adjusted hazard ratio DGC was 2.194 (95% CI 1.116-4.316, $p=0.023$).

Conclusion

Elderly patients presenting with decreased general condition have higher inpatient mortality than patients with specific complaints. Decreased general condition appears to be a high-risk condition. This calls for clinical guidelines for managing this group of patients.

ABSTRACTS (FREE PAPER PRESENTATION)

Ab20

Impact of COVID-19 on Major Trauma Patients in Hong Kong

Dr. Ho-Lam Chung, Dr. Manson Cheuk-Man Chu, Dr. Kwok-Leung Tsui
Tuen Mun Hospital AED

Background

Since 11th March 2020, the tremendous surge in COVID-19 patients load had posed a huge challenge to Hong Kong's health care system, exhausting manpower and resources. Other disease entities were found to experience negative impact worldwide during the pandemic. Whether there was compromise in trauma service during the pandemic in Hong Kong remained a question. Our study aimed to investigate changes in epidemiological characteristics and outcomes of trauma patients during the pandemic.

Methods

This was a retrospective cohort study based on data from the New Territories West cluster trauma registry, covering three local hospitals with emergency service. The pandemic cohort was defined from 1 Jan 2020 to 30 April 2022, and was compared with the pre-pandemic cohort from 1 Jan 2019 to 31 Dec 2019. The primary outcome was in-hospital 30-day mortality. Secondary outcomes were length of stay during hospitalization, Intensive Care Unit (ICU) admission rate and morbidity upon discharge by using Glasgow Outcome Scale (GOS). Multivariable logistic regression analysis was performed to assess the impact of pandemic on 30-day mortality.

Results

868 and 2019 patients were included in the pre-pandemic and pandemic cohort respectively. We found that type of injury was associated with period ($p < 0.001$). More blunt injury (78.3 % vs 85.6%) and less penetrating injury (10% vs 4%) were observed during pandemic period. Length of stay in the emergency department was significantly longer in the pandemic period (66 mins vs 75 mins, $p<0.001$). There was no significant difference in the median length of stay in acute ward and ICU ($p=0.156$ and 0.673 respectively). The ICU admission rates were comparable between 2 periods (14.3% vs 13.6%; $p = 0.61$). The primary outcome, 30-day mortality, was not associated with period (3.6% in pre-pandemic cohort vs 5.4% in pandemic cohort, $p=0.069$). Multivariable logistic regression analysis yielded similar result. Morbidity upon discharge was associated with period ($p<0.001$). The percentage of good recovery fell from 88.7% to 79.1% during the pandemic, while the percentage of moderate disability rose from 4.7% to 11.5%.

Conclusion

During COVID-19 pandemic period, our study had found an increase in length of stay in emergency department and patient proportion with more disability upon discharge. There was no significant change at 30-day mortality in major trauma patients.

Table 1 Baseline characteristics and 30 day mortality of major trauma patients and outcome between pre-pandemic and pandemic period

	Pre-pandemic period (1 Jan 2019 to 31 Dec 2019)	Pandemic period frequency (1 Jan 2020 to 30 April 2022)	p value
Total number of patients	868	2019	
Median Age (IQR)	52(30)	53(29)	0.112
Male gender (%)	627(72.2)	1430(70.8)	0.443
Triage Category (%)			0.296
I	102(11.8)	290(14.4)	
II	678(78.1)	1535(76)	
III	78(9.0)	169(8.4)	
IV	10(1.2)	25(1.2)	
Type of injury (%)			<0.001
Blunt	680(78.3)	1728(85.6)	
Burn	101(11.6)	203(10.1)	
Penetrating	87(10.0)	88(4.4)	
Mechanism (%)			<0.001
Burn	97(11.2)	198(9.8)	
Bicycle rider or passenger	39(4.5)	156(7.7)	
Cut or penetrating	82(9.4)	89(4.4)	
Fall < 2 meters	221(25.5)	530(26.3)	
Fall >=2 meters	63(7.3)	149(7.4)	
Machinery	64(7.4)	114(5.6)	
Others	52(6.0)	53(2.6)	
Collision with object/ person	91(10.5)	378(17.2)	
Motor vehicle driver	36(4.1)	102(5.1)	
Motor vehicle passenger	29(3.3)	31(1.5)	
Motorcycle driver	40(4.6)	123(6.1)	
Motorcycle passenger	3(0.3)	10(0.5)	
Pedestrian	51(5.9)	117(5.8)	
Median length of stay in minutes(IQR)			
In AED	66(53)	75(60)	<0.001
In resuscitation room	61(54)	71(55)	<0.001
Median length of stay in days(IQR)			
In acute ward	4(7)	4(6)	0.156
In ICU	3(4)	3(5)	0.673
Trauma severity			
Median RTS(IQR)	7.8408	7.8400	<0.001
Median ISS(IQR)	5(13)	5(10)	0.165
Patients with ISS > 15 (%)	209(24.1)	422(20.9)	0.058
TRISS(IQR)	0.983(0.029)	0.983(0.031)	0.166
MTP activation (%)	5(0.6)	39(1.9)	0.006
ICU admission (%)	124(14.3)	274(13.6)	0.610
Mortality			
Dead at day 30 (%)	33(3.8)	109(5.4)	0.069
Dead upon discharge (%)	31(3.6)	118(5.8)	0.009
Morbidity			<0.001
Good recovery (%)	770(88.7)	1597(79.1)	
Moderate disability (%)	41(4.7)	232(11.5)	
Severe disability (%)	26(3.0)	72(3.6)	
Death (%)	31(3.6)	118(5.8)	

ABSTRACTS (FREE PAPER PRESENTATION)

Ab27

3 Parts Retrospective Cohort Study: Association, Pathophysiology and Prognostic value of Hypercalcemia in COVID-19 Infection

Dr. Wing Hung Lau, Dr. Peter Yau-Tak Ng, Dr. Chun-Tat Lui, Dr. Hin-Tat Fung
Tin Shui Wai Hospital AED

Purpose

An increased incidence of hypercalcemia and proposed prognostic value of calcium have been reported in patients with COVID-19. We aimed to investigate the association, underlying pathophysiology, and prognostic value of hypercalcemia in COVID-19 infection.

Methods

Information on 7927 adult patients who were admitted between 1/2-31/3/2022(during the 5th wave of COVID-19 in Hong Kong) to one of 3 regional hospitals in Hong Kong, of which 1886 patients had confirmed COVID-19, was retrospectively collected. Their demographics, calcium levels, other laboratory values, and clinical outcomes were analyzed to determine if calcium levels were elevated in patients with COVID-19 infection, and if it had any impact on survival.

Results

The prevalence of hypercalcemia in patients with COVID-19 infection and those with other medical conditions were 7.42% (140/1886) and 7.64% (462/6041) respectively (p=0.761). The median calcium level was lower in the COVID-19 group (2.36 mmol/L, 25-75 centile: 2.29-2.46 vs 2.39mmol/L,25-75 centile: 2.32-2.47, p<0.001). PTH levels in patients with hypercalcemia were similar among COVID-19 and non-COVID groups of patients (3.55mmol/L, 25-75 centile: 1.15-15.5 vs 6.25mmol/L,25-75 centile: 3.25-15.25, p=0.311); the median total vitamin D levels were 25.0mmol/L (25-75 centile:13.75-77.5) and 24.0mmol/L (n=1)(p=1.0). Among patients with COVID-19 infection, the median calcium level in those succumbed was 2.41mmol/L (25-75 centile: 2.30-2.52), compared to 2.35mmol/L (25-75 centile 2.28-2.43) in those who survived, which was statistically significant (p <0.001). The adjusted OR for calcium level was 4.419(95CI: 1.290 - 15.144, p= 0.018).

Conclusion

COVID-19 infection did not exhibit a higher incidence of hypercalcemia compared to patients admitted for other acute medical conditions. There was no significant disturbance in underlying PTH and vitamin D metabolism. Hypercalcemia was, however, associated with higher mortality in COVID-19 infection.

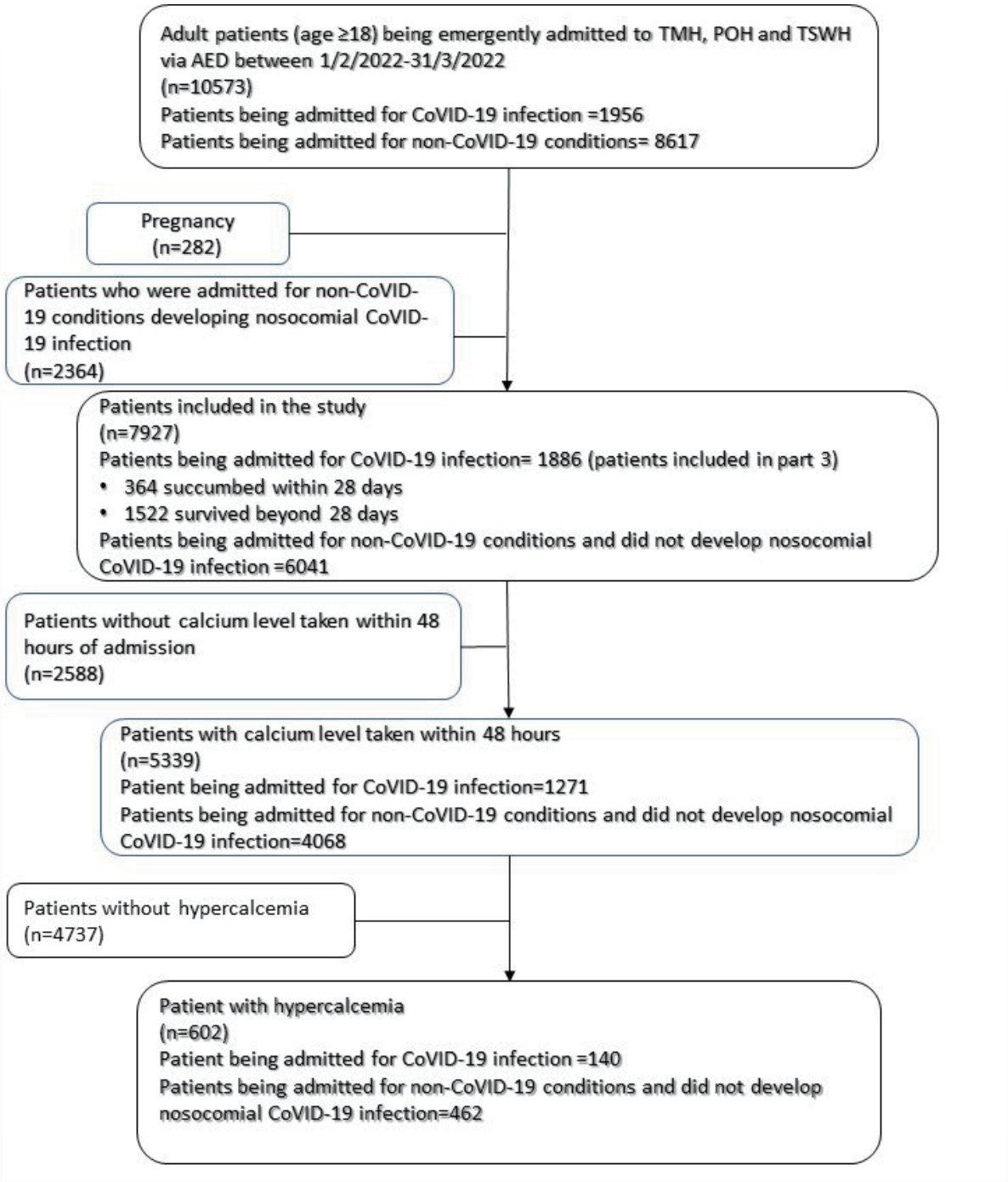

Adult patients (age ≥18) being emergently admitted to TMH, POH and TSWH via AED between 1/2/2022-31/3/2022
(n=10573)
Patients being admitted for CoVID-19 infection =1956
Patients being admitted for non-CoVID-19 conditions= 8617
Pregnancy
(n=282)
Patients who were admitted for non-CoVID-19 conditions developing nosocomial CoVID-19 infection
(n=2364)
Patients included in the study
(n=7927)
Patients being admitted for CoVID-19 infection= 1886 (patients included in part 3)
• 364 succumbed within 28 days
• 1522 survived beyond 28 days
Patients being admitted for non-CoVID-19 conditions and did not develop nosocomial CoVID-19 infection =6041
Patients without calcium level taken within 48 hours of admission
(n=2588)
Patients with calcium level taken within 48 hours
(n=5339)
Patient being admitted for CoVID-19 infection=1271
Patients being admitted for non-CoVID-19 conditions and did not develop nosocomial CoVID-19 infection=4068
Patients without hypercalcemia
(n=4737)
Patient with hypercalcemia
(n=602)
Patient being admitted for CoVID-19 infection =140
Patients being admitted for non-CoVID-19 conditions and did not develop nosocomial CoVID-19 infection=462

Table 4
Characteristics of patients with COVID survivor (n=1886)

	Succumbed (n=364)	Survive (n=1522)	Mortality rate	p
Age				<0.001*
Median	85 (76-91)	73(63-85)		
>65	322(88.5%)	1082 (71.1%)	22.9%	<0.001*
Sex				0.007*
Male	224 (61.5%)	817 (53.7%)	21.5%	
Female	140 (38.5%)	705 (46.3%)	16.6%	
Smoker				0.034*
Non-smoker	191 (52.5%)	819 (53.8%)	18.9%	
Smoker	20 (5.5%)	97 (6.4%)	17.1%	
Ex smoker	100(27.5%)	305(20%)	24.7%	
LORCHE	85 (23.4%)	353 (23.2%)	19.4%	0.949
Triage				<0.001*
Critical & Emergency	207 (56.9%)	220 (14.5%)	48.5%	
Urgent	142 (39.0%)	995 (65.4%)	12.5%	
Semi-urgent & non urg ent	15 (4.1%)	296 (19.4%)	4.8%	
Admission specialties				<0.001*
Med/MID	335 (92.0%)	1238 (81.3%)	21.3%	
ICU	8 (2.2%)	23 (1.5%)	25.8%	
Other	19(5.2%)	261 (17.1%)	6.8%	
O2 require	287 (78.8%)	415 (27.3%)	40.8%	<0.001*
Pneumonia on CXR	240 (65.9%)	452 (29.7%	34.7%	<0.001*
PMH				
HT	182 (50%)	672 (44.2%)	21.3%	0.044*
DM	100 (27.5%)	443 (29.1%)	18.4%	0.536
Lipid	52 (14.3%)	310 (20.4%)	14.3%	0.008*
Malignancy	38 (10.4%)	102 (6.7%)	27.1%	0.015*
Chronic renal impairment	45 (12.4%)	120 (7.9%)	27.3%	0.007*
Chronic lung disease	47 (12.9%)	159 (10.4%)	22.8%	0.176
immunocompromised	17 (4.7%)	70 (4.6%)	19.5%	0.954
Vaccine status				<0.001*
Unvaccinated	203 (55.8%)	567 (37.3%)	26.4%	
Incomplete vaccine	104 (28.6%)	412 (27.1%)	20.2%	
Completed course of vaccine	57(15.7%)	486 (31.9%)	10.7%	
Use of Paxlovid / Molnupiravir	11 (3.0%)	187 (12.3%)	5.56%	<0.001*
Calcium				
Calcium level (mmol/L)	2.41 (2.30-2.52)	2.35 (2.28-2.43)		<0.001*
Hypercalcemia	53 (14.5%)	87 (5.7%)	37.9%	<0.001*
Other Lab results: Median (25-75 percentile)				
CT value	19.1 (16.3-23.6)	22.4 (17.7-30.0)		<0.001*
Wcc	9.2 (6.3-13.1)	7.1 (5.2-9.9)		<0.001*
Lymphocyte	0.8 (0.5-1.2)	1.0 (0.7-1.4)		<0.001*
Plt	207 (150.0-263)	211 (162.8-270.0)		0.214
Creatinine	124.0(82.8-214.0)	79.0 (64.0-116.0)		<0.001*
Urea	11.6 (6.4-20.3)	5.7 (4.1-9.0)		<0.001*
Bilirubin	10.0 (7.0-15.3)	9.0 (6.0-13.0)		<0.001*
AST	167.5 (56.5-451.3)	61.0 (32.0-117.8)		0.003*
CRP	10.75 (3.94-20.70)	2.79 (0.58-9.20)		<0.001*
ESR	41.0(32.0-106.0)	71.5 (40.0-107.0)		0.563
LDH	315.0 (253.8-449.3)	238.0 (199.0-293.0)		<0.001*
CK	134.0 (64.0-411.0)	105.5 (60.0-225.8)		<0.001*
D dimer	2431.3(1294.1-4597.6)	943.40 (519.2-1730.4)		<0.001*

Note: Values are presented as n (%), median (25-75 percentile), or otherwise specified. Mortality rate is presented as a percentage. p values less than 0.05 are considered statistically significant. The * symbol indicates statistical significance. PMH: Past Medical History, HT: Hypertension, DM: Diabetes Mellitus, MID: infectious disease team of medicine, ICU: Intensive Care Unit, CXR: Chest X-Ray, O2: Oxygen, Wcc: White Cell Count, Plt: Platelet Count, AST: Aspartate Aminotransferase, CRP: C-Reactive Protein, ESR: Erythrocyte Sedimentation Rate, LDH: Lactate Dehydrogenase, CK: Creatine Kinase, D dimer: Dimerized Plasmin Fragment.

ABSTRACTS (FREE PAPER PRESENTATION)

Ab29

Burnout in Emergency Physicians in Hong Kong: A Cross-Sectional Study on Its Prevalence, Associated Factors and Impact

Dr. Tsz-Kit Chan, Dr. Chun-Tat Lui, Dr. Clara Wing-Yee Wu, Dr. Chin-San Leung, Prof. Rainer Timothy
Tuen Mun Hospital AED

Objective

To evaluate the prevalence of burnout, its underlying personal or occupational stressors, and impact on individual well-being and patient care.

Design

Cross-sectional survey

Participants

All emergency physicians in the public and the private sector in Hong Kong.

Method

Self-administered, anonymous, voluntary questionnaires were distributed in physical and electronic forms from April to June 2022. Burnout was assessed by the Maslach Burnout Inventory (MBI). Stressors were assessed by questions on demographic, occupational and social background. Impact was assessed by the Patient Health Questionnaire-9 (PHQ-9) for depression, and questions on job satisfaction and self-perceived patient care.

Results

Response rate was 37.8% (n=241). Prevalence of high overall burnout was 28.2% (n=68), with 47.7% (n=115) having high emotional exhaustion, 63.1% (n=152) high depersonalization, and 56% (n=135) low personal accomplishment. A higher burnout rate was observed in younger age, female, not married, job position (associate consultant, resident specialist, higher trainee), working on shift duty, more night shifts and consecutive shifts. Burnout is also associated with depression, suicidal idea, consideration of quitting, less job satisfaction, and less favorable patient care ($p<0.05$).

Conclusions

Burnout is prevalent in emergency physicians in Hong Kong, and its impact on individual well-being and clinical care was evident. A higher burnout rate was observed in younger doctors and also fellows. Identified stressors such as shift pattern should be addressed and potentially improved. Further strategies should be explored to reduce burnout in our colleagues.

Supplementary Table 1. Prevalence of burnout

MBI* Domain	All respondents (N=241)
Emotional exhaustion (EE) (total score 0-54)	25.8 +- 13.4
• Moderate burnout (19-26)	49 (20.3%)
• High burnout (>=27)	115 (47.7%)
Depersonalization (DP) (total score 0-30)	12.9 +- 7.3
• Moderate burnout (6-9)	44 (18.3%)
• High burnout (>=10)	152 (63.1%)
Personal accomplishment (PA) (total score 0-48)	31.1 +- 8.1
• Moderate burnout (34-39)	70 (29.0%)
• High burnout (0-33)	135 (56%)
High burnout in 1 or more domains	**198 (82.2%)**
High overall burnout#	**68 (28.2%)**

- *MBI = Maslach Burnout Inventory
- #High overall burnout = high burnout in all 3 MBI domains
- continuous data is expressed in mean +- standard deviation

Supplementary Table 2. Logistic model for high overall burnout (burnout in all 3 MBI domains)

	All (N=241)	OR (95% CI)	p value
PERSONAL FACTORS			
Female	75 (31.1%)	1.57 (0.87-2.83)	0.135
Age*	38.6 +- 10.3		0.12
Married	134 (55.6%)	0.57 (0.32-1.00)	0.05
Have child	97 (40.2%)	0.57 (0.31-1.04)	0.063
Have religion	84 (34.4%)	1.15 (0.64-2.07)	0.634
Regular exercise	144 (59.8%)	0.95 (0.54-1.68)	0.854
Smoker	5 (2.1%)	1.72 (0.28-10.51)	0.623
Drinker	75 (31.1%)	0.89 (0.49-1.65)	0.719
Chronic illness	32 (13.3%)	1.00 (0.44-2.28)	0.99
WORK CHARACTERISTICS			
Currently practising in EM field	234 (97.1%)	0.98 (0.29-5.19)	1
Years after graduation*	14.2 +- 10.1		0.106
Years working in EM field*	11.8 +- 9.0		0.218
Working in Hospital Authority	211 (87.6%)	6.46 (1.50-27.93)	0.015
Full time	- 203 (96.2%)	0.75 (0.17-3.24)	0.707
Job position			0.026
Consultant	- 23 (10.9%)	0.09 (0.01-0.65)	
Associate consultant	- 70 (33.2%)	1.64 (0.90-3.01)	
Specialist	- 10 (4.7%)	1.50 (0.41-5.49)	
Higher trainee	- 41 (19.4%)	1.35 (0.66-2.75)	
Basic trainee	- 60 (28.4%)	0.82 (0.43-1.59)	
Service resident	- 7 (3.3%)	0.88 (0.17-4.63)	
Working in trauma centre	- 99 (46.9%)	0.77 (0.43-1.38)	0.377
Working on shift duty	- 181 (85.8%)	2.54 (0.93-6.97)	0.062
Shift pattern			
No. of night shifts per month	3.18 +- 1.08		0.095
No. of weekend shifts per month	4.26 +- 1.34		0.677
No. of consecutive shifts per month#	3.99 +- 2.69		0.05
INDIVIDUAL WELLBEING			
PHQ-9 score^	6.35 +- 5.68		
No depression (0-4)	116 (48.1%)	0.13 (0.06-0.26)	<0.001
Mild depression (5-9)	67 (27.8%)	1.99 (1.09-3.64)	0.023
Moderate depression (10-14)	36 (14.9%)	3.1 (1.50-6.41)	0.002
Moderate severe depression (15-19)	13 (5.4%)	4.48 (1.41-14.23)	0.01
Severe depression (20-27)	9 (3.7%)	3.35 (0.873-12.89)	0.122
Suicidal idea	24 (10%)	2.38 (1.01-5.60)	0.043
Considered quitting	106 (44%)	3.00 (1.68-5.38)	<0.001

*Continuous data is expressed as mean +- standard deviation

#Consecutive shift is defined as ≤10 hours rest between two shifts

^Patient Health Questionnaire-9 is a standardized screening tool for depression

ABSTRACTS (FREE PAPER PRESENTATION)

Ab30

Relationship between Apparent Temperature and Incidence and Outcome of Out-of-hospital Cardiac Arrest (OHCA) in Hong Kong: A Retrospective Observational Study

Dr. Ella Pak-Yan Chan, Dr. Kuang-An Wan, Dr. Axel Yuet-Chung Siu
Ruttonjee and Tang Shiu Kin Hospitals

Background

Out-of-hospital cardiac arrest (OHCA) is one leading reason for utilisation of emergency services in Hong Kong. Existing studies reviewed the relationship between OHCA with meteorological factors. Apparent temperature, being the combined effects of air temperature, relative humidity and wind speed, may have relationship to OHCA. In Hong Kong apparent temperature is represented by the Hong Kong Heat Index (HKHI). This study aims to identify the relationship between Hong Kong Heat Index, and the incidence and outcome of OHCA.

Methods

The study included patients over 18-years-old suffering from OHCA attending the Accident and Emergency Departments in two regional hospitals brought in via Fire Service Department ambulance, within the period 1 January 2018 to 31 December 2022. Study subjects were identified via the Fire Services Department ambulance records, and Clinical Management System (CMS). Meteorological data for this period were retrieved via the Hong Kong Observatory Climatological Database. The relationships between incidence of OHCA and meteorological data were determined by one-way ANOVA, correlation and regression analysis.

Results

A total of 4919 OHCA cases were identified, of which the mean age is 79.4, 2601 (52.9%) male and 2318 (47.1%) female, excluding cases with missing data. The mean daily OHCA incidence is 2.69. Out of these, 274 (5.5%) has return of spontaneous circulation upon handover to Department of Accident and Emergency; 771 (15.7%) survived to admission, and 94 (1.9%) survived to discharge.

There is a negative curvilinear relationship observed between OHCA and maximum HKHI below 75th percentile, with a statistically significant effect in the groups of maximum HKHI below 20 ($p<0.05$). There is also an observed slight positive relationship when maximum HKHI is above 90th percentile, or 30; however, there is no statistical significance ($p=0.37$-0.45). There is no statistically significance difference in the outcome as in the rate of return of spontaneous circulation, survival to admission and survival to discharge.

Conclusions

This study serves as the first local evidence for prediction of out-of-hospital cardiac arrest risk in relation to apparent temperature. Low apparent temperature is associated with higher incidence of OHCA. There is an observed higher incidence of OHCA with higher apparent temperature, but further larger scale study in the post-COVID era may be required. It will be vigilant to utilise the Hong Kong emergency medical services in predicted increase in out-of-cardiac arrest cases in lower and higher extremes of apparent temperature.

ABSTRACTS (FREE PAPER PRESENTATION)

Ab34

A Comparative Study between Point-Of-Care Hemoglobin (Capillary Samples) and Laboratory Hemoglobin Result (Venous Samples)

Dr. Chun-Hiu YU
Pok Oi Hospital

Objective

Point-of-care tests (POCTs) are commonly utilized in emergency departments. The purpose of this study was to evaluate accuracy and clinical utility of capillary POCT Hemocue (POCT Hcue) in emergency department setting.

Methods

This was a restrospective study. AED attendances >=18 years old with a capillary POCT Hcue result and a paired venous hemoglobin (Hb) result were eligible. Statistcal analyses inclusing Pearson coefficient and Bland-Altman plot were performed to assess the relationship and agreement between capillary POCT Hcue and venous Hb.

Results

107 cases were included in the analysis. 41% were male and 59% were female. 70% of the cases were from triage category 3 and 4. Scatter plot revealed a linear relationship between capillary POCT Hcue and venous Hb, with a correlation cooefficient calcalated to be 0.95. The mean difference was -0.30 on the Bland Altman plot with the limits of agreement from -1.83 to +1.22.

Conclusions

Capillary POCT Hcue had acceptable agreement with venous Hb in emergency department setting.

ABSTRACTS (FREE PAPER PRESENTATION)

Ab35

Google Trends and Surveillance of Abusive Drug Use in Hong Kong

Mr. Yu-Tai Chan
Princess Margaret Hospital

Background and Objective

In the big data era, internet search data provides valuable insights into the patterns of diseases and population behaviors. There were growing number of research exploring the use of internet search data for the surveillance of substance use trends. In this study, we aim to investigate whether internet search query data by Google Trends can serve as a surveillance method for substance use disorder in Hong Kong.

Methods

This was a retrospective study. Medical consultations related to abusive drug exposures in all local public emergency departments in Hong Kong and trend of abusive drug use were retrieved from the database of the Hong Kong Poison Information Centre (HKPIC) and the Central Registry of Drug Abuse (CRDA) from Narcotics Division of the Security Bureau respectively between 1st January 2013 and 31st December 2022. Medical consultations related to abusive drug exposure, including, ketamine, cannabis, cocaine and methamphetamine, and the trend of using these abusive drugs from CRDA were compared with the Internet search query data by non-linear regression method.

Results

During the study period, 227 cases of cannabis, 579 cases of ketamine, 386 cases of cocaine, and 1067 cases of methamphetamine were reported to HKPIC.

Google Trends data had good correlations with drug abuse statistics from CRDA on ketamine ($R2 = 0.93$) and methamphetamine ($R2 = 0.92$), while Google Trends data had fairly good correlations with drug abuse statistics from CRDA on cannabis ($R2 = 0.83$) and cocaine ($R2 = 0.86$).

Google Trends data had only fairly good correlations with data from HKPIC on ketamine ($R2 = 0.73$), and had low correlations with data from HKPIC on cannabis, cocaine and methamphetamine.

Conclusions

Internet search data correlated well with the trend of abusive drug use in Hong Kong. However, the correlation between the internet search data and the medical consultations related to abusive drug exposure were poor. Internet search data may serve as a means to monitor substance abuse in Hong Kong but has limited role in predicting medical consultations related to abusive drug exposure.

ABSTRACTS (FREE PAPER PRESENTATION)

Ab36

Comparing Acute Toxicities of Co-Exposure to Cocaine and Ethanol Versus Cocaine Alone in Emergency Department Patients in Hong Kong

Dr. Kwun-Lok Cheung[1], Dr. Rex Pui-Kin Lam[2], Dr. Chi-Keung Chan[3], Dr. Man-Li Tse[3], Dr. Matthew Shik Hon Tsui[1], Prof. Timothy Hudson Rainer[3]

[1]Accident and Emergency Department, Queen Mary Hospital,
[2]Department of Emergency Medicine, School of Clinical Medicine, Li Ka Shing Faculty of Medicine, The University of Hong Kong,
[3]Hong Kong Poison Information Centre, Hospital Authority

Background and Objective

Cocaine misuse is increasingly popular in Hong Kong and ethanol co-ingestion is common. Ethanol co-ingestion with cocaine results in transesterification and production of an active metabolite, cocaethylene (CE), which has a similar toxicity as cocaine but a longer duration of action. Literature on the toxicity of CE is conflicting and a recent study reported a higher risk of cardiac arrest in emergency department (ED) patients with CE exposure. However, published studies were limited by a lack of study on Asian populations and inclusion of other co-ingestants. This study aimed to compare the acute toxicities and clinical outcome of ED patients with co-exposure to cocaine and ethanol and those with cocaine use alone.

Methods

This was a secondary analysis of two territory-wide retrospective studies on acute toxicities involving cocaine reported to the Hong Kong Poison Information Centre from 1 January 2010 to 22 January 2023. All ED patients with confirmed cocaine exposure by either urine immunoassays or laboratory tests during the study period were included. Ethanol co-ingestion was confirmed by serum ethanol levels. We evaluated complications, including acute myocardial injuries, and clinical outcome rated according to the American Association of Poison Control Centers' (AAPCC) National Poison Data System. Serious outcome was defined as an AAPCC outcome moderate or above. Univariate analyses, followed by multivariable logistic regression, were performed to evaluate the effect of co-exposure to cocaine and ethanol on clinical outcome.

Results

We identified 112 patients with confirmed cocaine toxicities after excluding other co-ingestants except ethanol. The median age of the patients was 29 years (interquartile range 25–34), of whom 80 (71.4%) were men, 76 (67.9%) were Chinese and 20 (17.9%) had confirmed ethanol co-ingestion on presentation, with a mean serum ethanol level of 29.3 mmol/L. Patient characteristics and clinical outcome are summarised in Table 1. None of the patients with co-exposure developed cardiac arrest, rhabdomyolysis, or acute kidney injury and only one developed acute myocardial injury. Multivariable logistic regression showed that co-exposure to cocaine and ethanol was significantly associated a lower risk of serious outcome (OR 0.19, 95% CI 0.04–0.88, p=0.034), after adjusting for patient age, sex and ethnicity.

Conclusions

Contrary to previous studies, we found a lower risk of serious outcome after co-exposure to cocaine and ethanol compared with cocaine alone in a predominantly Chinese cohort. Further studies, best with serial cocaethylene measurements, would offer more information on its actual role in acute toxicities.

	Total N = 112	Cocaine with confirmed ethanol exposure N = 20	Cocaine only N =92
Age–median (IQR), year	29.0 (25.0–34.0)	29.5 (23.8–33.8)	28.5 (25.0–35.8)
Sex (%)			
Female	32 (28.6)	3 (15.0)	29 (31.5)
Male	80 (71.4)	17 (85.0)	63 (68.5)
Chinese ethnicity (%)	76 (67.6)	10 (50.0)	66 (71.7)
Clinical features (%)			
Agitation	25 (22.3)	4 (20.0)	21 (22.5)
Seizure	9 (8.1)	0 (0)	9 (9.9)
Drowsiness	12 (10.7)	4 (20.0)	8 (8.7)
Clinical complications (%)			
Acute myocardial injury	9 (8.0)	1 (5.0)	8 (8.7)
Cardiac arrest	2 (1.8)	0 (0)	2 (2.2)
Rhabdomyolysis	22 (19.6)	0 (0)	22 (23.9)
Acute kidney injury	10 (8.9)	0 (0)	10 (10.9)
AAPCC outcome (%)			
Death	0 (0)	0 (0)	0 (0)
Major effect	10 (8.9)	0 (0)	10 (10.9)
Moderate effect	25 (22.3)	2 (10.0)	23 (25.0)
Minor effect	75 (67.0)	17 (85.0)	58 (63.0)
No effect	2 (1.8)	1 (5.0)	1 (1.1)
ICU admission	9 (8.0)	0 (0)	9 (9.8)

Table 1. Patient demographic and clinical characteristics.

Abbreviations: AAPCC, American Association of Poison Control Center; ICU, Intensive Care Unit; IQR, Interquartile range

POSTER PRESENTATION

Abstract/ Poster Number	Abstract Title	Presenting Author
3	Retrospective analysis of the Emergency Medical Team (EMT) dispatched by the Accident and Emergency (A&E) department at Tuen Mun Hospital	Mr. William YW Chan
6	Fast-track Absolute Neutrophil Count in Suspected Neutropenic Fever (The Francis Trial): A Feasibility Study	Dr. Shi-Yeow Lee
8	Epidemiology and Outcome of Suspected Neutropenic Fever In Emergency Department Patients: A Retrospective Study	Dr. Shi-Yeow Lee
10	Development and Evaluation of Peer Assisted Learning in Scenario-Based Simulation During COVID-19 by Using Kirkpatrick Model	Dr. Abraham Wai
11	HK Paramedics' Attitudes Towards Do-Not-Attempt CPR Order	Ms. Chiu-Fung Wong
12	Delving into the 'KNOW-DO' gap: Evaluation of willingness to Perform Bystander Cardiopulmonary Resuscitation (CPR) with Automated External Defibrillator (AED) in Hong Kong Community Using the Theory of Planned Behaviour Framework	Mr. Victor CW Tam
14	'Time to refresh': Evaluating the Timing of Refresher Training and the Willingness to Perform Cardiopulmonary Resuscitation (CPR) with an Automated External Defibrillator (AED) using the Theory of Planned Behaviour Framework	Mr. Victor CW Tam
16	Developing Professional Skills in Acute Care: A Study on the Effectiveness of A Specific Teaching Plan Focusing on Interprofessional Communication and Clinical Reasoning Skills	Ms. Christie JY Ching
19	"High" After Oatmeal - A Case of Unintentional Nutmeg Poisoning	Dr. Carol CY Yim
21	Retrospective Analysis of Illness or Injuries in Hong Kong Marathon 2023	Dr. Yim-Ping Choi
22	CQI Program - Knowledge of Nurses Working in AED on Giving Advice to Patient with Sprain Injuries	Mr. Kai-Yik Chan
23	Was There Any Delay in ST-elevation Myocardial Infarction Care During the COVID-19 outbreak in an Accident & Emergency Department of Hong Kong?	Ms. Miu-Pui Yau
24	The Association of Peer Instructor with Better Learning Experience of Resuscitation among Elderly in Hong Kong	Mr. Sinclair WS Cheng
25	Can Emergency Ambulatory Care Reduce Medical Admission?	Dr. Shin-Yan Man
26	A Nursing Care Bundle on Application of Heat Wrap for Acute Low Back Pain Patients in AED	Ms. Sau-Kin Cheung

28	Iron Replacement Therapy for Patients with Menorrhagia Related to Iron Deficiency Anemia in NTWC AED	Dr. Kin-Ming Poon
31	The Hong Kong Emergency Medical Services (HK EMS) System: A Narrative Review	Ms. Eponine Kate Wong
32	Prehospital Care in Action: A Study on the Hong Kong Standard Chartered Marathon	Ms. Eponine Kate Wong
33	The Impact of COVID-19 Pandemic on Helicopter Rescue Service in Hong Kong	Dr. Arthur CK Cheung
38	The Impact of the COVID-19 Pandemic on Acute Toxicity Related to Recreational Drugs in Hong Kong	Dr. Rex PK Lam

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab03

Retrospective analysis of the Emergency Medical Team (EMT) dispatched by the Accident and Emergency (A&E) department at Tuen Mun Hospital

Mr. William Yuk-Wing Chan[1], Mr. Chi-Wai Yuen[2], Mr. Chi-Keung Li[2], Ms. Nga-Yan Chau[2], Ms. Kit-Ying Poon[2], Ms. Kit-Man Lee[2], Mr. Kennis Tsz-Yu Kwok[2]

[1]Accident & Emergency Department, New Territories West Cluster

[2]Accident & Emergency Department, Tuen Mun Hospital

Introduction

Pre-hospital emergency care, a subspecialty of Emergency Medicine, is primarily provided by the Ambulance Command of the Fire Services Department in Hong Kong. The Government Flying Service also plays a role in providing emergency care in the airspace of Hong Kong and a significant portion of the South China Sea. The Hong Kong Special Administrative Region Government Emergency Response System defines three main phases of emergency response: rescue, recovery, and restoration services in the event of mass casualties. As part of the Hospital Authority Accident & Emergency Department response, Medical Control Officers (MCO) and Emergency Medical Teams (EMT) are dispatched to disaster scenes to provide on-site triage, emergency stabilization treatment, and advice on orderly diversions to hospitals.

Objectives

The objectives of this analysis were:

- To examine the nature of EMT activations.
- To analyze the characteristics and outcomes of EMT patients.
- To analyze the location of accident blackspots in Tuen Mun District.

Methodology

We collected data retrospectively from the Pre-Hospital Emergency Care database in the Accident and Emergency Department from January 1st, 2011, to December 31st, 2021. All clinical records were reviewed.

Result & Outcome

During the study period, there were 20 episodes of EMT dispatch. Notably, there are no EMT activations in 2012, 2017, and 2018. The majority of EMT patients were male (90% male, 10% female). Adults accounted for 95% of the cases, while children made up 5%.

The nature of EMT activations was categorized as follows:

a. Prolonged rescue with a patients entrapped for over 30 minutes: Motor vehicle crashes (45%), Severe industrial accidents (30%), Building collapse (5%).
b. No EMT activations were dispatched for Mass Casualty Incidents (MCI).
c. Other activations were escorting critically ill cross-border case (20%).

Regarding motor vehicle crash cases, the distribution was as follows:

- Drivers: 67%
- Passengers: 22%
- Pedestrians: 11%
- The location with the highest incidence of motor vehicle crashes was Wong Chu Road, accounting for 34% of cases.

In severe industrial accidents, the nature of entrapment was as follows:

- Limb entrapped: 50%
- Whole body entrapped: 50%

In terms of discharge destination, 70% of patients were admitted to the hospital, while 30% unfortunately resulted in death.

Conclusions

It is important to maintain vigilance and continuous training for Emergency Medical Team (EMT), especially considering the small and uneven yearly numbers. When it comes to the clinical training of EMT, they can follow the principles taught in courses such as the COC (A&E) disaster field triage course, disaster medicine-related courses, or prehospital trauma courses. In addition to clinical training, preventive measures for black spots in motor vehicle collisions (MVCs) were implemented by multiple government departments, e.g. improving road infrastructure and, enhancing traffic safety regulations.

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab06

Fast-track Absolute Neutrophil Count in Suspected Neutropenic Fever (The Francis Trial): A Feasibility Study

Dr. Shi-Yeow LEE[1], Dr. Siu-Chung LEUNG[1], Dr. Tat-Chi TSANG[2], Dr. Rock Yuk-Yan LEUNG[2], Dr. Ivan Fan-Ngai HUNG[1], Dr. Kelvin Kai-Hang TO[1], Dr. Tsz-Kin KWOK[2], Dr. Harry Gill-Harinder Singh[1], Dr. Wendy Wing-Lok CHAN[1], Professor Timothy Rainer[1]

[1]The University of Hong Kong, [2]Queen Mary Hospital, Hospital Authority

Objectives

To evaluate the feasibility of a randomised controlled trial (RCT) evaluating whether antibiotic prescribing and pathways for suspected neutropenic fever (sNF) in adults attending hospital can be safely reduced through implementing a multifaceted, fast-track, absolute neutrophil count intervention (FRANCIS).

Methodology

Feasibility of a pragmatic, parallel, two-arm RCT in Queen Mary Hospital in Hong Kong of adult cancer patients with sNF ≥38.3°C and Modified Early Warning Score ≤6 within 24 hours of Emergency department (ED) registration. Healthcare professionals receive a multifaceted stewardship intervention consisting of risk assessment tools, fast track absolute neutrophil counts (ANCs), a decision tool for patient management and antibiotic use supported by an educational package and staff interaction programmes (FRANCIS protocol). The primary outcome for the target RCT is the median total dose of ultra-broad spectrum antibiotics (UBSAs) prescribed in 7 days. We evaluated progression criteria for the target RCT.

Result & Outcome

52 patients (25 controls, 27 intervention) were recruited. The feasibility trial uncovered factors that should be considered in the target RCT. 19/52 (36.5%) patients were recruited in the ED and 48/52 (92.3%) received UBSAs. 48/52 (92.3%) sNF patients did not have NF. 8/25 (32%) control group patients switched antibiotics. In the intervention group, 24/27 (88.9%) patients were non-NF, of which 16/24 (66.7%) switched antibiotics. The median (IQR) 7-day dose of UBSAs in the control group was 13 grams (4 – 28) compared with 3 grams (1 – 13) in the intervention group (Mann-Whitney p= 0.037). The all-cause mortality rate was 1/25 (4%) in the control group compared with 2/27 (7.4%) in the intervention group (Fisher's Exact Test P=0.99). The serious adverse event rate was 3/25 (12%) in the control group compared with 4/27 (14.8%) in the intervention group (P=0.99).

Conclusions

Eight of nine progression criteria were met. A modified RCT evaluating antibiotic stewardship in adult patients with sNF is feasible. The results of a target RCT will inform health policy with improvement in hospital services in treating stable sNF evidenced by improved safe antibiotic stewardship, early antibiotic de-escalation, and reduced costs and length of stay.

HKU/HA HKW IRB: UW21-482.

ClinicalTrials.gov NCT05393505. Funding: HKU Seed Fund.

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab08

Epidemiology and Outcome of Suspected Neutropenic Fever in Emergency Department Patients: A Retrospective Study

Dr. Shi-Yeow Lee[1], Dr Siu-Chung Leung[1], Dr. Cynthia Yu[1], Dr. Tat-Chi Tsang[2], Dr. Rock Yuk-Yan LEUNG[2], Dr. Yilin Zhang[1], Dr. Rex Pui-Kin Lam[1], Professor Timothy Rainer[1]

[1]The University of Hong Kong, [2]Queen Mary Hospital, Hospital Authority

Background

Neutropenic fever (NF), or febrile neutropenia, is characterised by high body temperature and low absolute neutrophil count (ANC) after myelosuppressive cancer treatment. We aimed to evaluate the epidemiology, clinical presentation, infection characteristics, antibiotic patterns, crude healthcare costs and outcomes in patients attending an emergency department (ED) with suspected neutropenic fever (sNF).

Methodology

In a single-centre, retrospective cohort study, consecutive adult patients attending the ED at Queen Mary Hospital (QMH) with sNF from Jan 1, 2020 to Dec 31, 2020 were included. sNF was defined as body temperature ≥38.3°C at ED triage or within 24 hours before ED registration, and either chemotherapy for a solid tumour within 6 weeks, or a history of haematopoietic stem cell transplantation. NF was defined as sNF with an absolute neutrophil count (ANC) <1000/mm3. The primary outcome was 30-day all-cause mortality.

Results

Of 95627 ED visits, 602 adult sNF patients (315 (52.3%) females, median age 62 years (IQR 53–72); 362 (60.1%) solid organ tumours), 389 (64.6%) with Modified Early Warning Score ≤3 were managed by the existing NF pathway, and 144 (24.3%) had confirmed NF. The incidences of sNF and NF were 6.3 per 1000 attendances and 1.5 per 1000 attendances respectively. All patients were prescribed Ultra-broad spectrum antibiotics (UBSAs) within one hour unless contraindicated. The overall culture positivity rate was 265 (44.02%). 172 (64.0%) had gram-negative organisms, and 93 (15.4%) were from blood. The NF group had 67 (46.53%) microbial infections, while the non-NF group had 209 (45.85%). The 30-day, all-cause mortality rate in the NF group was 10.4% versus 9.2% in non-NF group ($\chi 2$ test P = 0.66). The median length of hospital stay in the NF group was 7.8 days (IQR 2-8) compared with 6.5 days (IQR 2-7) in the non-NF group (Mann-Whitney P = 0.037). 2 (1.4%) patients in the NF group were admitted to ICU compared with 6 (1.3%) in the non-NF group (Fisher's exact test P ≥0.99). The median hospital length of stay crude costs in the NF and non-NF groups were HK$66640 and HK$60010 respectively.

Conclusion

Our study informs on the epidemiology of adult patients attending the ED with sNF. 75% of sNF patients attending the ED receive USBAs yet do not have NF. There is a need for education on antibiotic stewardship, improved protocols, fast-track services for ANC testing and the development of a point-of-care ANC test.

HKU/HA HKW IRB Number UW21-409

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab10

Development and Evaluation of Peer Assisted Learning in Scenario-Based Simulation During COVID-19 by Using Kirkpatrick Model

Dr. Abraham Wai[1], Professor Janet Wong[2], Professor Timothy Rainer[1]
[1]The University of Hong Kong, [2]Hong Kong Metropolitan University

Introduction

To further extend the potential of clinical simulation, we developed a peer-assisted learning (PAL) and training workshop in undergraduate emergency medicine clerkship during COVID-19 pandemic. The workshop was evaluated according to the first three levels of the Kirkpatrick Model.

Methods

A total of 178 final-year medical students in the Emergency Medicine (EM) clerkship between July 2020 and March 2021 consented to participate in the evaluation. We examined students' satisfaction and experience quantitatively and qualitatively for the first level; students' perception of PAL, patient safety culture and teamwork training at the second level and students' clinical skills performance and debriefing skills performance at the third level of the model.

Results

Students were satisfied with positive qualitative feedback including (1) appreciation and engagement; (2) the intertwined roles in connecting with professional identity; and (3) identifying own knowledge gaps and learning needs. The positive attitudes on PAL and safety patient culture were found. They had good clinical skills performance but relatively poor debriefing skills.

Conclusion

Our findings suggests that the introduction of PAL in EM could prepare students' to manage medical emergencies, and maintained their good attitude to active learning and patient safety and high attitude and satisfaction to teamwork.

Table 1 The mean of teamwork learning attitudes and all outcome scores of students (n=178)

Scores (Total)	Mean (SD)
Teamwork learning attitudes (23-115)	96.25 (12.01)
Satisfaction on teamwork learning (9-45)	32.90 (5.68)
Perception on peer assisted learning (8-40)	31.13 (4.14)
Perception on patient safety culture (26-130)	94.63 (6.79)
Clinical performance (4-12)	11.28 (1.24)
Debriefing Assessment	
1. *Establishes an engaging learning environment (1-7)*	3.15 (0.71)
2. *Maintains an engaging learning environment (1-7)*	3.07 (0.60)
3. *Structures the debriefing in an organized way (1-7)*	3.88 (0.84)
4. *Provokes engaging discussion (1-7)*	3.89 (0.75)
5. *Identifies and explores performance gaps (1-7)*	3.84 (1.13)
6. *Helps trainees achieve or sustain good future performance (1-7)*	2.87 (0.84)

Table 2. Effects of peer assisted learning (PAL) and teamwork training workshop after adjustment of teamwork learning attitudes measured by HFAS

Outcomes (Total scores) / Students' attitudes and preferences	Clinical performance (4-12)	Perception on peer assisted learning (8-40)	Perception on patient safety culture (26-130)	Satisfaction on teamwork learning (9-45)	DASH[a] (1-7)					
					1	2	3	4	5	6
Students' learning preferences										
Didactic lectures	-.06	.21	.13	-.38	.26*	-.01	.30	.18	.16	.25
Paper case discussion	.21	-12	.57	.70	-.38	-.12	-.35	-.19	-.44	-.41
Examination-type question practice	.00	-.04	1.71	1.16	-.01	.11	.10	.06	.31	.17
Clinical attachment and practice observation	.40	.62	1.37	.69	-.12	-.17	-.27	-.13	-.33	-.29
Bedside case discussion	-.29	.99	2.40	-.15	.31*	-.05	-.07	.10	.02	.30
Shadowing interns	.13	-.47	-.19	.33	.05	.06	.08	-.04	.17	.10
Shadowing residents	.40	.53	-1.74	-1.41	-.12	.07	.13	-.12	-.19	-.31
Shadowing specialists	-.63	-.96	1.30	.90	-.02	.03	.01	.14	.37	.23
Simulation with teacher debriefing	.15	1.60*	.96	1.41	-.03	.06	-.07	-.03	.20	.09
Simulation with peer instructor debriefing	.26	-1.12	1.72	.59	-.03	-.08	.05	.09	.02	.00

*P<0.05, **P<0.01, HFAS refers to "The Human Factors Attitude Survey". The mean scores of it is 96.25 (SD=12.01).
[a]DASH refers to Debriefing Assessment for Simulation in Healthcare (item 1: Establishes an engaging learning environment; Item 2: Maintains an engaging learning environment; Item 3: Structures the debriefing in an organized way; Item 4: Provokes engaging discussion; Item 5: Identifies and explores performance gaps; and Item 6: Helps trainees achieve or sustain good future performance).

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab11

HK Paramedics' Attitudes Towards Do-Not-Attempt CPR Order

Ms. Jessie Chiu-Fung Wong[1], Dr. Ka-Leung Mok[2]
[1]A&E Caritas Medical Centre, [2]A&E Ruttonjee and Tang Shiu Kin Hospital

Background

Do-Not-Attempt-CPR (DNACPR) is essential to End-of-Life (EOL) care for those with terminal illnesses. However, under the current Fire Services Ordinance (Cap95) in Hong Kong, ambulance personnel must "resuscitate or sustain "a patient's life in the prehospital setting despite a valid DNACPR order. The Food and Health Bureau of the HKSAR Government published a consultation report,' EOL: Legislative Proposals on Advance Directives and Dying in Place' in July 2020. As the primary prehospital care provider, paramedics' attitude and understanding of DNACPR is vital for the successful implementation of EOL programme in the future.

Objectives

To assess HK paramedics' attitudes and perceptions towards DNACPR order.

Methodology

This questionnaire survey was conducted in the Fire and Ambulance Services Academy of HK Fire Services Department for paramedics who came for training or recertification between 1 Oct 2021 to 31 Dec 2021. Self-administered, anonymous questionnaires of 13 questions on a 5-point Likert scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree) were distributed in the training classes to assess their knowledge, experiences, and attitudes towards DNACPR order. The collected data were input into an Excel spreadsheet and subsequently analysed using Statistical Package for Social Sciences (SPSS)28.0, IBM.

Results

Four hundred-one paramedics (including 48 officers) completed and returned the questionnaires for analysis. Only 120(29.9%) respondents were aware of the policy of DNACPR orders for non-hospitalized patients, while 342 paramedics (85.3%) considered their knowledge of DNACPR as insufficient. 266 (66.3%) respondents indicated they had previously handled patients with DNACPR orders. 76 (18.9%) paramedics experienced refusal of treatment by the relatives, and 8 (1.9%) even reported aggressive behaviour of the relatives.

Paramedics agreed (IQR=4-5) on most items assessing their attitudes towards DNACPR (Figure 1). Paramedics generally agreed to follow DNACPR order (IQR=4), as shown in Figure 2. Nevertheless, at the same time, they would consider the execution of DNACPR order as a challenge (IRQ=5). Those with self-perceived sufficient knowledge of DNACPR (14.7%) are more willing to follow DNACPR order when compared with those with insufficient knowledge (IRQ= 4 Vs. 5 $p<0.001$). 327 (81.5%) respondents think legislation can avoid conflict with relatives and respect patients' wishes.

Conclusion

HK paramedics generally have positive attitudes towards DNACPR orders and support future implementation. Besides training, legislation to protect our paramedics from legal liability is warranted to ensure successful implementation.

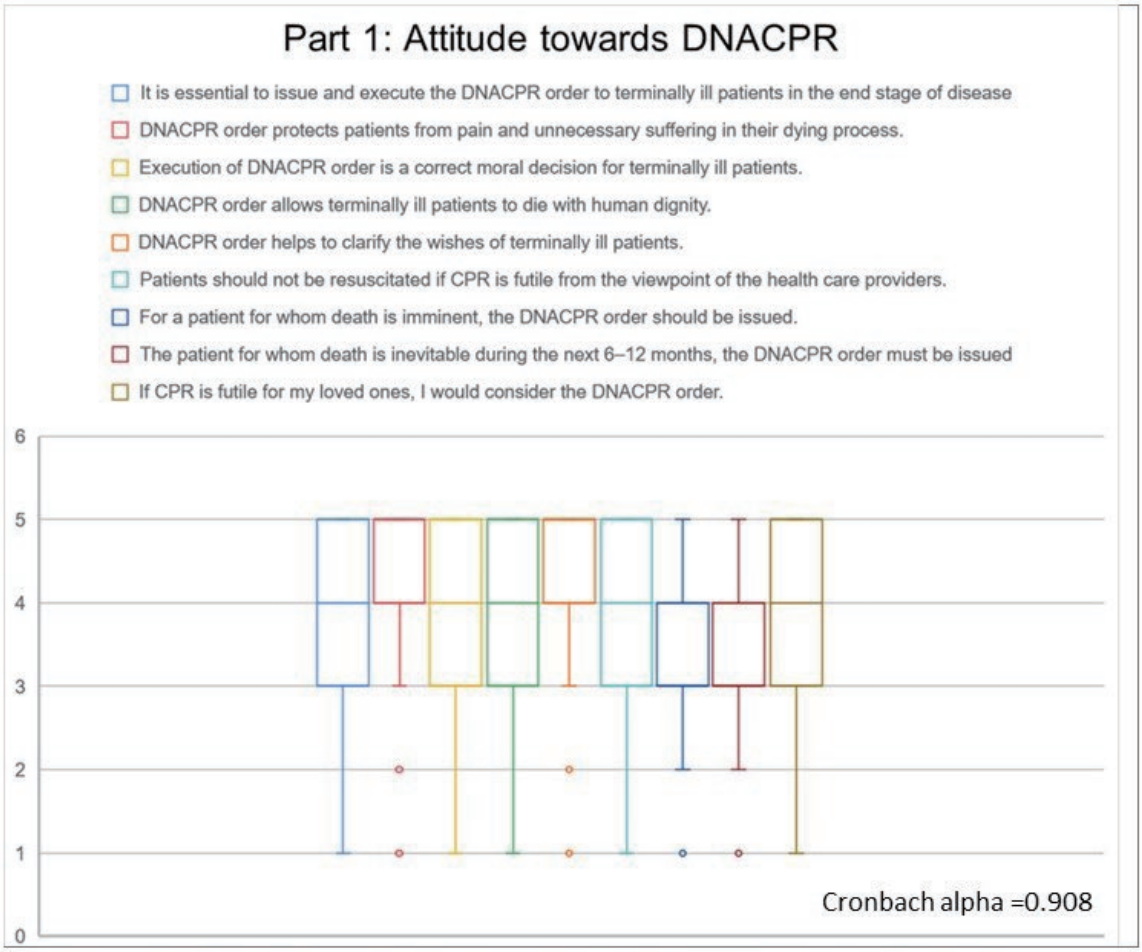


Figure 1. Box and Wisker plot of Paramedic attitude towards implementing DNACPR orders in prehospital settings (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree).

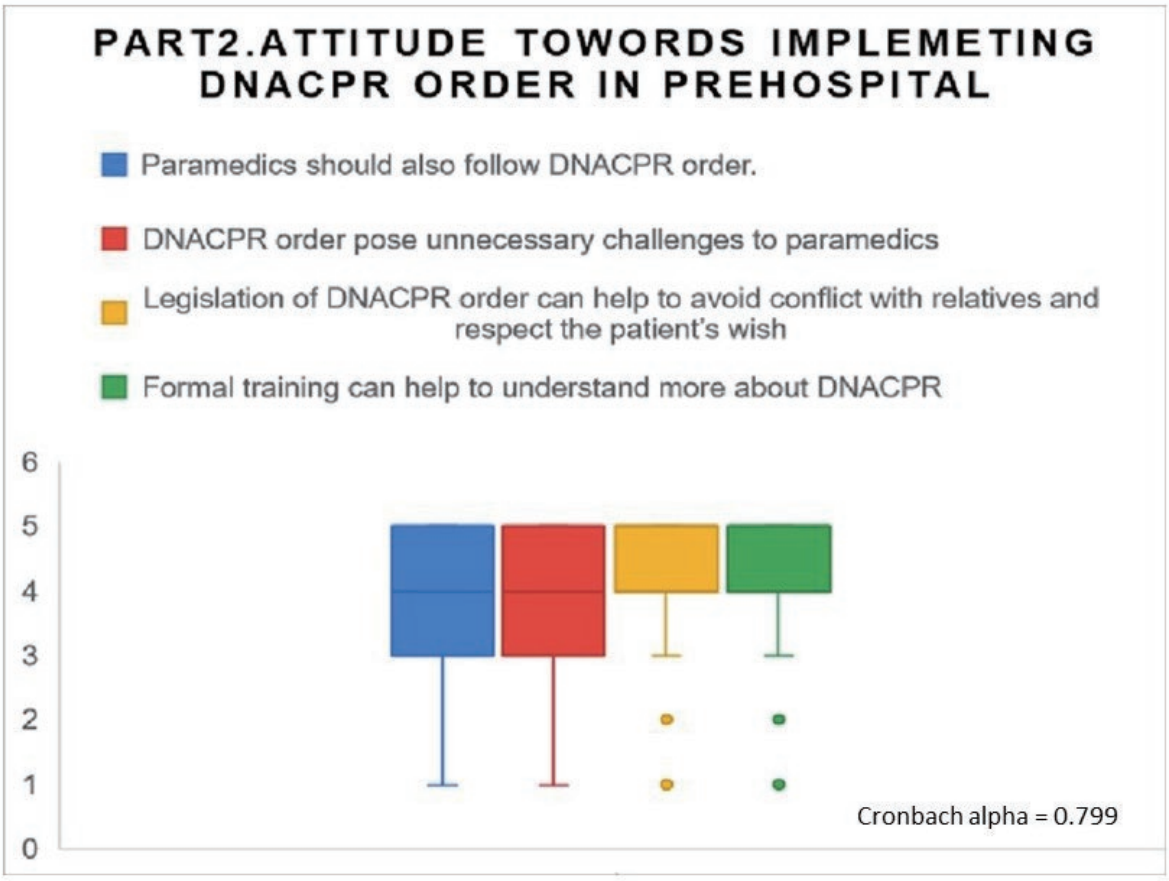


Figure 2. Box and Wisker plot of Paramedic attitude towards implementing DNACPR orders in prehospital settings (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree).

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab12

Delving into the 'KNOW-DO' gap: Evaluation of Willingness to Perform Bystander Cardiopulmonary Resuscitation (CPR) with Automated External Defibrillator (AED) in Hong Kong Community Using the Theory of Planned Behaviour Framework

Mr. Chi-Wing Tam[1,2], Dr. Anthony Wai-Leung Kwok[3,4]

[1]Department of Health Technology and Informatics, Faculty of Health and Social Sciences, The Hong Kong Polytechnic University,
[2]The Jockey Club School of Public Health and Primary Care, Faculty of Medicine, The Chinese University of Hong Kong,
[3]School of Medical and Health Science, Tung Wah College,
[4]Department of Orthopaedics and Traumatology, Faculty of Medicine, The Chinese University of Hong Kong

Introduction

Bystander cardiopulmonary resuscitation (CPR) and defibrillation by an automated external defibrillator (AED) in out-of-hospital cardiac arrest (OHCA) events were uncommon in Hong Kong (HK). Knowledge and skill are crucial to perform CPR and use an AED, however, it does not necessarily translate into willingness and actual performance of bystander resuscitation. To examine one's willingness to perform a certain behaviour, the Theory of Planned Behaviour (TPB) incorporated three determinants including attitude, subjective norm and perceived behavioural control. This study evaluated the willingness and associated factors of performing CPR and defibrillation by an AED in the HK community using the TPB framework.

Methods

A total of 1449 participants (790 males and 659 females) aged 15 to 64 years were recruited from the local community to participate in this cross-sectional online survey on Facebook, Instagram and WhatsApp. A questionnaire in Chinese was used to evaluate willingness to perform CPR and use an AED, the TPB determinants and perceived barriers in 5-point Likert scales. Knowledge level was assessed using eight multiple-choice questions. Correlations between predictors were used to examine potential multicollinearity. Associations between each predictor and willingness to perform CPR and AED were analysed using univariate ordinal regressions. Predictive models were constructed using hierarchical multiple ordinal regressions (MOR) to explore associated predictors and the adjusted odds ratio (ORadj).

Results

Less than half of the respondents were willing to perform CPR (44.8%) and use an AED (47.8%). 'Training types' and 'years since the last training' were associated with all TPB determinants and perceived barriers, and thus were excluded from the MOR. As shown in Table 1, young adults aged 18 to 25 years demonstrated the lowest CPR willingness (ORadj = 0.63, 95% CI = 0.42-0.94, p = 0.023). Knowledge level was not associated with either CPR or AED willingness in the MOR, therefore, was eliminated by backward selection. Attitude, subjective norm and perceived behavioural control were all positively associated with both willingness (all ORadj > 1.5, $p < 0.001$), while perceived barriers were negatively associated with CPR willingness only (ORadj = 0.77, 95% CI = 0.66-0.91, p = 0.002).

Conclusion

Utilization of the TPB framework in CPR and AED community promotion would fill the "know-do" gap and enhance the community's willingness to perform CPR and use an AED.

Table 1. Multiple ordinal regression of willingness to perform CPR and use AED

Categorical Predictors	n	OR_{adj} (95%CI)	
		Perform CPR	Use AED
Age			
15-17	101	1	NS
18-25	430	0.63 (0.42-0.94)*	
26-40	492	0.92 (0.62-1.37)	
41-64	384	0.82 (0.54-1.24)	
Monthly income			
<$15,001	460	NS	1
$15,001-$30,000	358		1.34 (1.03-1.73)*
$30,001-$45,000	259		1.50 (1.13-2.00)†
$45,001-$60,000	139		1.36 (0.96-1.942)
>$60,000	191		1.75 (1.27-2.41)‡
Continuous predictors	Mean	OR_{adj} (95% CI)	
		Perform CPR	Use AED
Knowledge	5.05	NS	NS
Attitude	3.35	1.57 (1.27-1.95)‡	2.26 (1.83-2.79)‡
Subjective norms	2.65	1.93 (1.64-2.28)‡	1.79 (1.52-2.10)‡
Perceived behavioural control	2.13	2.53 (2.23-2.88)‡	2.60 (2.30-2.93)‡
Barriers	1.55	0.77 (0.66-0.91)†	NS

95% CI, 95% confidence interval; *AED*, automated external defibrillator; *CPR*, cardiopulmonary resuscitation; *NS*, not significant in the final model after backward selection; OR_{adj}, adjusted odds ratio;

* $p < 0.05$

† $p < 0.01$

‡ $p < 0.001$

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab14

'Time to Refresh': Evaluating the Timing of Refresher Training and the Willingness to Perform Cardiopulmonary Resuscitation (CPR) with an Automated External Defibrillator (AED) using the Theory of Planned Behaviour Framework

Mr. Chi-Wing Tam[1,2], Dr. Anthony Wai-Leung Kwok[3,4]

[1]Department of Health Technology and Informatics, Faculty of Health and Social Sciences, The Hong Kong Polytechnic University,
[2]The Jockey Club School of Public Health and Primary Care, Faculty of Medicine, The Chinese University of Hong Kong,
[3]School of Medical and Health Science, Tung Wah College,
[4]Department of Orthopaedics and Traumatology, Faculty of Medicine, The Chinese University of Hong Kong

Introduction

Early bystander cardiopulmonary resuscitation (CPR) and defibrillation by an automated external defibrillator (AED) were crucial in saving victims of out-of-hospital cardiac arrest. Certified rescuers are required to complete refresher training every 2 to 4 years, depending on the policy of different countries and authorities, to renew their certificates. However, the timing for the refresher course remained anecdotal without solid validation. Furthermore, limited studies investigated the willingness to perform bystander resuscitation and its association with training history. This study evaluated the association between training history and willingness to perform CPR and use an AED using the Theory of Planned Behaviour (TPB) framework.

Methods

A cross-sectional online survey collected 1449 responses from local public members aged 15 to 64 years. Questionnaires in Chinese were distributed on Facebook, Instagram and WhatsApp. Respondents were asked whether they had participated in CPR and/or AED courses, and the years since the last training. Willingness to perform CPR and use an AED, attitude, subjective norm, perceived behavioural control and perceived barriers were asked using 5-point Likert scales. Associations between each predictor and willingness to perform CPR with AED were evaluated using univariate ordinal regressions. Kruskal-Wallis H tests were used to examine differences in each determinant score among training sub-groups.

Results

Respondents who received training five years ago were statistically no different from those who have never trained in terms of AED willingness (Crude odds ratio [ORcrude] = 1.27, 95% CI = 0.91-1.79, p = 0.164), attitude (Zkw = -2.13, pBonf = 0.329), subjective norm (Zkw = -1.37, pBonf = 1), and perceived barriers (Zkw = -1.44, pBonf = 1). Attitude (H(3) = 173.73, p < 0.001), subjective norm (H(3) = 206.93, p < 0.001) and perceived behavioural control (H(3) = 537.48, p < 0.001) scores decreased significantly with the years since the last training, while perceived barriers increased (H(3) = 99.66, p < 0.001). Both 'training type' and 'years since the last training' were associated with the willingness to perform CPR and use an AED. Combined CPR/AED training demonstrated the highest CPR (ORcrude = 4.69, 95% CI = 3.74-5.88, p < 0.001) and AED (ORcrude = 5.41, 95% CI = 4.31-6.78, p < 0.001) willingness.

Conclusions

Refresher courses at an interval of not more than 5 years are imperial to retain rescuers' willingness to perform CPR and use an AED. Combined CPR/AED course incorporating the TPB framework would enhance the effectiveness of public resuscitation training.

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab16

Developing Professional Skills in Acute Care: A Study on the Effectiveness of A Specific Teaching Plan Focusing on Interprofessional Communication and Clinical Reasoning Skills

Ms. Christie Jing-Yee Ching, Mr. Sinclair Wun-Sing Cheng, Dr. Abraham Ka-Chung Wai
Department of Emergency Medicine, The University of Hong Kong

Objectives

The primary objective of this study was to develop an interprofessional communication and clinical reasoning programme for acute care. The secondary objectives identified potential predictors of interprofessional communication and clinical reasoning.

Method

200 final year medical students were educated on interprofessional communication and clinical reasoning in the format of video clips and a handbook. Afterwards, students partook in a clinical simulation session mimicking complex medical emergency scenarios. To evaluate the effectiveness of this programme, pre- and post-course evaluations were conducted using the following instruments: Wong and Law Emotional Intelligence Scale (WLEIS), TeamSTEPPS Teamwork Atittudes Questionnaire (T-TAQ), questionnaires regarding attitude, confidence and knowledge towards handover and patient safety, and course evaluation.

For statistical analysis, multivariable linear regression models of the change in pre- and post-intervention scores were conducted with each TeamSTEPPS item as a dependent variable. Subsequent qualitative analysis generated a word frequency graph from course evaluations.

Results

After checking for assumptions, 3 models remained. First, the difference in team structure scores were significantly predicted by the change in leadership, situation monitoring, total others-emotion appraisal, confidence to deliver a proper handover, knowledge about patient safety, concept of patient safety and serious adverse event (SAE), and handover over patient safety ($F(9,108)=14.83$, $P<0.001$, adjusted $R2=0.515$). Second, the difference in situation monitoring scores were significantly predicted by the change in team structure, leadership, mutual support, communication, confidence in patient safety and patient safety over handover ($F(7,110)=36.42$, $P<0.001$, adjusted $R2=0.679$). Third, the difference in leadership scores were significantly predicted by change in team structure, situation monitoring, mutual support, essentialness of patient safety, handover over patient safety ($F(6,111)=53.13$, $P<0.001$, adjusted $R2=0.728$). For qualitative analysis, common positive feedback words with frequencies higher than 3 were related to simulation. Meanwhile, common words noted in areas for improvement with frequencies higher than 3 were related to distance-learning.

Conclusions

This study suggests that emotional intelligence was not a predictor of situation monitoring. In fact, a more objective approach could contribute to better performance in leadership and team structure. Particularly, increased leadership may improve team structure and situation monitoring. Nonetheless, further research is needed on a larger sample size to validate these models. Also, future replication of this programme could use face-to-face teaching to aid medical students' learning.

Table 1: Multivariable linear regression of the change in team structure score under TeamSTEPPS.

	Standardized β Coefficient	95% CI	P Value
TeamSTEPPS			
Leadership	0.49	0.29, 0.69	<0.001*
Situation Monitoring	0.31	0.09, 0.52	0.005*
WLEIS			
Total Others-emotion Appraisal	-0.16	-0.30, -0.03	0.038*
Total Self-emotion Appraisal	0.15	-0.01, 0.31	0.056
Reflection & Checking			
Confidence in Proper Handover	0.18	-0.25, 0.62	0.015*
Knowledge About Patient Safety	-0.20	-0.76, 0.36	0.013*
Concept of Patient Safety and SAE	-0.17	-1.00, 0.67	0.028*
Balance of Patient Safety and Handover	-0.10	-0.69, 0.49	0.158
Handover Over Patient Safety	-0.16	-0.61, 0.30	0.034*

P<0.05
Adjusted $R^2 = 0.515$

Table 2: Multivariable linear regression of the change in situation monitoring score under TeamSTEPPS.

	Standardized β Coefficient	95% CI	P Value
TeamSTEPPS			
Team Structure	0.23	0.09, 0.36	0.002*
Leadership	0.48	0.33, 0.64	<0.001*
Mutual Support	-0.13	-0.21, -0.06	0.04*
Communication	0.24	0.12, 0.37	0.001*
Reflection & Checking			
Confidence in Patient Safety	0.17	-0.19, 0.53	0.004*
Concept of Patient Safety and SAE	0.11	-0.51, 0.73	0.06
Patient Safety Over Handover	0.13	-0.13, 0.39	0.03*

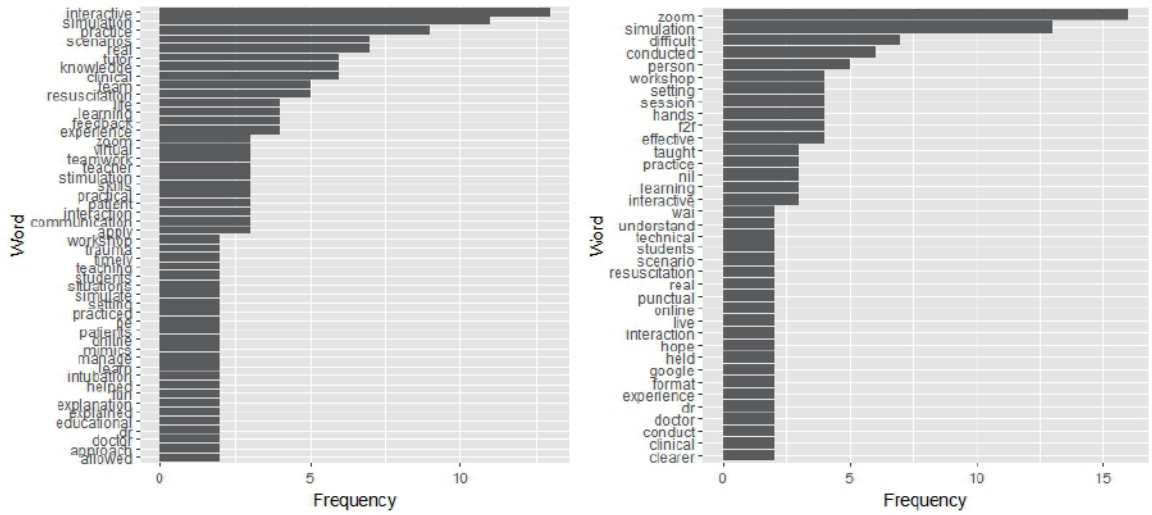
P<0.05
Adjusted $R^2 = 0.679$

Table 3: Multivariable linear regression of the change in leadership score under TeamSTEPPS.

	Standardized β Coefficient	95% CI	P Value
TeamSTEPPS			
Team Structure	0.21	0.08, 0.34	0.001*
Situation Monitoring	0.48	0.34, 0.62	<0.001*
Mutual Support	0.23	0.16, 0.29	<0.001*
WLEIS			
Total Use of Emotion	-0.09	-0.18, 0.01	0.08
Reflection & Checking			
Essentialness of Patient Safety	0.20	-0.35, 0.75	<0.001*
Handover Over Patient Safety	0.11	-0.21, 0.43	0.03*

P<0.05
Adjusted $R^2 = 0.728$

Figure 1: Graph of common words used when asked a) "What were the best thing(s) about this course?" and b) "What thing(s) about this course could be improved?".



ABSTRACTS (POSTER PRESENTATION)

POSTER Ab19

"High" After Oatmeal - A Case of Unintentional Nutmeg Poisoning

Dr. Carol Carr-Yee Yim, Dr. Yiu-Cheung Chan
United Christian Hospital Emergency Department

Background

Nutmeg is a common household spice used to add a warm pungent flavor to baked goods or beverages. A small amount already creates a strong flavor and therefore accidental nutmeg poisoning is uncommon and many is not aware of its toxicity when consumed in excess. Recreational use for the “nutmeg high” is also unpopular due to its unpleasant taste in large amount, unreliable success, and unpleasant side effects and we seldom encounter nutmeg poisoning locally. Here we reported a case of unintentional nutmeg poisoning.

Case history

A 28-year-old female with good past health presented with dizziness, palpitation and confusion 1 hour after breakfast. She recalled having a home cook nutmeg flavored oatmeal where she sprinkled 3-4 times more than usual amount of nutmeg due to clumping of powder but failed to quantify the amount. The nutmeg powder was bought from a chain supermarket store a week ago and she had consumed it 3 times prior without any discomfort. She denied other alcohol or illicit drug consumption.

Examinations

She was tachycardiac, slightly confused with an elated mood, laughing inappropriately and speaking Spanish. Pupils were 5mm dilated with normal limbs tone and reflexes. Skin was dry with sluggish bowel sound but no palpable bladder. Clinically nutmeg poisoning was suspected.

Investigations

Hemoglucostix, blood tests, and chest X-ray were unremarkable. Electrocardiography showed sinus rhythm with normal QRS and QTc interval. Urine ABON was negative. Urine, serum and nutmeg powder was sent to Toxicology Reference Lab where later Myristicin, Elemicin and benign herbal markers were detected, which is compatible with nutmeg poisoning.

Hospital course

Hong Kong Poison Information Centre was consulted, and patient was monitored overnight in Emergency Medicine Ward. No complication was reported and her symptoms fully resolved the next day. Her length of stay was 18 hours, and she was discharged 27 hours after initial nutmeg consumption.

Discussion

Nutmeg contains Myristicin, which is metabolized into 3-methoxy-4.5-methylenedioxyamphetamine (MMDA), an analogue of 3,4-methylenedioxy-methamphetamine (MDMA), therefore explains its hallucinogenic effect. The toxic dose is 5-30g of ground nutmeg. Symptoms usually begin 3-6 hours after consumption and resolve in 24-36 hours. Gastrointestinal symptoms, anticholinergic-like symptoms, hallucinations, and in severe cases seizure and hemodynamic instability had been reported. Management is mainly supportive, and Benzodiazepine can be used in cases with agitation.

Conclusion

We reported a case of unintentional nutmeg poisoning. Emergency physician should be aware of this uncommon poisoning and educate the public of its toxicity.

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab21

Retrospective Analysis of Illness or Injuries in Hong Kong Marathon 2023

Mr. William Yuk-Wing Chan[1,2], Dr. Yim-Ping Choi[2,3]

[1]Accident and Emergency Department, New Territories West Cluster, [2]Auxiliary Medical Service, [3]Accident and Emergency Department, Queen Mary Hospital

Introduction

Hong Kong Marathon (HKM) is a scheduled Mass Gatherings (MGs) event that demands well-planned pre-hospital emergency care support. Auxiliary Medical Service (AMS) deploys doctors, nurses and trained first aiders to provide on-site first-aid for HKM since 1997. With gradual resumption of normalcy, there were 34,738 runners participated HKM on 12 February 2023. This study aims at identifying the spectrum of injuries and illness encountered in on-site first aid posts in HKM 2023, with the goal of improving pre-hospital care preparation for future events.

Method

It was a retrospective observational study to analyze and evaluate participants of the HKM 2023, who attended AMS's first aid services and those finally required transportation to hospital. The number of injuries or illness treated and disposal after treatment were recorded in a standardized injuries or illness report form every 30 minutes.

Results

There were 4,663 injuries or illness treated by AMS's on-site first aid services. Majority (85%) were use of turpentine oil. The other 9 injuries or illness listed in the standard report form are wound care, muscle cramp, blister, sprain, hyperthermia, hypothermia, shock, vomiting and others. Muscle cramps were the second-most common problem, followed by need of wound care.

A total of 34 patients (0.1%), comprised of 5 10Km runners, 21 Half Marathon runners, and 8 Marathon runners, were transferred to hospitals for further treatment. Most of them (85%) were managed by first aid posts along the route in Hong Kong Island. Consequently, majority (70%) were sent to Ruttonjee Hospital (RH). Patient transportation to hospitals occurred between 06:59hr and 13:07hr, with 38% being transferred between 10:00hr and 10:59hr. During this peak hour, one case was sent to Princess Margaret Hospital, one to Queen Mary Hospital and the remaining 11 were sent to RH.

Conclusion

In HKM 2023, the majority of injuries or illnesses were successfully managed on-site by AMS which has strategically set up various first aid and medical posts throughout the route according to risk assessment and level of care required, and there was only 0.1% required transfer to hospital for advance medical care.

As we anticipate the total number of runners in 2024 to return to pre-pandemic levels, it is imperative to have similar comprehensive medical support plan. This plan must include a thorough strategy for equipment and manpower allocation, both in the prehospital setting and at Accident and Emergency Departments, to ensure the safety and well-being of all participants.

Figure 1. Number of runners transferred to AEDs

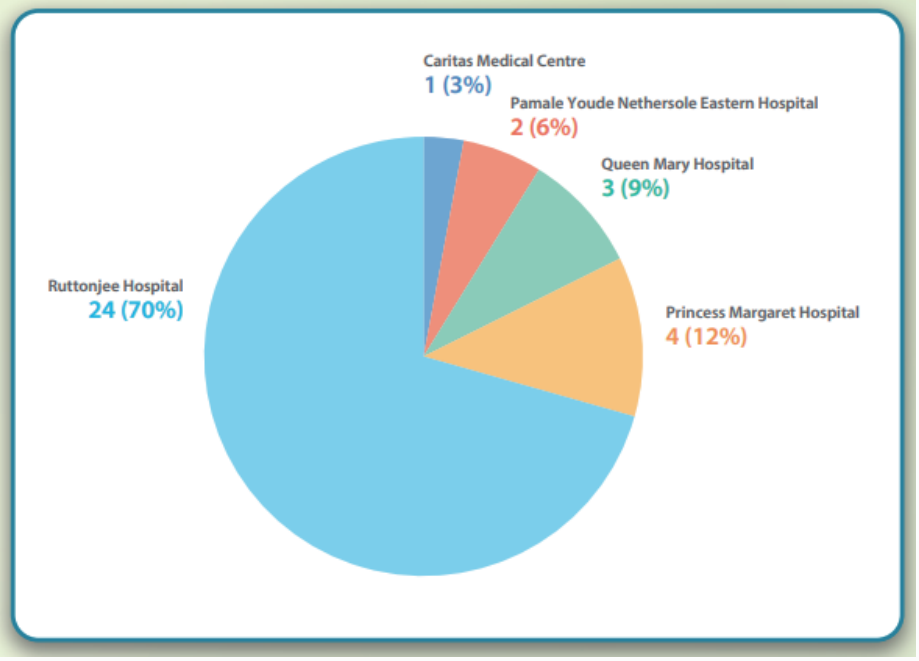


Figure 2. Hourly distribution of runners transferred to hospitals

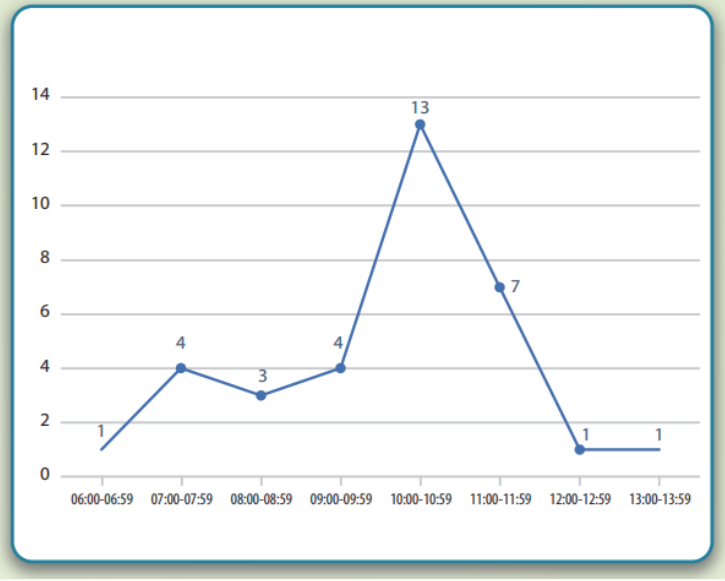


Table 1. **Number of injuries or illness treated in the three categories of HKM 2023**

		10Km (N=140)	Half Marathon (N=1928)	Full Marathon (N=2595)
1	Wound care	35 (25%)	31 (1.6%)	69 (2.7%)
2	Muscle cramp	30 (21.4%)	203 (10.5%)	187 (7.2%)
3	Blister	1 (0.7%)	11 (0.6%)	8 (0.3%)
4	Sprain	19 (13.6%)	10 (0.5%)	8 (0.3%)
5	Hyperthermia	5 (3.6%)	2 (0.1%)	2 (0.1%)
6	Hypothermia	0 (0%)	1 (0.1%)	2 (0.1%)
7	Shock	0 (0%)	4 (0.2%)	4 (0.2%)
8	Vomiting	1 (0.7%)	5 (0.2%)	7 (0.3%)
9	Use of turpentine oil	34 (24.3%)	1634 (84.8%)	2277 (87.7%)
10	Others	15 (10.7%)	27 (1.4%)	31 (1.2%)

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab22

CQI Program - Knowledge of Nurses Working in AED on Giving Advice to Patient with Sprain Injuries

Mr. Kai-Yik Chan[1], Mr. Chun-Kit Chen[1], Miss Ho-Yan Li[1], Mr. Kin-Fung Chow[2], Miss Ho-Yan Lau[2], Miss Tsz-Kwan Lau[2], Mr. Wai-Hang Mok[2], Miss Man-Chi Lam[3]

[1]Tseung Kwan O Hospital, [2]Pamela Youde Nethersole Eastern Hospital, [3]St. John Hospital

Background

Sprain injuries are common types of injuries in Hong Kong and worldwide. In 2019, they accounted for 16.5% of all injury cases in Hong Kong (Department of Health, 2020). There were a total of 4271 sprain injuries recorded in Accident and Emergency Department (AED) of Tseung Kwan O Hospital, Pamela Youde Nethersole Eastern Hospital, and St. John Hospital in 2022.

According to the guidelines published by Hospital Authority (HA) and Prosthetic & Orthotic Unit, R.I.C.E (Rest, Ice, Compression and Elevation) management is advised for patients in accordance with the most recent ankle sprain guidelines, and it has been used for many years. As nurses play a major role in patient education and implementation of injury prevention and intervention, we would like to assess the nurses' knowledge on this topic.

Objectives

To Identify any knowledge gap and enhance the knowledge of nurses working in AED on giving advice to patients with sprain injuries.

Methods

In this study, a quantitative approach was used and the outcomes were evaluated through a single group pretest-posttest design, with an intervention in between. As the study was based on the principle of "P.E.A.C.E. & L.O.V.E.", we gained the authors' approval in the use. All nurses were recruited by convenience sampling method in PYNEH, SJH and TKOH.

Results

There were 110 nurses recruited in this project, which accounted for 65% of the total AED nurses among three hospitals, to complete our questionnaires and enhance their knowledge about the updated information of sprain injuries management. The knowledge acquisition can be demonstrated by score changes between pretest and posttest questionnaires. The mean score of the pretest questionnaire is 4.45 whereas that of post-questionnaire is 12.15. In the pretest, only 15% of the nurses heard about the new acronym of P.E.A.C.E. and L.O.V.E.. With the aid of the education video, 86% of the nurses have recognized this new approach of sprained injury management. It indicates that our video is effective in introducing new strategies for providing health advice to sprained injuries patients.

Conclusions

Based on the significant difference of the scores between the pretest and posttest, education video is successful to improve and strengthen staff's knowledge in updated sprained injury management. It is the first step to prepare emergency nurses to advise patients with sprained injury management in an updated approach.

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab23

Was there any Delay in ST-elevation Myocardial Infarction Care During the COVID-19 Outbreak in an Accident & Emergency Department of Hong Kong?

Ms. Miu-Pui Yau[2], Dr. Kevin KC Hung[1], Mr. William YW Chan[2]
[1]Accident and Emergency Medicine Academic Unit, The Chinese University of Hong Kong
[2]Accident & Emergency Department, Tuen Mun Hospital, Hong Kong

What's New

The first study to illustrate the influence of the 5 waves of COVID-19 outbreak to the STEMI care in A&E of HK.

Why it's Important

1. To review the STEMI care performance in the A&E of HK
2. Modifications to the workflow and protocol can be made to better prepare for the next outbreak or future pandemic

Background & Objective

Since the outbreak of COVID-19 in Wuhan, China in the end of 2019, the disease has been affecting the global health care services tremendously. The A&E of HK had also been overwhelmed. As time is muscle, a shorter reperfusion time has been proved to have a lower mortality rate in STEMI patients.

This study tried to determine whether there is a delay in STEMI care during the COVID-19 outbreak in A&E of HK.

Methods

Retrospective observational study carried out at Tuen Mun Hospital A&E from 26 NOV 2018 to 30 JUN 2022. Six pairs of period/waves (pre & post COVID-19 outbreak) were identified for comparison:

1. 25 JAN 2019 to 3 MAR 2019 vs 25 JAN 2020 to 3 MAR 2020
2. 19 MAR 2019 to 5 MAY 2019 vs 19 MAR 2020 to 5 MAY 2020
3. 9 JUL 2019 to 27 AUG 2019 vs 9 JUL 2020 to 27 AUG 2020
4. 26 NOV 2018 to 29 APR 2019 vs 26 NOV 2020 to 29 APR 2021
5. 31 DEC 2018 to 30 JUN 2019 vs 31 DEC 2021 to 30 JUN 2022
6. 1 JAN 2019 to 25 MAR 2019 vs 1 JAN 2022 to 25 MAR 2022

In the above, door to ECG, ECG to activation, door to needle & door to balloon time were compared.

Results

*Only the group Door to ECG time – Pre-COVID-19 3 vs 3rd wave showed significant delay (Fig. 1)
* P value = 0.018
The results may due to::
1. Decline in attendance during each wave of outbreak (Fig 2)
2. Chest pain workflow in TMH A&E
3. Staff adaptation to the post COVID-19 change

Conclusion

There was no significant delay in the door to ECG, ECG to activation, door to needle & door to balloon time being identified in this study generally.

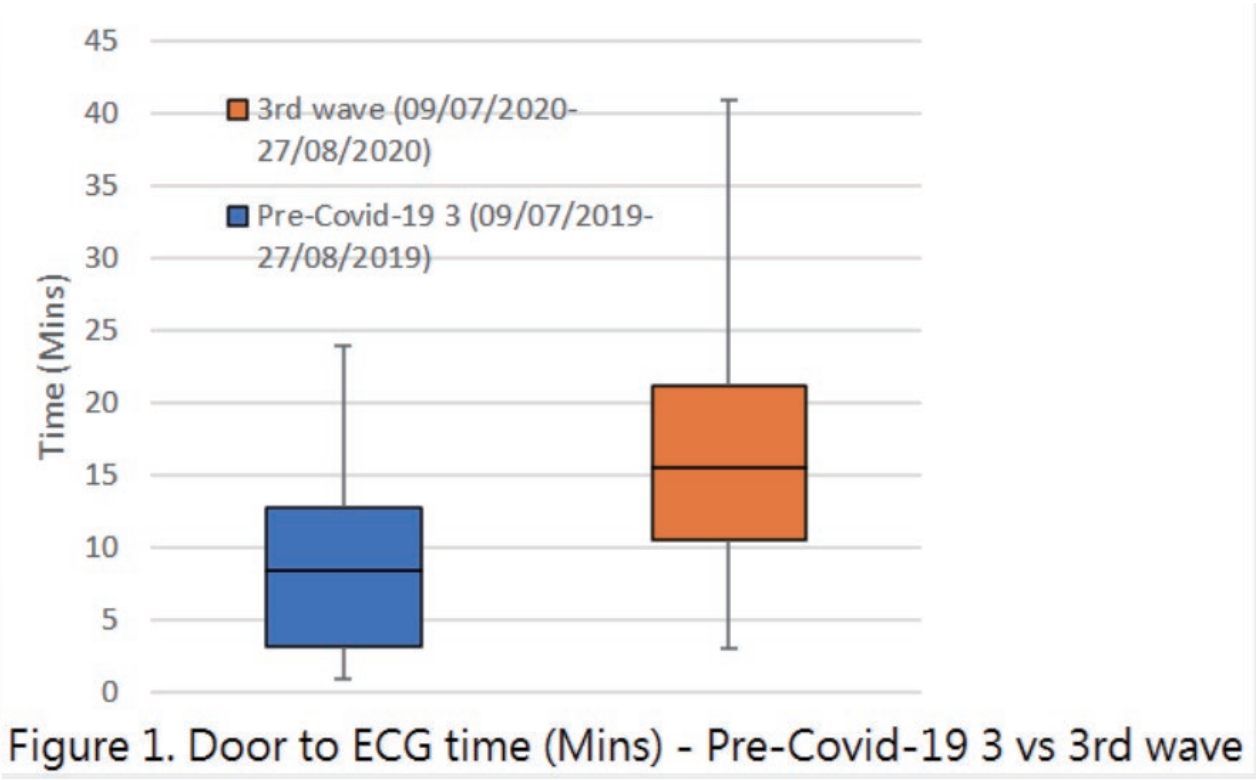


Figure 1. Door to ECG time (Mins) - Pre-Covid-19 3 vs 3rd wave

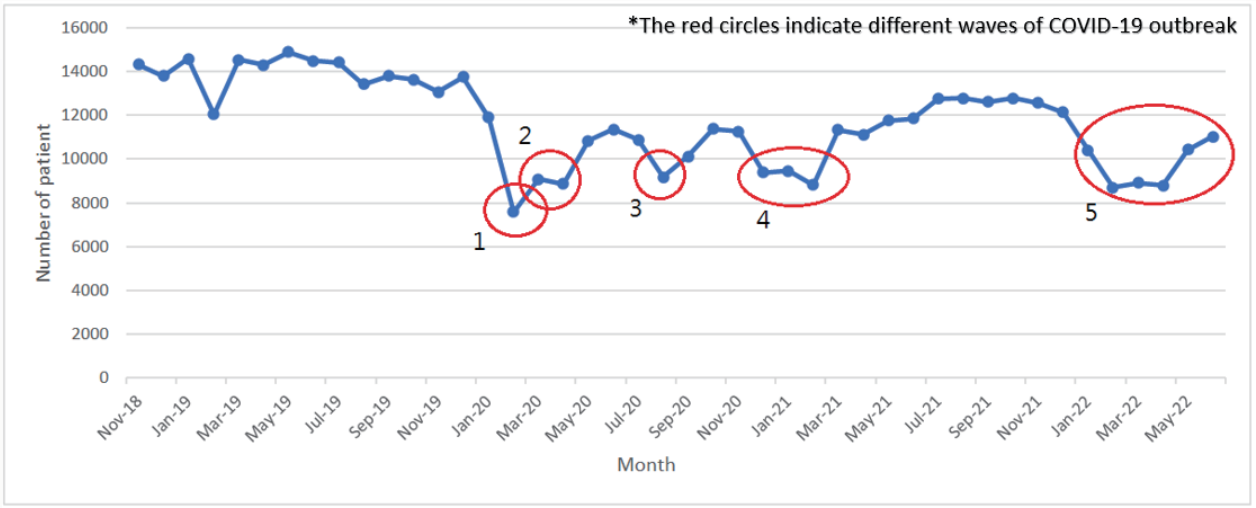


Figure 2. Monthly attendance in TMH A&E from November 2018-June 2022

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab24

The Association of Peer Instructor with Better Learning Experience of Resuscitation among Elderly in Hong Kong

Mr. Sinclair Wun-Sing Cheng, Ms. Christie Jing-Yee Ching, Dr. Abraham Ka-Chung Wai
Department of Emergency Medicine, The University of Hong Kong

Objective

This study aims to develop a specific program to empower and educate the elderly on the management of common medical emergencies and mitigation of adverse health outcomes. Through peer education we hope to create a snowball effect of such knowledge and skills. Ultimately, developing a prototype of elderly emergency care education for elderly service providers to adopt.

Methodology

A collaboration between the Li Ka Shing Faculty of Medicine from the University of Hong Kong and local community non-profit organizations was formed to conduct workshops in local community centers. The workshops covered cardiopulmonary resuscitation (CPR) skills and knowledge on stroke, heart attack, and fall injury using instructional methods based on geragogic principles and teaching materials customized to the physiological and functional characteristics of the elderly.

A total of 1033 elderly people in Hong Kong submitted a post-workshop evaluation. Descriptive analysis was performed to compare presence of elderly instructors during workshops, workshop class, and age groups with respect to the participants confidence, perceived knowledge, willingness to share, and satisfaction.

Result

When comparing workshop class, age groups, and presence of elderly instructor most of the participants responded with “Neutral” to “Strongly Agree”. Those who attended advanced workshops had significantly higher confidence than those who attended basic workshops (P=0.03). Notably, workshops with an elderly instructor present yielded significantly higher confidence (P=0.03), willingness to share (P=0.005) and satisfaction (P=0.02) relative to those who attended workshops without an elderly instructor.

Conclusion

The presence of an elderly instructor in a workshop empowers elderly participants in the management of common medical emergencies and encourages them to share their learnt knowledge. Thus, underlines the importance of social learning theory and theory of participatory education in peer teaching. Other studies showed increased by-stander CPR with dispatcher-assisted or telephone-assisted CPR training, but the quality of CPR remains desired. Therefore, future emergency care education for the elderly can potentially adopt this method to promote management of medical emergencies but further efforts are required to improve the quality of CPR.

Table 1: Comparing perceived knowledge, confidence, willingness to share, and satisfaction between workshops with and without the presence of an elderly instructor.

	Elderly Instructor [N(%), Total=1033]		
	Present [Total=308]	Not Present [Total=725]	P-Value[ŧ]
Perceived Knowledge			0.62
Strongly Agree	212 (69)	486 (67)	
Agree	88 (29)	224 (31)	
Neutral	8 (3)	9 (1)	
Disagree	0 (0)	0 (0)	
Strongly Disagree	0 (0)	6 (1)	
Confidence			0.03*
Strongly Agree	150 (49)	294 (41)	
Agree	136 (44)	379 (52)	
Neutral	22 (7)	48 (7)	
Disagree	0 (0)	3 (0)	
Strongly Disagree	0 (0)	1 (0)	
Willingness To Share			0.005*
Strongly Agree	181 (59)	361 (50)	
Agree	124 (40)	342 (47)	
Neutral	3 (1)	16 (2)	
Disagree	0 (0)	2 (0)	
Strongly Disagree	0 (0)	4 (1)	
Satisfaction			0.02*
Very Satisfied	223 (72)	471 (65)	
Satisfied	82 (27)	238 (33)	
Neutral	3 (1)	11 (2)	
Dissatisfied	0 (0)	1 (0)	
Very Dissatisfied	0 (0)	4 (1)	

** P<0.05*

[ŧ] Mann Whitney U Test

Table 2: Comparing perceived knowledge, confidence, willingness to share, and satisfaction between basic and advanced workshops.

	Workshop Class [N(%), Total=1033]		
	Basic [Total=847]	Advanced [Total=186]	P-Value[ŧ]
Perceived Knowledge			0.58
Strongly Agree	575 (68)	123 (66)	
Agree	255 (30)	57 (31)	
Neutral	12 (1)	5 (3)	
Disagree	0 (0)	0 (0)	
Strongly Disagree	5 (1)	1 (1)	
Confidence			0.03*
Strongly Agree	349 (41)	95 (51)	
Agree	438 (52)	77 (41)	
Neutral	58 (7)	12 (7)	
Disagree	2 (0)	1 (1)	
Strongly Disagree	0 (0)	1 (1)	
Willingness To Share			0.34

Strongly Agree	438 (52)	104 (56)	
Agree	389 (46)	77 (41)	
Neutral	16 (2)	3 (2)	
Disagree	2 (0)	0 (0)	
Strongly Disagree	2 (0)	2 (1)	
Satisfaction			0.80
Very Satisfied	570 (67)	124 (67)	
Satisfied	263 (31)	57 (31)	
Neutral	11 (1)	3 (2)	
Dissatisfied	1 (0)	0 (0)	
Very Dissatisfied	2 (0)	2 (1)	

** P<0.05*

ᵗ Mann Whitney U Test

Table 3: Comparing perceived knowledge, confidence, willingness to share, and satisfaction between age groups.

	Age Group [N(%), Total=1033]		
	<60 Years Old [Total=168]	≥60 Years Old [Total=865]	P-Valueᵗ
Perceived Knowledge			0.11
Strongly Agree	122 (73)	576 (67)	
Agree	44 (26)	268 (31)	
Neutral	1 (1)	16 (2)	
Disagree	0 (0)	0 (0)	
Strongly Disagree	1 (1)	5 (1)	
Confidence			0.54
Strongly Agree	78 (46)	449 (52)	
Agree	75 (45)	396 (46)	
Neutral	14 (8)	17 (2)	
Disagree	1 (1)	0 (0)	
Strongly Disagree	0 (0)	3 (0)	
Willingness To Sharing			0.48
Strongly Agree	93 (55)	449 (52)	
Agree	70 (42)	396 (46)	
Neutral	2 (1)	17 (2)	
Disagree	2 (1)	0 (0)	
Strongly Disagree	1 (1)	3 (0)	
Satisfaction			0.12
Very Satisfied	122 (73)	572 (66)	
Satisfied	42 (25)	278 (32)	
Neutral	2 (1)	12 (1)	
Dissatisfied	1 (1)	0 (0)	
Very Dissatisfied	1 (1)	3 (0)	

** P<0.05*

ᵗ Mann Whitney U Test

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab25

Can Emergency Ambulatory Care Reduce Medical Admission?

Dr. Shin-Yan Man
Hospital Authority

Introduction

An Emergency ambulatory care (EAC) unit was set up in July 2021 in the A&E department of Prince of Wales Hospital and had been providing service since 1 August 2021. The EAC unit provides emergency care without traditional hospital bed-based management, reducing the risk of inpatient complications, hospital-acquired infections and adverse effects on patient satisfaction and staff morale. Also, it can alleviate inpatient bed demand by reducing admissions through streaming to the EAC unit and supporting early discharge. PubMed was searched using the following terms: emergency admission, hospital admission reduction and ambulatory care. Several studies (1-9) from 2012 to 2020 concluded that a structured clinical pathway could safely identify low-risk ambulatory care-sensitive conditions for outpatient care.

Objectives

To evaluate the effect of EAC service provided in an A&E department on medical admission reduction in a tertiary hospital.

Methodology

According to clinical protocols, an emergency medicine specialist recruited appropriate patients pending hospital admissions at the A&E department into the EAC unit for outpatient care instead of hospital admission.

Result & outcome

The EAC unit has provided 170 eight-hour EAC sessions from 1 August 2021 to 31 December 2021. 408 patients initially planned for hospital admission in the A&E department were recruited into the EAC unit for care with ages ranging from 18 to 102, mean 64.2; 196 (48%) were male; 365 (89.5%) patients were successfully discharged via EAC, 43 (10.5%) patients required hospital admission. Of those discharged patients, 144 (39.5%) were referred to fast-track clinics or specialist outpatient departments, 50 (13.7%) with EAC follow-up arranged, and 14 (3.8%) required community nursing support. 307 (75.2%) were medical cases, and 101 (24.8%) were surgical and orthopaedic cases. The five most common clinical diagnoses recruited were chest pain (13.7%), congestive heart failure (10.0%), abdominal pain (10.0%), hypertensive urgency (8.6%) and syncope (8.3%). The mean length of stay in the EAC unit was 1.33 days. The 30-day all-cause mortality was 4 (0.98%), and the unscheduled A&E re-attendance within seven days after discharge was 18 (4.93%). For each EAC session, an average of 1.83 patients were recruited from 24.64 patients pending medical admission, reducing the medical admission by 7.4%.

Conclusion

EAC service can safely reduce medical admission

Keywords: emergency admission, hospital admission reduction and ambulatory care.

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab26

A Nursing Care Bundle on Application of Heat Wrap for Acute Low Back Pain Patients in AED

Ms. Sau-Kin Cheung[1], Mr. Hing-Yiu Chan[1], Mr. Ming-Tak Chung[1], Ms. Tsoi-Yiu Ng[1], Ms. Wai-Chu Kwong[1], Ms. Ying-Kwan Sin[1], Ms. Ho-Fung Lau[2], Mr. Heung-Hang Lee[2]
[1]Kwong Wah Hospital AED, [2]Ruttonjee & Tang Shiu Kin Hospital AED

Objectives

The management of acute low back pain (LBP) in the emergency department (ED) is challenging, especially during long waiting periods. The purpose of this project is to develop a nursing care bundle for the application of heat wrap in the management of acute LBP patients in the ED. The care bundle would include evidence-based interventions and best practices for heat wrap application, as well as guidelines for patient education, monitoring, and evaluation with the objectives of early, safe, easy implementation and standardized nurse-initiated care for acute LBP patients.

Material and methods

Fifteen journals were selected based on the Johns Hopkins literature review method to identify the best evidence for heat wrap therapy in the management of acute LBP. The evidence revealed that using gel pads as heat therapy for 15 minutes at a temperature of 40°C was effective. The target participants were low back pain patients with age ≥18 and with pain less than 4 weeks. Patients with skin disease or open wound, cognitive impairment, hypersensitivity to heat, or pregnant women and applied topical medication to lower back / lumbar region within 24 hours were excluded. A nursing practice guideline for heat wrap therapy was then established and endorsed by the department. The occupational therapy department was also consulted for tailor-making of the heat wrap holder. Training was provided to all nursing staff. An implementation phase 1 was conducted to review the guideline of period 4/4/2023 - 27/4/2023.

Results

A total of 36 cases were included in phase 1, and there was no increase in pain scores in any of the cases. 40% of LBP patients achieved a 2-point or more reduction in the Numerical Pain Rating Scale. No complications were identified for any of the recruited cases.

Conclusion

Heat wrap therapy is a convenient, safe, non-pharmaceutical, and low-cost service that can benefit patients with acute LBP. With this nurse-initiated protocol, prompt pain relief care can be provided for acute LBP patient, which is beneficial in the ED setting especially during long waiting period.

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab28

Iron Replacement Therapy for Patients with Menorrhagia Related to Iron Deficiency Anemia in NTWC AED

Dr. Kin-Ming Poon[1], Dr. Hang-Nam Siu[2], Dr. Kwok-Fung Sun[3], Dr. Kwok-Leung Tsui[3], Ms. Wai-Yu Leung[3], Ms. Ka-Lee Hung[2], Ms. Mei-Mei Chan[1]

[1]Accident & Emergency Department, Tin Shui Wai Hospital,
[2]Accident & Emergency Department, Tuen Mun Hospital, [3]Accident & Emergency Department, Pok Oi Hospital

Introduction

The demand for blood products in Hong Kong is enormous and it is growing in an unsustainable manner due to aging population. Blood transfusion is not without risks, namely infection, allergic reaction, and incompatibility.

Menorrhagia is one of the common causes of iron deficiency anemia (IDA). For patients suffering from menorrhagia with IDA, iron stores should be replenished by iron supplement before consideration of blood transfusion, unless in the case of severe anemia.

Oral iron is the first line treatment for patients with IDA. Intravenous (IV) iron is indicated if the patient cannot tolerate oral iron therapy or there is a clinical urgency to replenish the iron store rapidly.

Traditionally, patients suffering from menorrhagia with severe IDA were admitted to the Gynecology ward for further investigation and treatment such as IV iron or transfusion.

Iron replacement therapy, as part of the Patient Blood Management (PBM) program, aims to reduce the need and risk of transfusion to menorrhagia patients with IDA. This study is to assess its effectiveness and safety profile.

Method

Guideline on the use of iron replacement therapy for adult patients with menorrhagia related IDA was implemented since June 2020. It is a new clinical pathway to manage these patients in outpatient setting and to reduce Gynecology ward admission. Adult patients with menorrhagia with hemoglobin (Hb) 7 or above, and stable vital signs would be recruited into the study. Their ages, pre-iron therapy hemoglobin (Hb) and post-iron therapy Hb level, any symptoms improvement and any side effects of iron therapy were collected and analyzed in the study.

Result

There were 71 patients, who had received IV iron therapy, recruited in the study. The mean age of patients was 42.6 years old. The mean of pre-iron therapy Hb level was 8g/dL while the mean of post-iron therapy Hb level was 10.5g/dL. The amount of Hb level increase was 2.5g/dL. Symptoms of dizziness, fatigue, shortness of breath and palpitation were improved in 25 patients (35.2%), 13 patients (18.3%), 15 patients (21.1%) and 10 patients (14.1%) respectively.

Adverse effects were encountered in 4 patients (5.6%). Three of them experienced flushing and one of them had fever. The adverse effects were transient, and no treatment or admission was required.

Conclusion

Iron replacement therapy is a safe and effective treatment for patients with menorrhagia related iron deficiency anemia in an outpatient setting with reduction in Gynecology admission burden.

	TMH	POH	TSH (Sept 2022)
Number recruited	43	20	8
Mean Age (years old)	42.6 +/- 0.71		
Mean Hb (CBC) g/dL (Pre Iron therapy)	8.0 +/- 0.09		
Mean Hb (CBC) g/dL (Post Iron therapy)	10.5 +/- 0.11		
Amount of Hb Increase g/dL	2.5 +/- 0.10		
Symptoms IMPROVED	Dizziness 25/71 (35.2%); Fatigue 13/71 (18.3%); SOB 15/71 (21.1%) ; palpitation 10/71 (14.1%)		
Adverse reactions	Flushing 3/71 (4.2%); fever 1/71 (1.4%)		

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab31

The Hong Kong Emergency Medical Services (HK EMS) System: A Narrative Review

Ms. Eponine Kate Wong[1], Mr. Lancelot Hei-Lok Leung[1], Mr. Anthony Yunda Kwok[1], Dr. Arthur Chi-Kin Cheung[2], Prof. Timothy Hudson Rainer[2]

[1]The University of Hong Kong,
[2]Department of Emergency Medicine, Li Ka Shing Faculty of Medicine, The University of Hong Kong

Background

Emergency Medical Services (EMS) play a critical role in public health infrastructure, providing prompt medical response in emergencies. In Hong Kong, the EMS system adopts the Anglo-American model, characterised by a paramedic-based approach with advisory input from doctors. Whilst the Fire Service Department acts as the primary ambulance service provider, several other organisations also participate, creating an intricate and multifaceted system. However, the detailed organisation of the EMS system in HK has not been researched in depth since 2009, leaving room for further study.

Methods

A comprehensive approach, including a literature review and in-depth interviews with key EMS officials, was used to explore the HK EMS system. The review covered both English and Chinese literature and integrated grey literature to compensate for the scarcity of academic sources. Interviews encompassed representatives from the Fire Service Department, Government Flying Service, Auxiliary Medical Service, Civil Aid Service, St John Ambulance Hong Kong, and the Hong Kong Red Cross.

Results

The review revealed a complex and dynamic EMS system that has evolved over time into a network of organizations, each contributing its unique expertise. The system's unique organization, with significant volunteer involvement, offers both advantages and challenges. The delineation of roles among various organizations ensures a comprehensive response to emergencies but also necessitates effective communication and cooperation. The review also highlighted areas that require further research and exploration, particularly in understanding the practical interplay of the various organizations in complex emergency situations..

Conclusion

The Hong Kong EMS system's unique structure and significant volunteer involvement present a model that offers insights into the potential benefits and challenges of such an approach. This review serves as a foundation for further research and discussion, with the hope of contributing to ongoing efforts to enhance the EMS system's effectiveness and efficiency, ultimately improving emergency care quality in Hong Kong.

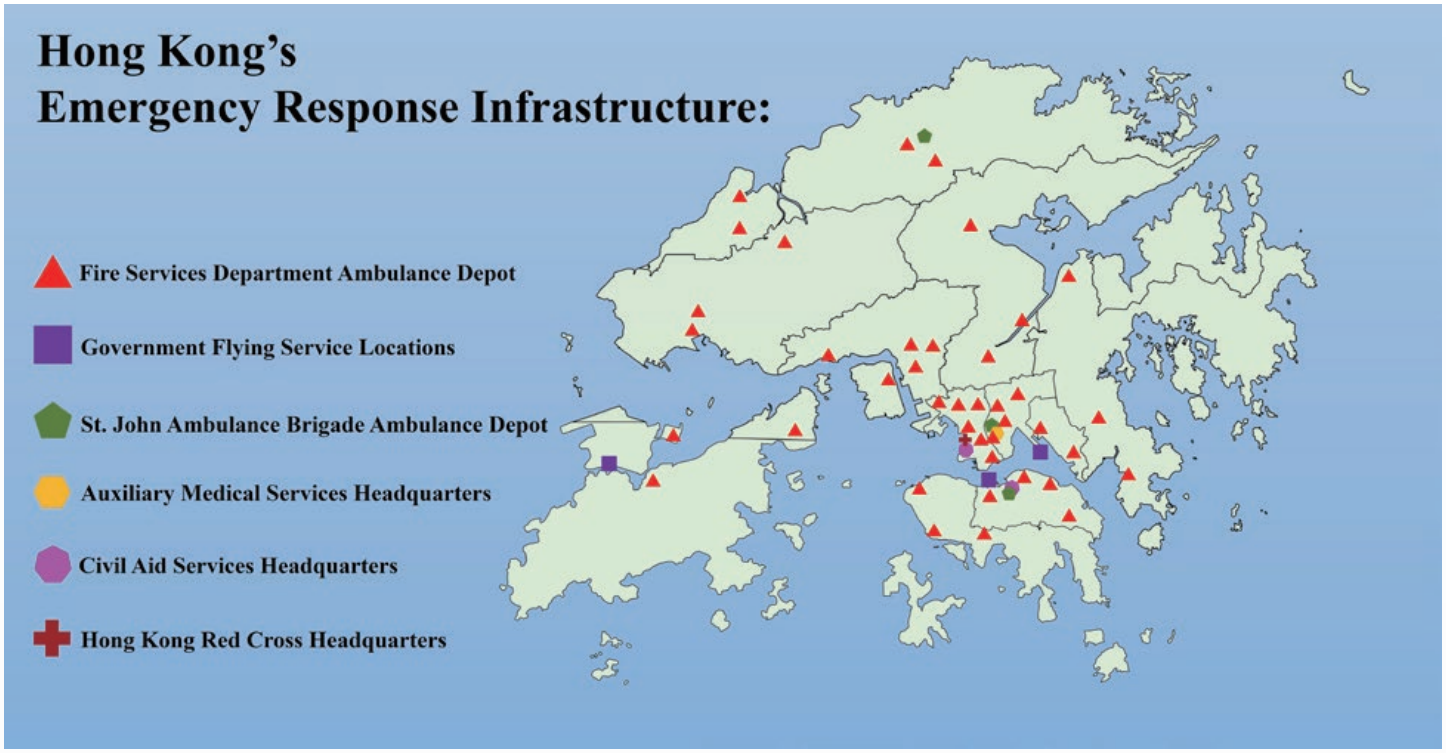


Table 1. Characteristics of different organisations providing prehospital emergency medical services.

Organisation	Governmental	Personnel type	Doctors involved in Prehospital Care	Service Nature
FSD	Yes	Full time paid staff	No	Emergency
GFS	Yes	Full time paid staff and Volunteer Auxiliary staff	Yes	Emergency
AMS	Yes	Mainly volunteers	Yes	Non-Emergency
CAS	Yes	Mainly volunteers	No	Emergency and Non-Emergency
St John	No	Mainly volunteers	Yes	Emergency and Non-Emergency
Red Cross	No	Mainly volunteers	Yes	Non-Emergency

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab32

Prehospital Care in Action: A Study on the Hong Kong Standard Chartered Marathon

Mr. Lancelot Hei-Lok Leung[1], Mr. Anthony Yunda Kwok[1], Ms. Eponine Kate Wong[1], Dr. Arthur Chi-Kin Cheung[2], Prof. Timothy Hudson Rainer[2]

[1]The University of Hong Kong,
[2]Department of Emergency Medicine, Li Ka Shing Faculty of Medicine, The University of Hong Kong

Objective

To evaluate injuries and medical conditions among Standard Chartered Hong Kong Marathon participants and assess the effectiveness and efficiency of on-site medical support provided by the Hong Kong Auxiliary Medical Services.

Background

The Standard Chartered Hong Kong Marathon is a major sports event and is classified as a Gold Label Road Race by World Athletics. The Hong Kong Auxiliary Medical Services (AMS) has been the sole medical service provider, ensuring participants' safety, providing prehospital immediate care and transportation, and reducing the demand for Accident & Emergency (A&E) services in public hospitals. This study scrutinises the service demand and the trend of the provision of care over the past decade.

Methods

This is a retrospective descriptive study on prehospital data from 2010-2023 (event cancelled in 2020 and 2022 during the COVID-19 pandemic). All treatment and transportation records from AMS were retrieved and analysed. Participants' demography, distances ran, presenting symptoms, and treatments received were recorded. Subgroup analysis was performed on those requiring further hospital care, with recorded data on preliminary diagnoses and various A&E destinations.

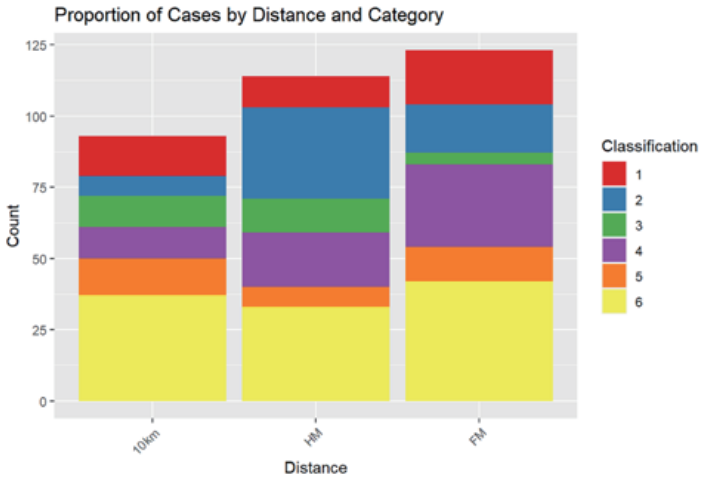
Results

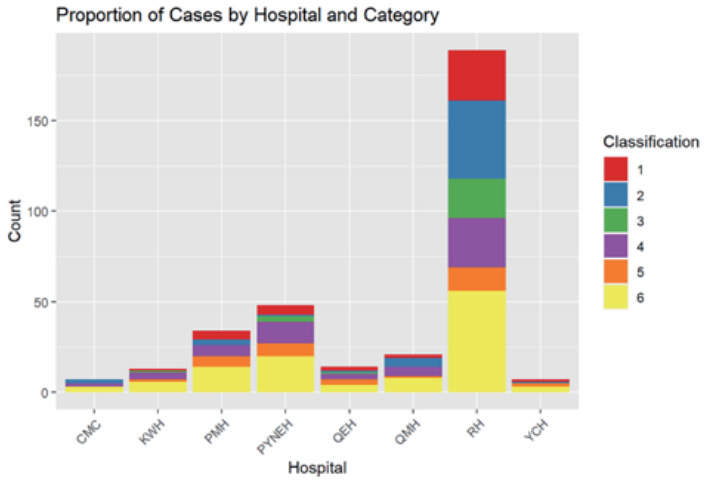
From 2010 to 2023, a total of 116,948 participants received prehospital care by the AMS at the marathon. Among those, 333 patients (0.285%) were transferred to a hospital for further care. The rest of the participants who were treated and discharged on-site consisted of musculoskeletal (MSK) injuries (94.84%), wounds (3.16%), medical illnesses (0.48%), and others (1.52%). Subgroup analysis of hospitalised participants revealed that in the half marathon there was higher proportion of participants suffering from altered mental state (28.07%), whereas in the full marathon there was a lower proportion of heat illnesses (3.25%). The Ruttonjee Hospital A&E in Wan Chai received the largest amount of participants who required further care.

Conclusion

The prehospital care provided by AMS has effectively provided a safe sporting environment for participants and efficiently managed the majority of clinical needs on site. This has largely reduced the demand for A&E services. The distribution of clinical characteristics of participants who attended AMS service allowed more precise allocation of appropriate resources and manpower at the right place along the racing track. Our study provides essential data for medical staffs' skill training in prehospital settings and sporting environments.

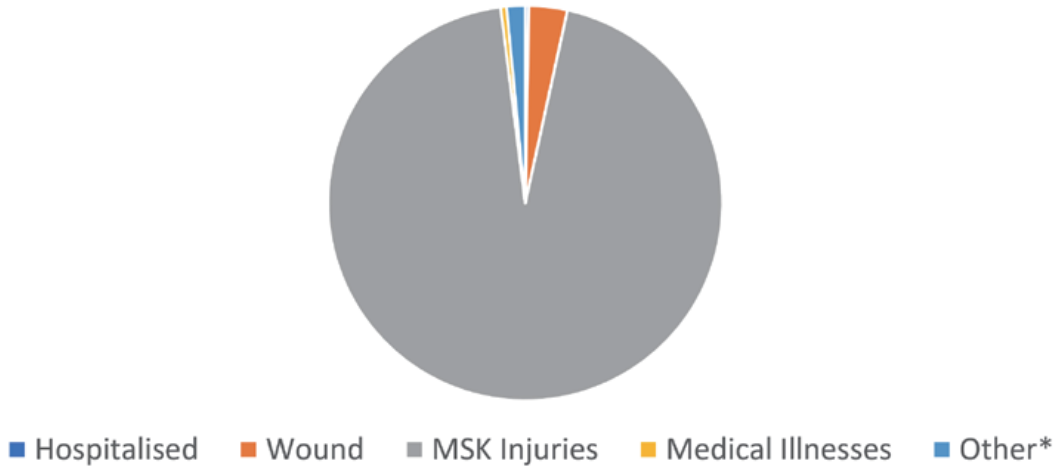
Summary Of Hospitalised Cases of the Standard Chartered Hong Kong Marathon From 2010-2023





Classification (1= Cardiac Arrest/ Cardiopulmonary; 2 = Altered Mental State/ Obtundation; 3 = Heat Illnesses; 4 = Overexertion/ Hypotension/ Dizziness; 5 = Uncontrolled bleeding; 6 = MSK injuries/ Miscellaneous)

Cases treated and Discharged on-site from 2010-2023



Category	Hospitalised	Wound	MSK Injuries	Medical Illnesses	Other*
Count	333	3685	110596	556	1778

*Other may include application of Vaseline, menstrual pain, etc.

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab33

The Impact of COVID-19 Pandemic on Helicopter Rescue Service in Hong Kong

Mr. Hon-Sing Kam[1], Dr. Arthur Chi-Kin Cheung[1,2], Dr. Kevin Kei-Ching Hung[3]

[1]Government Flying Service, [2]Department of Emergency Medicine, The University of Hong Kong, [3]Accident and Emergency Medicine Academic Unit, The Chinese University of Hong Kong

Background

The Government Flying Service (GFS) of HKSAR provides 24-7 Search and Rescue (SAR) service to in-shore and off-shore casualties up to 1300 kilometres at the South China Sea. The SAR service can be broadly divided into mountain or sea rescue. The average number of patient callouts in SAR has been steady at around 500 per year all along. Since the beginning of COVID-19 pandemic, the number of patient callouts increased drastically, yet the distribution of increased caseload of various disease categories remained unclear. This study aims to evaluate the impact of COVID-19 pandemic on the helicopter rescue service in Hong Kong.

Methodology

This was a retrospective cross-sectional study which included pre-pandemic period (21st Jan 2018 to 21st Jan 2020) and early pandemic period (22nd Jan 2020 to 21st Jan 2021). All GFS SAR callouts and air medical service clinical records were traced. SAR callouts that were stood down due to adverse weather, inability to locate or alternatively rescued by ground party were excluded. All patients picked up by GFS helicopters during the study period were included into the study. Patient demography and disease categories were compared between two periods. Continuous variables were reported as median with interquartile range and analysed by t-test, while categorical variables were reported as proportions and analysed by chi-square test. A two-tailed p value < 0.05 was considered statistically significant. This study was part of the Master degree in Prehospital and Emergency Care (CUHK).

Results

There were 1634 patients included and analysed. The number of patients in the first year of early pandemic period (n = 884) had exceeded the summation of two years in the pre-pandemic period (n = 750), and the increments were persistent in all 12 months (Figure 1). During the early pandemic period, there were significantly more male victims (p=0.005) and in-shore mountain rescue (p<0.001), also there were significantly more ankle injury (p=0.005), fracture/ deformity (p=0.04), wound (p=0.04) and other medical illness (p<0.001). In contrast, there were no significant change in cardiac arrest cases or major head and spinal injury (Table 1).

Conclusion

COVID-19 pandemic had significantly increased the SAR workload and the need for prehospital medical care, while more hiking activities were generally observed during the lockdown in Hong Kong. Specific training on wound care, fracture and soft tissue management may benefit the emergency medical personnel. Further study on pedagogical framework in paramedic training is needed.

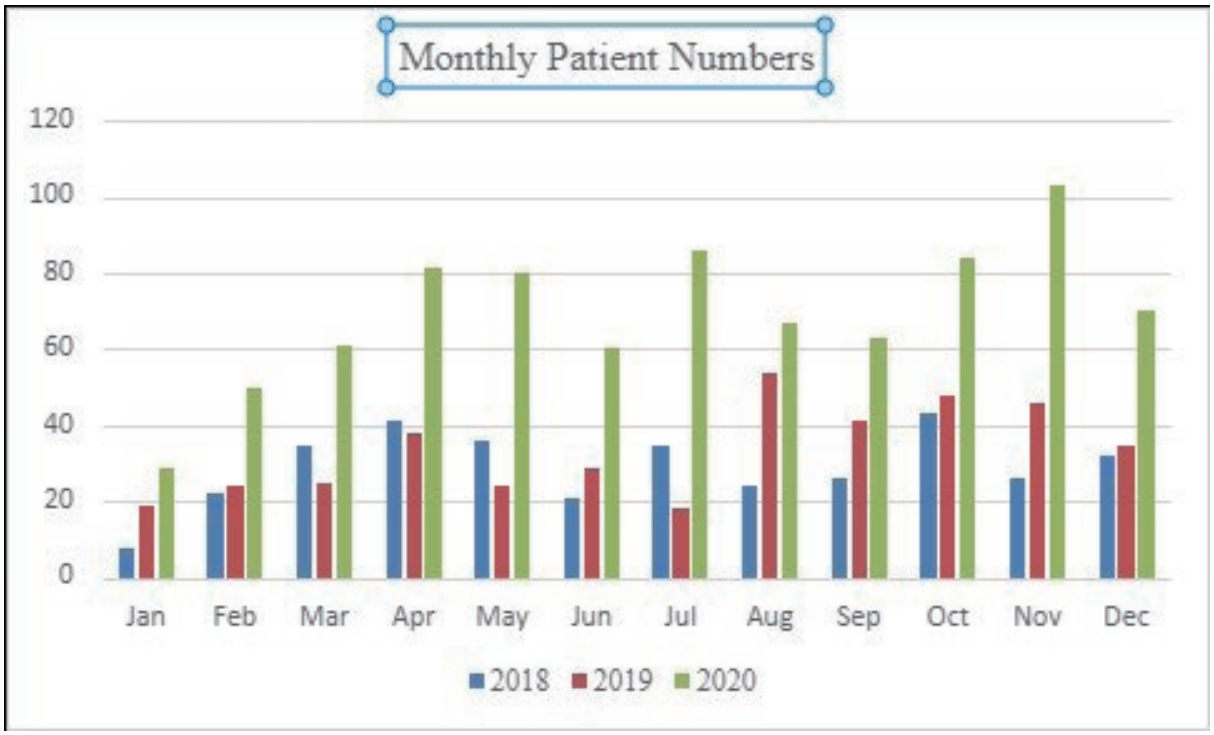


Table 1. Comparison on patient demography and disease categories before and after outbreak of COVID-19.

	Pre-pandemic (2018-2019) n = 750	Early pandemic (2020) n = 884	*P* -value
Age, year – median (IQR)	48 (34 – 60)	50 (32 – 60)	0.644
Male gender (%)	409 (54.5%)	505 (57%)	0.005
In-shore mountain rescue (%)	687 (91.6%)	845 (96%)	<0.001
Cardiac Arrest (%)	41 (5.5%)	35 (4%)	0.149
Ankle Injury (%)	82 (10.9%)	139 (15.7%)	0.005
Fracture/Deformity (%)	46 (6.1%)	78 (8.8%)	0.04
Head/Spine Injury (%)	52 (6.9%)	65 (7.4%)	0.743
Wounds (%)	59 (7.9%)	96 (10.9%)	0.04
Other Medical Illness (%)	109 (14.5%)	217 (24.5%)	<0.001
Heat Illness (%)	138 (18.4%)	130 (14.7%)	0.044

ABSTRACTS (POSTER PRESENTATION)

POSTER Ab38

The Impact of the COVID-19 Pandemic on Acute Toxicity Related to Recreational Drugs in Hong Kong

Dr. Rex Lam[1], Dr. Eric Ho-Yin Lau[2], Dr. Chi-Keung Chan[3], Dr. Man-Li Tse[3], Prof. Timothy Hudson Rainer[1]

[1]Department of Emergency Medicine, School of Clinical Medicine, Li Ka Shing Faculty of Medicine, The University of Hong Kong,
[2]School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong,
[3]Hong Kong Poison Information Centre, Hospital Authority

Background and objective

The COVID-19 pandemic has had an unprecedented impact on drug demand, supply and distribution. The objective of this study was to evaluate the trends in acute toxicity related to methamphetamine, cocaine, cannabis, heroin and ketamine misuse presenting to emergency departments (EDs) in Hong Kong before and during the COVID-19 pandemic and the impact of the pandemic, closure of social and recreational venues and social distancing measures on recreational drug toxicities.

Methods

This was a retrospective study of all consecutive patients reported to the Hong Kong Poison Information Centre by public EDs in Hong Kong between 23 January 2017 and 22 January 2023 for acute toxicity related to the recreational use of methamphetamine, cocaine, cannabis, heroin or ketamine. Interrupted time series analysis using Poisson regression/negative binomial regression was performed to evaluate the impact of the COVID-19 pandemic, closure of social and recreational venues and social distancing measures, as measured by the Oxford COVID-19 Government Response Tracker (OxCGRT) Stringency Index, on the monthly incidence of acute toxicities involving individual drugs.

Results

In total, 1,453 episodes were analysed. From 2018 to 2020, the median annual incidence rates of methamphetamine-, cocaine-, cannabis-, heroin- and ketamine-related ED visits were 1.69, 0.65, 0.43, 0.79 and 0.35 per 100,000 population, respectively. The trends in acute toxicities involving these drugs before and during the pandemic are shown in Figure 1. Acute toxicities involving methamphetamine, cannabis and heroin increased shortly after the beginning of the pandemic but then decreased faster than the pre-pandemic period. Acute toxicities involving ketamine increased and followed a similar trend as before the pandemic. As for cocaine, no significant changes in the number and trend of acute toxicities were observed during the pandemic (Table 1). Overall, closure of social and recreational venues during the pandemic had a limited impact on acute drug toxicities (Table 2). The OxCGRT Stringency Index was significantly associated with decreased acute heroin toxicities during the pandemic (Table 3).

Conclusions

Apparently, social and recreational venue closure had no significant impact on recreational drug toxicities, indicating resilience of the drug market and hidden drug use during the pandemic. Social distancing measures were significantly associated with reduced acute heroin toxicities. Further studies are warranted to monitor the trends in recreational drug toxicity in the aftermath of the pandemic.

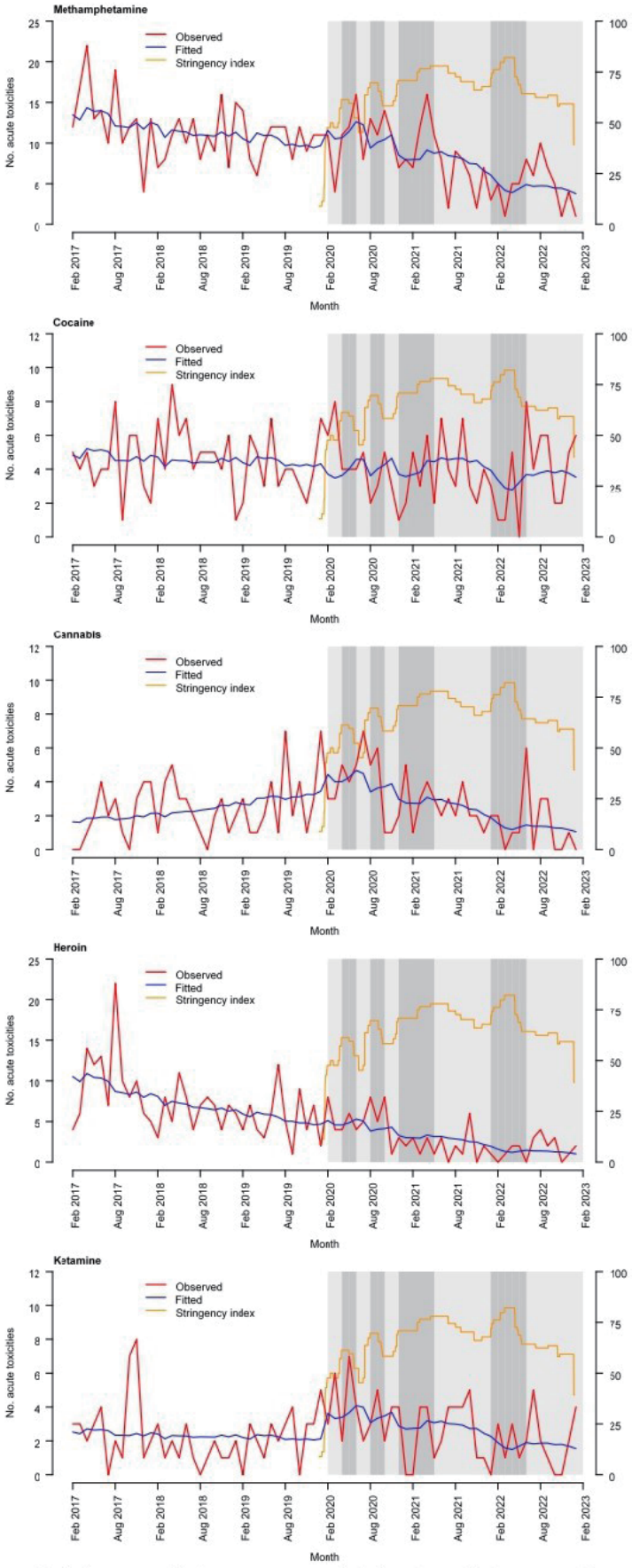


Figure 1. The trends in acute toxicities involving methamphetamine, cocaine, cannabis, heroin and ketamine before and during the COVID-19 pandemic.

Table 1. The impact of the COVID-19 pandemic on the levels and trends of acute drug toxicities

Acute toxicities	Level change		Trend change	
	RR	P value	RR	P value
Methamphetamine	5.11	<0.001	0.97	<0.001
Cocaine*	1.49	0.410	1.00	0.769
Cannabis	23.57	<0.001	0.93	<0.001
Heroin	4.77	0.011	0.97	0.045
Ketamine	6.50	0.003	0.98	0.122

Abbreviation: RR, relative risk

* Poisson regression was used due to instability of the negative binomial model

Table 2. The impact of the COVID-19 pandemic and closure of social and recreational venues on acute drug toxicities.

Acute toxicities	Level change		Trend change		Social and recreational closure	
	RR	P value	RR	P value	RR	P value
Methamphetamine	4.50	<0.001	0.97	<0.001	1.16	0.242
Cocaine*	2.05	0.151	0.99	0.530	0.69	0.055
Cannabis	20.05	<0.001	0.94	<0.001	1.21	0.363
Heroin	4.72	0.016	0.97	0.048	1.01	0.952
Ketamine	6.45	0.005	0.98	0.127	1.01	0.969

Abbreviation: RR, relative risk

* Poisson regression was used due to instability of the negative binomial model

Table 3. The impact of the COVID-19 pandemic and social distancing measures on acute drug toxicities.

Acute toxicities	Level change		OxCGRT Stringency Index	
	RR	P value	RR	P value
Methamphetamine	1.33	0.383	1.00	0.311
Cocaine*	1.88	0.120	0.99	0.274
Cannabis	0.77	0.679	1.02	0.060
Heroin	4.38	0.003	0.98	0.012
Ketamine	3.70	0.026	1.00	0.545

Abbreviation: OxCGRT, Oxford COVID-19 Government Response Tracker; RR, relative risk

* Poisson regression was used due to instability of the negative binomial model

ACKNOWLEDGEMENT

Sincere thanks to the below companies for their generous support!

Abbott Laboratories Ltd.

AstraZeneca Hong Kong Ltd.

Baxter Healthcare Ltd.

bioMerieux China Ltd.

Fisher & Paykel Healthcare Ltd.

KARL STORZ Endoscopy China Ltd.

Legend Master Technology Ltd.

Pacific Medical Systems Ltd.

Prism Technologies Ltd.

Trinity Trading Co. Ltd.

Union Hospital

90mg

Improved outcomes matter

BRILINTA® ticagrelor tablets

IN MI PATIENTS, THE SUPERIORITY[1*] OF BRILINTA™ VS CLOPIDOGREL CAN MAKE THE DIFFERENCE

Reduction in CV events[1†]

-16%

p<0.001

Reduction in CV death[1]

-21%

p=0.001

Reduction in MI[1]

-16%

p=0.005

2020 ESC Guideline recommendations for antithrombotic treatment in NSTE-ACS patients without atrial fibrillation undergoing PCI[2]

Recommendations	Class	Level
A P2Y12 receptor inhibitor is recommended in addition to aspirin and maintained over 12 months unless there are contraindications or an excessive risk of bleeding. Options are:	I	A
BRILINTA™ irrespective of the planned treatment strategy (invasive or conservative) (180 mg LD, 90 mg b.i.d.)[‡].	I	B

In 2021 ESC guidelines on cardiovascular disease prevention, prasugrel or BRILINTA™ is preferred as standard antithrombotic treatment after ACS for 12 months as DAPT[4].

2016 ACC/AHA Guideline focused update on duration of dual antiplatelet therapy in patient with coronary artery disease[3]

Recommendations	Class	Level
In patients with ACS (NSTE-ACS or STEMI) treated with DAPT after coronary stent implantation and in patients with NSTE-ACS treated with medical therapy alone (without revascularization), it is reasonable to use BRILINTA™ in preference to clopidogrel for maintenance P2Y12 inhibitor therapy.	IIa	B-R
In patients with ACS (NSTE-ACS or STEMI) treated with DAPT after BMS or DES implantation, P2Y12 inhibitor therapy (clopidogrel, prasugrel, or BRILINTA™) should be given for at least 12 months.	I	B-R
In patients with ACS who are managed with medical therapy alone (without revascularization or fibrinolytic therapy) and treated with DAPT, P2Y12 inhibitor therapy (clopidogrel or BRILINTA™) should be continued for at least 12 months.	I	B-R

* The PLATO study was a multicentre, randomized, double-blind trial. 18,624 patients admitted to the hospital with an ACS, with or without ST-segment elevation were randomized to receive either BRILINTATM (180 mg loading dose, 90 mg twice daily thereafter) or clopidogrel (300 to 600 mg loading dose, 75 mg daily thereafter) for the prevention of cardiovascular events for 12 months. All patients receive aspirin at a dose of 75 to 100 mg/day unless they could not tolerate the drug. The primary efficacy variable was the time to the first occurrence of composite of death from vascular causes, myocardial infarction, or stroke. The principal secondary efficacy end point was the primary efficacy variable studied in the subgroup of patients for whom invasive management was planned at randomization[1].

† CV events=CV death, MI, or stroke.

‡ Other options include prasugrel and clopidogrel.

ACC=American College of Cardiology. ACS=acute coronary syndrome. AHA=American Heart Association. BMS=bare metal stent. CAD=coronary artery disease. CV=cardiovascular. DAPT=dual antiplatelet therapy. DES=drug-eluting stent. EACTS=European Association for Cardio-Thoracic Surgery. EASD=European Association for the Study of Diabetes. ESC=European Society of Cardiology. MI=myocardial infarction. NSTE-ACS=non-ST elevation-acute coronary syndrome. PCI=percutaneous coronary intervention. STEMI=ST-segment elevation myocardial infarction.

References: 1. Wallentin L, et al. N Engl J Med. 2009; 361:1045-1057. 2. Collet JP, et al. Eur Heart J. 2021;42:1289-1367. 3. Levine GN, et al. Journal of the American College of Cardiology. 2016;68(10):1082-1115. 4. Visseren FLJ, et al. European Heart Journal. 2021;42(34):3227-3337.

Please visit contactazmedical.astrazeneca.com, for (1) enquiring Medical Information (MI), (2) reporting Individual Case Safety Report (ICSR) and/or (3) reporting Product Quality Complaint (PQC) to AstraZeneca Hong Kong Limited.

AstraZeneca 阿斯利康

AstraZeneca Hong Kong Limited
Unit 1-3, 11/F, 18 King Wah Road, North Point, Hong Kong
Tel: (852) 2420 7388 Fax: (852) 2422 6788

Presentation: Ticagrelor 90mg / 60mg film-coated tablet. Indication: Co-administered with aspirin, for prevention of atherothrombotic events in adult patients with ACS; or a history of myocardial infarction (MI) and a high risk of developing an atherothrombotic event. Dosage: Should be taken with 75-150mg aspirin daily, unless specifically contraindicated. For ACS patients, initiated with a single 180mg loading dose and then continued at 90mg twice daily for 12 months unless discontinuation is clinically indicated. For patients with a history of MI of at least one year and a high risk of an atherothrombotic event, when extended treatment is required, 60mg twice daily recommended. Contraindications: Hypersensitivity to any ingredients of this product; Active pathological bleeding; History of intracranial haemorrhage; Severe hepatic impairment; Co-administration with strong CYP3A4 inhibitors e.g. ketoconazole, clarithromycin, nefazodone, ritonavir, and atazanavir. Precautions and Interactions: Children <18 years; Pregnancy and lactation. Patients with a propensity to bleed; Concomitant use of medicinal products that may increase the risk of bleeding within 24 hours of dosing or known to alter haemostasis e.g. antifibrinolytic therapy and/or recombinant factor VIIa; Stop for 7-day before surgery; Moderate hepatic impairment; Patients at risk for bradycardic events; Concomitant use of medicinal products known to induce bradycardia; History of asthma and/or COPD; Patients ~75 years; Moderate/severe renal impairment; Concomitant treatment with an ARB; History of hyperuricaemia or gouty arthritis; Uric acid nephropathy; High aspirin maintenance dose (>300mg); Premature treatment discontinuation; Co-administration with potent CYP3A inducers e.g. rifampicin, phenytoin, carbamazepine and phenobarbital; Co-administration with CYP3A4 substrates with narrow therapeutic indices i.e. cisapride and ergot alkaloids; Patients on renal dialysis; Concomitant use of simvastatin or lovastatin ~40mg; Medicinal products metabolised by CYP3A4; CYP3A4 substrates with narrow therapeutic indices; Cyclosporine; SSRIs e.g. paroxetine, sertraline and citalopram. Undesirable effects: Blood disorder bleedings (bruise, spontaneous haematoma, haemorrhagic diathesis), hyperuricaemia, dyspnoea, gout/gouty arthritis, dizziness, syncope, headache, vertigo, hypotension, respiratory system bleedings (epistaxis, haemoptysis), gastrointestinal haemorrhage (gingival bleeding, rectal bleeding, gastric ulcer haemorrhage), diarrhea, nausea, dyspepsia, constipation, subcutaneous or dermal bleeding (ecchymosis, skin haemorrhage, petechiae), rash, pruritus, urinary tract bleeding (haematuria, cystitis haemorrhage), blood creatinine increased, post procedural haemorrhage, traumatic bleedings (contusion, traumatic haematoma, traumatic haemorrhage). Full local prescribing information is available upon request.
API.HK.BRIL90.0816 BRtL60.0516

HK-6322 27/11/2021 4C_2103C

The FIRST Anti-Inflammatory Reliever

SYMBICORT™
ANTI-INFLAMMATORY RELIEVER

DELIVERS EFFICACY WHEN IT MATTERS

REDUCES EXACERBATIONS, ALONE OR WITH MAINTENANCE.[1-7]

NOW INDICATED FOR MILD, MODERATE AND SEVERE PATIENTS[8]

References: 1. O'Byrne PM et al. N Engl J Med 2018; 378: 1865-76. **2.** Bateman ED et al. N Engl J Med 2018; 378: 1877-87. **3.** Beasley R et al. N Engl J Med 2019; DOI: 10.1056/NEJMoa1901963. **4.** Hardy J et al. Lancet 2019; Published online Aug 23, 2019; http://dx.doi.org/10.1016/S0140-6736(19)31948-8. **5.** Kuna P et al. Int J Clin Pract 2007 (May); 61(5): 725 – 36. **6.** Bousquet J et al. Respir Med 2007; 101: 2437 – 46. **7.** Sobieraj DM et al. JAMA 2018; doi: 10.1001/jama.2018.2769. **8.** Symbicort Hong Kong Package Insert. Feb 2021.

Presentation: Budesonide/Formoterol Turbuhaler. **Indications:** In adults and adolescents (12 years and older), for the treatment of asthma, to achieve overall asthma control, including the relief of symptoms and the reduction of the risk of exacerbations. Symptomatic treatment of moderate to severe COPD in adults. **Dosage:** **Asthma** ***1) Symbicort anti-inflammatory reliever therapy (patients with mild disease) 160/4.5 mcg Turbuhaler*** *Adult & Adolescent ≥ 12yr:* 1 inhalations as needed in response to symptoms. If symptoms persist after a few minutes, 1 additional inhalation should be taken. No more than 6 inhalations should be taken on any single occasion. A total daily dose of more than 8 inhalations is normally not needed, however a total daily dose of up to 12 inhalations can be used temporarily. ***2) Symbicort maintenance and reliever therapy*** *Adult & Adolescent ≥ 12yr:* Patients should take 1 inhalation of Symbicort Turbuhaler 160/4.5 mcg as needed in response to symptoms to control asthma. If symptoms persist after a few minutes, 1 additional inhalation should be taken. No more than 6 inhalations should be taken on any single occasion. Recommend maintenance dose is 1 inhalation b.d. and some may need 2 inhalations b.d.. A total daily dose of more than 8 inhalations is normally not needed, however a total daily dose of up to 12 inhalations can be used temporarily. ***3) Symbicort maintenance therapy 160/4.5 mcg Turbuhaler*** *Adult & Adolescent ≥ 12yr:* 1-2 inhalations b.d.. Max daily dose is 4 inhalations. **COPD** ***160/4.5 mcg Turbuhaler*** *Adult:* 2 inhalations b.d.. Max daily dose is 4 inhalations. **Contraindications:** Hypersensitivity to budesonide, formoterol or lactose. **Precautions:** Should be used for the shortest duration of time required to achieve control of asthma symptoms. Should only be used long-term in patients whose asthma cannot be adequately controlled on asthma controller medications. Not be used to initiate treatment with inhaled steroids in patients being transferred from oral steroids. It is recommended that the maintenance dose be tapered when long-term treatment is discontinued. Potential systemic effects of ICS, HPA axis suppression and adrenal insufficiency, bone density, growth, visual disturbance, infections/tuberculosis, sensitivity to sympathomimetic amines, cardiovascular disorders, hypokalaemia, diabetes, pneumonia, lactose, pregnancy & lactation. Not recommended for children below 12 years of age. Incidence of candidiasis can be minimized by having patients rinse their mouth out with water after inhaling their maintenance dose. **Interactions:** CYP3A4 inhibitors, beta-receptor blocking agents, other sympathomimetic agents, Xanthine derivatives, mineralocorticosteroids and diuretics, Monoamine oxidase inhibitors, tricyclic antidepressants, quinidine, disopyramide, procainamide, phenothiazines and antihistamines. **Undesirable effects:** Palpitations, Candida infections in the oropharynx, headache, tremor, mild irritation in the throat, coughing, hoarseness. **Full local prescribing information is available upon request.** API.HK.SYM.0721

Please visit contactazmedical.astrazeneca.com, for (1) enquiring Medical Information (MI), (2) reporting Individual Case Safety Report (ICSR) and/or (3) reporting product quality complaint (PQC) to AstraZeneca Hong Kong Limited.

AstraZeneca 阿斯利康

Further information is available on request:

AstraZeneca Hong Kong Limited
Unit 1-3, 11/F, 18 King Wah Road,
North Point, Hong Kong.
Tel: (852) 2420 7388 Fax: (852) 2422 6788

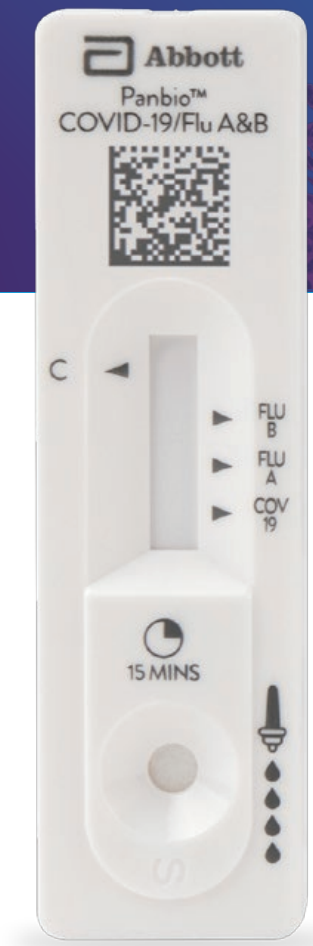
HK-5814 27/08/2021

Symbicort budesonide/formoterol **EFFICACY WHEN IT MATTERS**

Abbott

ENABLE TIMELY DIFFERENTIAL DIAGNOSIS AND TREATMENT

OF COVID-19 AND FLU A&B USING A SINGLE SWAB



PANBIO™ COVID-19/FLU A&B RAPID PANEL (NASOPHARYNGEAL)

- For patients presenting symptoms or suspected of current COVID-19, Flu A and/or B infection
- Only 1 nasopharyngeal swab for both COVID-19 and Flu A&B
- Simplified workflow with pre-filled buffer tube
- No instruments needed to interpret results
- Results in 15 minutes

Panbio™ is the trusted brand used in more than 100 countries.

Baxter

Starling

FLUID MANAGEMENT
MONITORING SYSTEM

EMERGENCY RESPONSE FOR **HYPOTENSION**

Will Fluid be Effective for your Patient?

FIND OUT IN AS LITTLE AS **ONE MINUTE**

Fluid Management is vital to treating any hypotensive emergency.

Use the 100% Non-Invasive **Starling** fluid management monitoring system to **quickly** obtain the insight you need to stabilize your patient.

STARLING MONITORING SYSTEM

Simplified User Interface

Dynamic Assessment:
Passive Leg Raise (PLR)/Fluid Bolus

- Quickly get your dynamic assessment results by ΔSVI*

Educational and training tools in built into the monitor

For safe and proper use of product mentioned herein, please refer to the Instructions for Use or Operators Manual.

*ΔSVI = Change in Stroke Volume Index

Baxter Healthcare Ltd.
Suites 2701-3, 27/F Oxford House, Taikoo Place, 979 King's Road, Island East, Hong Kong
Tel: +852 2807 8500 Fax: +852 2807 8596

HK-MD6-220011 08/22

The BioFire® FilmArray® Pneumonia *plus* Panel

1 Test. 34 Pathogens. ~1 Hour.

BioFire Pneumonia *plus* Panel Targets

BACTERIA (Semi-quantitative)

Acinetobacter calcoaceticus-baumannii complex
Enterobacter cloacae complex
Escherichia coli
Haemophilus influenzae
Klebsiella aerogenes
Klebsiella oxytoca
Klebsiella pneumoniae group
Moraxella catarrhalis
Proteus spp.
Pseudomonas aeruginosa
Serratia marcescens
Staphylococcus aureus
Streptococcus agalactiae
Streptococcus pneumoniae
Streptococcus pyogenes

ATYPICAL BACTERIA (Qualitative)

Chlamydia pneumoniae
Legionella pneumophila
Mycoplasma pneumoniae

VIRUSES

Adenovirus
Coronavirus
Human Metapneumovirus
Human Rhinovirus/Enterovirus
Influenza A
Influenza B
Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
Parainfluenza Virus
Respiratory Syncytial Virus

ANTIMICROBIAL RESISTANCE GENES

Carbapenemases
IMP
KPC
NDM
OXA-48-like
VIM

ESBL
CTX-M

Methicillin Resistance
mecA/C and MREJ (MRSA)

Stop the Guessing Game

The lower respiratory tract has a complex microbiology and separating colonizing organisms from true pathogens is challenging. The BioFire Pneumonia *plus* Panel offers 15 semi-quantitative bacteria—indicating not only what pathogen is detected, but also how much is present. Organism concentrations are calculated in DNA copies/mL and rounded to the nearest whole one-log "bin," making it easier than ever to know how much organism is in a sample.[1]

Semi-quantitative bin results

F&P Airvo 3

Optimise A&E throughput with **F&P Airvo™ system**

RECOGNISE

Recognise patients who can benefit

Spontaneously breathing patients with one or more of:

- HIGH Respiratory rate[1,2]
- HIGH Work of breathing[1]
- HIGH $PaCO_2$[3]
- LOW SpO_2[4]

Nasal high flow is suitable for patients presenting to A&E requiring respiratory support

STABILISE

Stabilise patients to evaluate condition

Physiological markers for stability:

- ↓ **Respiratory rate** 5 minutes[5] - 15 minutes[6]
- ↑ **Oxygenation** 15 minutes[3]
- ↓ **Dyspnea** 5 minutes[5] - 30 minutes[6]

Nasal high flow reduces the need for escalation of care compared to conventional O_2 therapy

MOBILISE

Mobilise patients out of A&E

Flexiblility to mobilise patients to out of A&E with the Airvo system

www.fphcare.com

1, Bell. Emerg Med Aust, 2015. 2. Makdee. Am Emerg Med, 2017. 3. Jeong. Am J Emerg Med, 2015. 4. Lenglet. Respr Care, 2012. 5. Rittayamai. Respr Care, 2014 6. Sztrymf. Int Care Med. 2011.

Fisher & Paykel HEALTHCARE

The Best Choice for Tough Missions – C-MAC® PM Video Laryngoscope

- High-contrast images, even in bright daylight
- Completely watertight (IPX8)
- Display with 160° wide-view angle

It is recommended to check the suitability of the product for the intended procedure prior to use.
Please note that the described products in this medium may not be available yet in all countries due to different regulatory requirements.

KARL STORZ SE & Co. KG, Dr.-Karl-Storz-Straße 34, 78532 Tuttlingen/Germany
www.karlstorz.com

96071063 AN 2 1.0 04/2023/SE-E

HAMILTON MEDICAL

LEGEND MASTER TECHNOLOGY LIMITED

Intelligent Ventilation. One solution, every situation

- ✓ MRI suite
- ✓ Adult and pediatric intensive care
- ✓ Long-term acute care
- ✓ Neonatal intensive care
- ✓ Critical care transport

VAPOTHERM

Vapotherm HVT 2.0

Mask-free NIV®

Seamless mobility, connectivity and respiratory support for your patients

www.vapotherm.com | info@legendmaster.com.hk | (+852) 3150 8413

Powerheart® G5 AED

CARDIAC science
美國心臟科學公司

一貼分析 自動電擊

Powerheart® AED G5是首部獲FDA認證，集多項功能於一身的自動心臟去顫器，全程以語音及文字指導，讓您充分掌握救援狀況，增加復甦的成功率。

- 施行CPR後十秒鐘內作快速電擊
- 配合RescueCoach ™ 及心肺復甦（CPR）節拍器功能，語音指導施救者進行心外壓。
- 一鍵切換RescueCoach ™中英語音。
- CPR反饋裝置（需另外購置）引導拯救員作出高素質的心肺復甦。
- Rescue Ready® 技術每日自我測試所有主要部件（包括電池、硬件、軟件及電極片等）
- 電極片左右側通用，能自動輸出電擊。
- 同時儲存CPR救援數據及ECG記錄，提供整全數據，作回顧及分析。
- 堅固外殼達至軍用水平IP55，防塵防水。
- 8年保養，電池享有4年操作更換保養。

GLIDESCOPE®

CORE™ & BFLEX™

GlideScope Core is the first and only airway visualization systems to offer live picture-in-picture imaging, giving you the power to view the airway via a GlideScope video laryngoscope and BFlex, a single-use flexible bronchoscope – simultaneously.

SPECTRUM, the newest generation GlideScope® Single-Use video laryngoscope, features cutting-edge advances in lighting and camera technology and offers a comprehensive range of sizes for your smallest to largest patients.

BE READY　BE FOCUSED　BE IN CONTROL

PACIFIC MEDICAL SYSTEMS

TEL: 2108 4005 | EMAIL: info@pacificmedicalsystems.com

3M | Littmann®
Stethoscopes

Introducing:

A new class of clarity.

Assess patients more confidently with the help of the 3M™ Littmann® CORE Digital Stethoscope.

Introducing our most advanced stethoscope yet. Now you can get everything you love about Littmann stethoscopes—superior acoustics, comfort and quality—with up to 40x amplification (at peak frequency, versus analog mode), active noise cancellation and mobile sound wave visualization.

It's time to listen like never before.

PHILIPS

HeartStart
AEDs

HeartStart HS1 AED Demo

When every minute counts, you need an expert partner by your side to guide you through a cardiac emergency with a simple, step-by-step process. Adaptive instructions and intelligent sensors keep you on track to deliver therapy and bridge the gap until care arrives. Act quickly and confidently with Philips AEDs, your partner in the shared mission of helping to save lives.

To begin, simply open the AED by pulling the green lever down. The device will turn on automatically.

Follow the clear and calm voice instructions.

AED Prompt: *Begin by removing all clothing from the patient's chest. Cut clothing, if needed.*

AED Prompt: *Look carefully at the pictures on the white adhesive pads. Peel one pad from the yellow plastic liner. Place pad, exactly as shown in the picture, press firmly to patient's bare skin.*

The HeartStart HS1 walks you through the entire rescue process and lets you do it at your own pace. Once the pads are on the victim, the system itself will analyze the victim's heart rhythm and tell you when to deliver shock if, and only if, the victim actually needs it.

AED Prompt: Shock not advised. If needed, begin CPR.

And it even guides you through CPR. It's just that easy.

Philips Medical Systems Nederland B.V.
Veenpluis 6
5684PC Best
EC REP The Netherlands

CE 0123

Philips Medical Systems
22100 Bothell Everett Highway
Bothell, WA 98021-8431, USA

4522 991 71801 * SEP 2021