Fri. Mar 1, 2019

第11会場

English Session

[EngO1] English Session1

Chair:Sungwon Na(Department of Anesthesiology and Pain Medicine, Yonsei University College of Medicine, Korea)
9:00 AM - 10:00 AM 第11会場 (国立京都国際会館1F Room C-2)

[EngO1-1] External pressure to the calf region in contact with the boot-support-type leg holder system in the lithotomy position
Ju Mizuno[1], Toru Takahashi[2] （1.Department of Anesthesiology and Pain Medicine, Juntendo University Faculty of Medicine, Japan, 2.Faculty of Health and Welfare Science, Okayama Prefectural University, Japan）

[EngO1-2] Factorial analyses of incidental arterial line decannulation in the ICU
Noboru Hatakeyama, Masatoshi Okumura, Hideo Isobe, Atsushi Hashimoto, Kensuke Sakakibara, Yoshihito Fujita, Yoshihiro Fujiwara （Surgical Intensive Care Unit and Anesthesiology, Aichi Medical University, Japan）

[EngO1-3] Work related noise exposure and stress in intensive care unit
Seungho Jung, Jeongmin Kim, Sungwon Na （Department of Anesthesiology and Pain Medicine, Yonsei University College of Medicine, Korea）

[EngO1-4] Current status of pain and sedation therapy on noninvasive mechanical ventilation in Korean Intensive Care Units: a multi-center observational study
Taehee Kim[1], Jae Hwa Cho[1], Cheung Soo Shin[2], Jeong soo Kim[3], Sunghoon Park[4], Korean Non-Invasive Ventilation Study Group （1.Department of Internal Medicine, Gangnam Severance Hospital, Yonsei University College of Medicine, Korea, 2.Department of Anesthesiology, Gangnam Severance Hospital, Yonsei University College of Medicine, Korea, 3.Department of Internal Medicine, Inha University College of Medicine, Korea, 4.Department of Pulmonary, Allergy and Critical Care Medicine, Hallym University Sacred Heart Hospital, Korea）

[EngO1-5] Utility of continuous monitoring and visualizing system for respiratory sounds
Kazuya Kikutani, Shinichiro Ohshimo, Shingo Ohki, Hiroshi Giga, Satoshi Yamaga, Takuma Sadamori, Nobuaki Shime （Department of Emergency and Critical Care Medicine, Graduate School of Biomedical &Health Sciences, Hiroshima University, Japan）

English Session

[EngO2] English Session2

Chair:Fumimasa Amaya(Kyoto Prefectural University of Medicine, Japan)
2:00 PM - 3:00 PM 第11会場 (国立京都国際会館1F Room C-2)

[EngO2-1] Significance of intra aortic balloon pump in increasing the blood flow to the abdominal organs
Arudo Hiraoka, Genta Chikazawa, Kosuke Sakamoto, Toshinori Totsugawa, Kentaro Tamura, Hidenori Yoshitaka, Taichi Sakaguchi （Department of Cardiovascular Surgery, The Sakakibara Heart Institute of Okayama, Japan）

[EngO2-2] Effect of certified emergency life saving technicians for out-of-hospital cardiac arrest patients: A report from the JCS-ReSS study
Hiromichi Naito[1,2], Tetsuya Yumoto[1,2], Yoshio Tahara[1,3], Naohiro Yonemoto[1,4], Hiroshi Nonogi[1,5], Hiroaki Shimokawa[1,6], Ken Nagao[1,7] （1.JCS-ReSS Group, Japan, 2.Okayama University Hospital, Advanced Emergency and Critical Care Medical Center, Japan, 3.Division of Coronary Disease, National Cerebral and Cardiovascular Center Hospital, Japan, 4.Department of Biostatistics, Kyoto University School of Public Health, Japan, 5.Shizuoka General Hospital, Japan, 6.Department of Cardiovascular Medicine, Tohoku University Hospital, Japan, 7.Nihon University Hospital, Cardiovascular Center, Japan）

[EngO2-3] Geographical differences on national meeting effect in patients with out-of-hospital cardiac arrests: A report from the JCS-ReSS study
Tetsuya Yumoto[1,2], Hiromichi Naito[1,2], Yoshio Tahara[1,3], Naohiro Yonemoto[1,4], Hiroshi Nonogi[1,5], Hiroaki Shimokawa[1,6], Ken Nagao[1,7] （1.JCS-ReSS study group, Japan, 2.Department of Emergency, Critical Care, and Disaster Medicine, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan, 3.Division of

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Coronary Disease, National Cerebral and Cardiovascular Center Hospital, Japan, 4.Department of Biostatistics, Kyoto University School of Public Health, Japan, 5.Shizuoka General Hospital, Japan, 6.Department of Cardiovascular Medicine, Tohoku University Hospital, Japan, 7.Nihon University Hospital, Cardiovascular Center, Japan）

[EngO2-4] Are school hours associated with better outcomes of out-of-hospital cardiac arrest in school children?

Hideo Inaba[1], Akira Yamashita[2], Hisanori Kurosaki[1], Keisuke Ohta[3], Yasuhiro Myojo[3] （1.Department of Circulatory Emergency and Resuscitation Science, Kanazawa University Graduate School of Medicine, Japan, 2.Department of Cardiology, Noto General Hospital, Japan,, 3.Emergency Medical Center, Ishikawa Prefectural Central Hospital, Japan）

[EngO2-5] Extracorporeal cardiopulmonary resuscitation and damage control surgery for cardiac arrest due to postpartum hemorrhage

Kenshin Shimono[1], Hirokazu Onishi[1], Ryuji Sugimoto[1], Chiyoka Kosaihira[2], Masato Kamitomo[2], Takeshi Kodama[3], Tsuyosi Ueno[3], Junichiro Hamasaki[3], Shohei Matsukubo[1], Hideaki Yoshihara[1] （1.Department of Emergency and Critical Care Center, Kagoshima City Hospital, Japan, 2.Department of Obstetrics and Gynecology, Kagoshima City Hospital, Japan, 3.Department of Critical Care Medicine Kagoshima City Hospital, Japan）

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English Session

[EngO1] English Session1

Chair:Sungwon Na(Department of Anesthesiology and Pain Medicine, Yonsei University College of Medicine, Korea)

Fri. Mar 1, 2019 9:00 AM - 10:00 AM 第11会場 (国立京都国際会館1F Room C-2)

[EngO1-1] External pressure to the calf region in contact with the boot-support-type leg holder system in the lithotomy position

Ju Mizuno[1], Toru Takahashi[2] （1.Department of Anesthesiology and Pain Medicine, Juntendo University Faculty of Medicine, Japan, 2.Faculty of Health and Welfare Science, Okayama Prefectural University, Japan）

[EngO1-2] Factorial analyses of incidental arterial line decannulation in the ICU

Noboru Hatakeyama, Masatoshi Okumura, Hideo Isobe, Atsushi Hashimoto, Kensuke Sakakibara, Yoshihito Fujita, Yoshihiro Fujiwara （Surgical Intensive Care Unit and Anesthesiology, Aichi Medical University, Japan）

[EngO1-3] Work related noise exposure and stress in intensive care unit

Seungho Jung, Jeongmin Kim, Sungwon Na （Department of Anesthesiology and Pain Medicine, Yonsei University College of Medicine, Korea）

[EngO1-4] Current status of pain and sedation therapy on noninvasive mechanical ventilation in Korean Intensive Care Units: a multi-center observational study

Taehee Kim[1], Jae Hwa Cho[1], Cheung Soo Shin[2], Jeong soo Kim[3], Sunghoon Park[4], Korean Non-Invasive Ventilation Study Group （1.Department of Internal Medicine, Gangnam Severance Hospital, Yonsei University College of Medicine, Korea, 2.Department of Anesthesiology, Gangnam Severance Hospital, Yonsei University College of Medicine, Korea, 3.Department of Internal Medicine, Inha University College of Medicine, Korea, 4.Department of Pulmonary, Allergy and Critical Care Medicine, Hallym University Sacred Heart Hospital, Korea）

[EngO1-5] Utility of continuous monitoring and visualizing system for respiratory sounds

Kazuya Kikutani, Shinichiro Ohshimo, Shingo Ohki, Hiroshi Giga, Satoshi Yamaga, Takuma Sadamori, Nobuaki Shime （Department of Emergency and Critical Care Medicine, Graduate School of Biomedical &Health Sciences, Hiroshima University, Japan）

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(Fri. Mar 1, 2019 9:00 AM - 10:00 AM 第11会場)

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Ju Mizuno[1], Toru Takahashi[2] （1.Department of Anesthesiology and Pain Medicine, Juntendo University Faculty of Medicine, Japan, 2.Faculty of Health and Welfare Science, Okayama Prefectural University, Japan）

【ライブ配信】

Background: Pain, redness, or swelling at the posterior aspect of the lower leg, and well leg compartment syndrome are complications related to long surgical procedures performed using a leg holder (LH) system in the lithotomy position. We have reported that the external pressure to the calf region in contact with the knee-crutch-type LH system to support the distal part of the posterior thigh, popliteal fossa, and calf regions increases in male gender and with the increases in height, weight, and body mass index (BMI) [J Mizuno 2016]. In the present study, we investigated the relationship between the external pressure to the calf region in contact with the boot-support-type LH (BSLH) system to support the calf, ankle, heel, and plantar regions and selected physical characteristics.
Methods: This study was approved by the ethics committee of Okayama Prefectural University (approval number 453) and was registered at UMIN-CTR (UMIN000030416). 31 young healthy volunteers, 15 males and 16 females, participated in this study. The contact pressure (CP) and peak contact pressure (PCP) were measured as representative external pressures to the calf region in contact with the BSLH system Bel Flex ® (*L* 356 mm ×*W* 200 mm; Takara Belmont Corp., Osaka, Japan) in the lithotomy position by pressure-distribution measurement system BIG-MAT ® (Nitta Corp., Osaka, Japan) which comprises a pressure-distribution measurement sheet with 10 mm pitch with 2,112 (44×48) sensors BIG-MAT2000P3BS®, a sensor connector, and a personal computer with built-in BIG-MAT® software. Relationships between CP or PCP to the calf region and a series of physical characteristics were analyzed.
Results: CPs to the left and right calf regions were 12.1±1.5 and 12.2±1.5 mmHg, respectively, and PCPs to the left and right calf regions were 23.6±6.8 and 24.3±6.3 mmHg, respectively. There were no gender differences in CPs and PCPs. Significant positive correlations were not observed between the bilateral CPs and height, weight, BMI, tibiare height (TH), bimalleolar breadth (BB), maximum calf girth (MCG), or foot length (FL), and between the left PCPs and height, weight, BMI, TH, BB, MCG, or FL, and between the right PCPs and height, weight, BMI, BB, MCG, or FL.
Conclusion: External pressure to the calf region in contact with the BSLH system in the lithotomy position is independent of gender, body size, lower leg size, and foot size. Using the BSLH system in the lithotomy position is safer and securer regardless of gender, body size, lower leg size, and foot size.

(Fri. Mar 1, 2019 9:00 AM - 10:00 AM 第11会場)

[EngO1-2] Factorial analyses of incidental arterial line decannulation in the ICU

Noboru Hatakeyama, Masatoshi Okumura, Hideo Isobe, Atsushi Hashimoto, Kensuke Sakakibara, Yoshihito Fujita, Yoshihiro Fujiwara （Surgical Intensive Care Unit and Anesthesiology, Aichi Medical University, Japan）

【ライブ配信】

Continuous arterial blood pressure monitoring using cannulated arterial line (A-line) is very common in ICU, and total hemodynamic monitoring has been available with applied devices. But, as the number of patients

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who has an A-line, the number of incident which is related to the line trouble increases. To clarify the contributing factors of incidental A-line decannulation, we retrospectively investigated the number and tendency of incidents.
The proportion of A-line related incidents in the total tube incidents were kept increased in consecutive three years (2015: 23%, 2016: 29%, 2017: 36%). In 2017, 24 A-line related incidents were reported. In reported cases, the average age was 74.2 years old, which was higher than the average of whole ICU admitted patients of 59.7 years old and ratio of male to female was 14:10. Confusion assessment method for the ICU (CAM-ICU) showed positive in 8 cases and symptom of dementia was seen or strongly suspected in 7 cases. Decannulation due to technical errors of the medical staff were seen only in 2 cases.
The current results showed that the risk factors of incidental A-line decannulation were high age and cognitive distraction such as delirium and dementia. With the aging of society, such incidents would increase. Measures against cognitive disorder in the ICU would be important to avoid those kind of incidents.

(Fri. Mar 1, 2019 9:00 AM - 10:00 AM 第11会場)

[EngO1-3] Work related noise exposure and stress in intensive care unit

Seungho Jung, Jeongmin Kim, Sungwon Na （Department of Anesthesiology and Pain Medicine, Yonsei University College of Medicine, Korea）
【ライブ配信】

In intensive care unit (ICU), various types of noise occur during patient management. It happens all day long, even in night time. There can be medical device origin noises, communications within medical steps, and so on. WHO (World Health Organization) standards suggest maintaining a noise level below 30 dB in the intensive care unit at night. Recently, many efforts are being made for reducing night time noises and exposing patients to them. Such efforts are providing ear plug, back ground music. These efforts aim to improve sleep quality of patients.
This study aimed to measure the degree of noises that occur in surgical ICU and analyze the sources of noises to find how to reduce the occurrence of noises. We used two sound level meters and one personal noise dosimeter for measuring the exposure of noises in surgical ICU. We hypothesized that more noises will be made in isolation rooms and where the patient get mechanical ventilation (MV). In addition to objective parameters, we carried out a self-report type survey with night duty nurses about perceived stress to measure the degree of noise stress.
21 patients were involved in our study. 9 patients were in isolation rooms and the others were in open rooms. 9 patients were mechanical ventilated and 7 patients were sedated. During night time, both in open or IR room, noise above 50dB was continuously measured. Average was 53.91± 3.67dB. The overall difference between them was not significant. There was also no significant difference between mechanical ventilated and non-mechanical ventilated group. However, in IR room, less noises were made in non-mechanical ventilated group.
The night noise levels in the intensive care unit are much higher than the WHO standard. Trying to reduce noise through intervention therapy can help improve sleep quality of patients and reduce stress of medical staff working in intensive care.

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[EngO1-4] Current status of pain and sedation therapy on noninvasive mechanical ventilation in Korean Intensive Care Units: a multi-center observational study

Taehee Kim[1], Jae Hwa Cho[1], Cheung Soo Shin[2], Jeong soo Kim[3], Sunghoon Park[4], Korean Non-Invasive Ventilation Study Group （1.Department of Internal Medicine, Gangnam Severance Hospital, Yonsei University College of Medicine, Korea, 2.Department of Anesthesiology, Gangnam Severance Hospital, Yonsei University College of Medicine, Korea, 3.Department of Internal Medicine, Inha University College of Medicine, Korea, 4.Department of Pulmonary, Allergy and Critical Care Medicine, Hallym University Sacred Heart Hospital, Korea）

【ライブ配信】

INTRODUCTION

The use of sedative drugs may be an important therapeutic intervention in patients with high risks such as mask intolerance, delirium, and agitation. However, there is little data on sedation during NIV maintenance. The Korean noninvasive mechanical ventilation study group has prospectively collected NIV use data from ICUs.

OBJECTIVES

We analyzed status and safety in the management of pain, sedation on NIV therapy in Korean ICU.

METHODS

The twenty ICUs intensivists among Korean nationwide hospitals were participated and collected data of NIV from June 2017 to April 2018. Demographic data of patients, clinical parameters of NIV, hospital mortality were included. We analyzed using chi-square test and Fisher’ s exact test on categorical variables and Mann-Whitney U test on continuous variables.

RESULTS

The 155 patients were included during those periods. We divided the intervention group (n=26) that who received management of pain, sedation and control group (n=129). The $PaCO_2$ and PaO_2/FiO_2 ratio before NIV and 30 minutes after NIV were not different between intervention and control group. There was no statistically significant difference in success rate of NIV weaning, complications, length of ICU stay, ICU survival rate, and hospital survival rate. However, duration of NIV apply were shorter in intervention than in control (1.5 days versus 4 days, p=0.001).

CONCLUSION

In the NIV patients, pain and sedation therapy had no harmful effect on complications, NIV weaning success, and mortality compared to the control group but significantly reduced the duration of NIV. Thus control of pain, sedation during NIV might be safe so it can be used in patients with indication.

(Fri. Mar 1, 2019 9:00 AM - 10:00 AM 第11会場)

[EngO1-5] Utility of continuous monitoring and visualizing system for

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respiratory sounds

Kazuya Kikutani, Shinichiro Ohshimo, Shingo Ohki, Hiroshi Giga, Satoshi Yamaga, Takuma Sadamori, Nobuaki Shime （Department of Emergency and Critical Care Medicine, Graduate School of Biomedical &Health Sciences, Hiroshima University, Japan）

【ライブ配信】

Introduction

Respiratory sounds provide a useful indicator for evaluating abnormalities in the upper airways and lungs. However, the accurate, objective, and continuous evaluation of respiratory sounds remains difficult. To overcome this problem, we have developed a novel, continuous monitoring and visualizing system for respiratory sounds. We herein present two cases in which respiratory disorders were detected promptly and objectively using this system.

Results

Case 1.

A 23-year-old man with chronic graft-versus-host disease after bone marrow transplantation developed refractory anorexia. A magnetic resonance imaging scan demonstrated pontine demyelination. Tracheal intubation were planned because of progressing consciousness disorder, bradypnea, and hypercapnia. The patient showed no features of difficult airway or tracheal stenosis, but suddenly became unable to be ventilated or intubated after administrating a muscle relaxant. We immediately carried out a cricothyrotomy and the patient survived. Continuous monitoring of respiratory sounds clearly demonstrated stridor, suggesting an upper airway obstruction and subsequent apnea, before the physicians became aware of the patient’ s status due to his clinical signs.

Case 2

A 74-year-old woman with tracheal burn injury had been intubated for 7 day. Extubation was performed after verifying improved laryngeal edema with laryngeal fibers. Although her respiratory sounds just after extubation were normal, the patient gradually developed inspiratory stridor and was re-intubated due to post-extubation laryngeal edema. Continuous monitoring of the patient’ s respiratory sounds clearly identified the serial change from normal respiratory sounds to stridor before the physicians were aware of the post-extubation laryngeal edema based on her clinical signs.

Conclusion

Continuous patient monitoring and visualization for respiratory sounds may aid the prompt identification of respiratory complications.

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English Session

[EngO2] English Session2

Chair:Fumimasa Amaya(Kyoto Prefectural University of Medicine, Japan)
Fri. Mar 1, 2019 2:00 PM - 3:00 PM 第11会場 (国立京都国際会館1F Room C-2)

[EngO2-1] Significance of intra aortic balloon pump in increasing the blood flow to the abdominal organs

Arudo Hiraoka, Genta Chikazawa, Kosuke Sakamoto, Toshinori Totsugawa, Kentaro Tamura, Hidenori Yoshitaka, Taichi Sakaguchi （Department of Cardiovascular Surgery, The Sakakibara Heart Institute of Okayama, Japan）

[EngO2-2] Effect of certified emergency life saving technicians for out-of-hospital cardiac arrest patients: A report from the JCS-ReSS study

Hiromichi Naito[1,2], Tetsuya Yumoto[1,2], Yoshio Tahara[1,3], Naohiro Yonemoto[1,4], Hiroshi Nonogi[1,5], Hiroaki Shimokawa[1,6], Ken Nagao[1,7] （1.JCS-ReSS Group, Japan, 2.Okayama University Hospital, Advanced Emergency and Critical Care Medical Center, Japan, 3.Division of Coronary Disease, National Cerebral and Cardiovascular Center Hospital, Japan, 4.Department of Biostatistics, Kyoto University School of Public Health, Japan, 5.Shizuoka General Hospital, Japan, 6.Department of Cardiovascular Medicine, Tohoku University Hospital, Japan, 7.Nihon University Hospital, Cardiovascular Center, Japan）

[EngO2-3] Geographical differences on national meeting effect in patients with out-of-hospital cardiac arrests: A report from the JCS-ReSS study

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[EngO2-4] Are school hours associated with better outcomes of out-of-hospital cardiac arrest in school children?

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[EngO2-5] Extracorporeal cardiopulmonary resuscitation and damage control surgery for cardiac arrest due to postpartum hemorrhage

Kenshin Shimono[1], Hirokazu Onishi[1], Ryuji Sugimoto[1], Chiyoka Kosaihira[2], Masato Kamitomo[2], Takeshi Kodama[3], Tsuyosi Ueno[3], Junichiro Hamasaki[3], Shohei Matsukubo[1], Hideaki Yoshihara[1] （1.Department of Emergency and Critical Care Center, Kagoshima City Hospital, Japan, 2.Department of Obstetrics and Gynecology, Kagoshima City Hospital, Japan, 3.Department of Critical Care Medicine Kagoshima City Hospital, Japan）

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(Fri. Mar 1, 2019 2:00 PM - 3:00 PM 第11会場)

[EngO2-1] Significance of intra aortic balloon pump in increasing the blood flow to the abdominal organs

Arudo Hiraoka, Genta Chikazawa, Kosuke Sakamoto, Toshinori Totsugawa, Kentaro Tamura, Hidenori Yoshitaka, Taichi Sakaguchi （Department of Cardiovascular Surgery, The Sakakibara Heart Institute of Okayama, Japan）

【ライブ配信】

Objective: Intra aortic balloon pump (IABP) is conventionally used for hemodynamic support in patients with low cardiac output syndrome (LOS). Primary roles of IABP are systolic unloading to left ventricle and diastolic augmentation to increase perfusion to the coronary arteries. However, influence on the perfusion to the abdominal organs is still unclear. In this study, we evaluated the perfusion volume to the abdominal organs by echography at the timing with and without IABP support.
Methods: From July 2016 to July 2018, 22 patients requiring IABP support for LOS were included in the cohort (male; 13, mean age; 74 years). Stroke volume / beat (area × velocity time integral) was measured at the left ventricular outflow tract (LVOT), abdominal aorta, celiac artery, superior mesenteric artery, right and left renal arteries by echography at the timing with and without IABP support (1:1).
Results: During IABP support, perfusion flow pattern changed to biphasic wave. Stroke volume significantly increased under IABP support, compared to the timing without IABP support at the abdominal aorta (37.8±22.1 ml vs. 23.1±14.3 ml; $p<0.001$), celiac (11.9±10.6 ml vs. 9.6±10.0 ml; $p=0.001$), superior mesenteric (10.2±5.1 ml vs. 7.7±3.7 ml; $p<0.001$), and left renal arteries (5.0±2.4 ml vs. 3.1±2.0 ml; $p=0.004$). There were no significant changes in stroke volume between the timing with and without IABP support at the left ventricular outflow tract (57.3±22.8 ml vs. 55.1±14.5 ml; $p=0.025$) and right renal artery (4.7±2.9 ml vs. 3.9±2.4 ml; $p=0.17$).
Conclusion: IABP support significantly increased stroke volume of the abdominal aorta, celiac, superior mesenteric, and left renal arteries.

(Fri. Mar 1, 2019 2:00 PM - 3:00 PM 第11会場)

[EngO2-2] Effect of certified emergency life saving technicians for out-of-hospital cardiac arrest patients: A report from the JCS-ReSS study

Hiromichi Naito[1,2], Tetsuya Yumoto[1,2], Yoshio Tahara[1,3], Naohiro Yonemoto[1,4], Hiroshi Nonogi[1,5], Hiroaki Shimokawa[1,6], Ken Nagao[1,7] （1.JCS-ReSS Group, Japan, 2.Okayama University Hospital, Advanced Emergency and Critical Care Medical Center, Japan, 3.Division of Coronary Disease, National Cerebral and Cardiovascular Center Hospital, Japan, 4.Department of Biostatistics, Kyoto University School of Public Health, Japan, 5.Shizuoka General Hospital, Japan, 6.Department of Cardiovascular Medicine, Tohoku University Hospital, Japan, 7.Nihon University Hospital, Cardiovascular Center, Japan）

【ライブ配信】

Introduction: Emergency life-saving technicians (ELSTs) are certified specialists trained to provide technique and knowledge for prehospital emergency care in Japan. Since April 1991, number of ELSTs is increasing. Commonly, ambulances are organized to have three emergency medical service (EMS) personnel with at least one ELST. However, there are still some cases without an ELST. Use of advanced airways (endotracheal

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intubation/supra-glottic airways) and administration of adrenaline are limited to ELST by law, nevertheless, previous studies could not demonstrate their efficacy. Effectiveness of ELSTs over basic EMS personnel on out-of-hospital cardiac arrest (OHCA) remains unclear.
Hypothesis: We tested whether presence of an ELST improves the outcome for OHCA patients.
Methods: We conducted a retrospective study using Utstein-Style population cohort database (Japanese National Registry). Patients with OHCA transported to hospital from 2011 to 2015, were included. Patients under 18; patients with “do not resuscitate order”; presence of a doctor during the transport were excluded. We compared two OHCA patient groups. Group A: patients transported by EMS including at least one ELST. Group B: patients transported only by basic EMS personnel. The primary outcome measure was good neurological outcome defined by Cerebral Performance Category (CPC) 1 or 2. The secondary outcome measures were 1-month survival and return of spontaneous circulation (ROSC). A multivariable logistic regression model was used to adjust for the patient baseline characteristics.
Results: Included were 586623 OHCA patients with 571588 patients in Group A and 15035 patients in Group B. Patient baseline characteristics were as follows: age (Group A vs Group B [Mean ± SD]: 75.2 ± 15.6 vs 75.7 ± 15.2 years), male sex (56.7 vs 57.1%), proportion of initial rhythm VF/VT (7.2 vs 6.7%), estimated cardiac origin (59.4 vs 62.1%), witnessed collapse (40.5 vs 40.3%), bystander CPR (45.1 vs 44.5%), dispatcher instruction for CPR (53.0 vs 49.9%) and time from EMS call to hospital arrival ([Mean ± SD]: 33.9 ± 12.5 vs 34.4 ± 13.5 min). In the multivariable logistic regression, there was significant difference in proportion of CPC 1/2 (Group A vs Group B: 2.5% vs 2.1%, OR: 1.16, 95%CI: 1.02-1.31, $p = 0.04$), 1-month survival (4.9% vs 4.1%, OR: 1.19, 95%CI: 1.08-1.31, $p < 0.001$), or ROSC (8.2% vs 5.3%, OR: 1.69, 95%CI: 1.56-1.84, $p < 0.001$) between two groups.
Conclusions: ELSTs contribute to improve the outcome of OHCA patients with their knowledge and technique probably other than advanced airway management or administration of adrenaline.

(Fri. Mar 1, 2019 2:00 PM - 3:00 PM 第11会場)

[EngO2-3] Geographical differences on national meeting effect in patients with out-of-hospital cardiac arrests: A report from the JCS-ReSS study

Tetsuya Yumoto[1,2], Hiromichi Naito[1,2], Yoshio Tahara[1,3], Naohiro Yonemoto[1,4], Hiroshi Nonogi[1,5], Hiroaki Shimokawa[1,6], Ken Nagao[1,7] （1.JCS-ReSS study group, Japan, 2.Department of Emergency, Critical Care, and Disaster Medicine, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Japan, 3.Division of Coronary Disease, National Cerebral and Cardiovascular Center Hospital, Japan, 4.Department of Biostatistics, Kyoto University School of Public Health, Japan, 5.Shizuoka General Hospital, Japan, 6.Department of Cardiovascular Medicine, Tohoku University Hospital, Japan, 7.Nihon University Hospital, Cardiovascular Center, Japan）
【ライブ配信】

Background: The “national meeting effect” was not found in outcomes among patients hospitalized with out-of-hospital cardiac arrests (OHCA) between national meeting days and non-meeting days in Japan. We hypothesized that that the outcomes would be better after meeting days because of the positive impact of the academic meeting for high performance and the outcomes would differ given geographical differences. The aim of this study was to examine the differences in outcomes after OHCA among patients admitted during, before, and after meeting days according to the geographical regions and the location where the meeting was held, which had not been accounted for in the previous study.

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Methods: Using a database of a nationwide, prospective, population-based, observational study in Japan, we analyzed adult OHCA patients with resuscitation attempts between 2011 and 2015. A 1-month favorable neurological outcome was compared among the patients admitted during dates of three national meetings (Japanese Society of Intensive Care Medicine, Japanese Circulation Society, and Japanese Association for Acute Medicine), those admitted on identical days during one week before, and those one week after the meeting dates. Additional analysis was conducted dividing into East and West Japan, and whether the meeting was held in the Tokyo metropolitan area or others. We developed a multiple logistic regression model after adjusting for confounding factors, with after meeting days group as the reference.
Results: A total of 40849 patients were included with 14490, 13518, and 12841 patients of during, before, and after meeting days, respectively. A rate of favorable neurological outcome during, before, and after meeting days was 1.7, 1.6, 1.8%, respectively. After adjusting covariates, there were no differences in favorable neurological outcomes among the three groups. Regarding East Japan, a rate of favorable neurological outcome during, before, and after meeting days was 1.5, 1.3, 1.8%, respectively. An adjusted rate of favorable neurological outcome before meeting days was lower than after meeting days regardless of the meeting location (odds ratio 0.72, 95% CI 0.56-0.93, P=0.011). As for West Japan, a rate of favorable neurological outcome during, before, and after meeting days was 2.1, 2.0, 1.8%, respectively, which were not different after adjustment of confounding variables.
Conclusion: The “national meeting effect” in patients with OHCA may exist in East Japan, suggesting potentially positive or negative impact of national meetings on daily clinical practice. Further investigations are required to validate our results.

(Fri. Mar 1, 2019 2:00 PM - 3:00 PM 第11会場)

[EngO2-4] Are school hours associated with better outcomes of out-of-hospital cardiac arrest in school children?

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Aims: To investigate whether school hours are associated with better outcomes of school children with out-of-hospital cardiac arrest (OHCA).
Methods: From the 2005–2014 nation-wide databases, we extracted the data for 1,660 bystander-witnessed OHCA cases of school children with ages of 6–17 years, managed without any involvement of physician. Univariate analyses followed by propensity-matching procedures and stepwise multivariate logistic regression analyses including major factors known to be associated with outcomes were applied. School hours are defined as 8:00 am to 6:00 pm. School days in each prefecture were determined by excluding weekends, national and school holidays.
Results: Neurologically favorable 1-month survival during school hours was better than that during non-school hours only in school days: 18.5% (76/412) vs 10.5% (51/486) in school days (Unadjusted OR;95% CI, 1.93;1.32–2.83), 10.9% (43/395) vs 9.0% (33/367) in non-school days (1.24;0.77–1.99). However, interaction between school days and school hours in the survival was not significant. Cases with OHCA during school hours in school days more frequently received bystander CPR and public access defibrillation (PAD) and had shockable initial rhythm and presumed cardiac etiology. However, the survival (P for trend = 0.21) was not improved change during the study period despite increased proportion of AED installation at

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school and augmented incidences of PAD. Furthermore, the rate of survival did not significantly differ between school hours in school days and others after propensity-matching: 16.2% (52/321) vs 15.6% (50/321), P = 0.83. Stepwise multivariate logistic regression analysis after propensity-matching disclosed that shockable initial rhythm (adjusted OR; 95% CI, 5.53; 2.10–16.4), PAD (4.89; 2.34–10.5), endogenous causes (3.56; 1.42–9.03), and shorter response time interval (1.12;1.03–1.23 per 1 min) and witness-to-first CPR interval (1.06; 1.02–1.10) were major factors associated with higher chances of survival.
Conclusions: Early bystander- and EMS-performed basic life support based on a proper preparedness is predominantly associated with better outcomes of OHCA in school children.

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[EngO2-5] Extracorporeal cardiopulmonary resuscitation and damage control surgery for cardiac arrest due to postpartum hemorrhage

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BACKGROUND: Cardiac arrest following a massive postpartum hemorrhage is a rare and catastrophic condition.
CASE: A previously healthy woman was transferred to our hospital because she developed a postpartum hemorrhage during cesarean delivery. She arrived with an open abdomen while uterus pressure was applied. She was intubated the moment she arrived at our emergency department. A 12 Fr triple-lumen dialysis catheter was placed in the right internal jugular vein to begin rapid infusion of red blood cells and fresh frozen plasma. Despite undergoing a massive transfusion, the patient collapsed and suffered cardiac arrest. In addition to cardiopulmonary resuscitation, we implemented resuscitative endovascular balloon occlusion of the aorta (REBOA) as a life-saving procedure to control the bleeding from uterus and maintain the blood pressure. However, the patient subsequently had multiple cardiac arrests that were eventually unresponsive to the above resuscitation methods, and she produced copious pink, frothy sputum that required continuous suctioning. Ultimately, she was resuscitated with extracorporeal cardiopulmonary resuscitation (ECPR) rather than REVOA. Following ECPR, a hysterectomy was performed, but diffuse microvascular oozing from the uterus and pelvic sidewalls occurred throughout the procedure. Hence, because the abdominal fascial layer was left open, we performed temporary abdominal closure with bag silo closure in compliance with the concept of damage control surgery. After the surgery, she was transported to the intensive care unit (ICU). We prescribed targeted temperature management to protect the brain in the ICU. She was stabilized, and her course was well tolerated with a planned return to the operating room for definitive surgery and decannulation of ECPR. Duration of extracorporeal membrane oxygenation was 39h, which yielded good results, and she was discharged from the ICU on the 8th hospital day with good cerebral performance.
CONCLUSION: Extracorporeal life support may be useful for resuscitation in case of cardiac arrest following a massive postpartum hemorrhage.

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