

A map of Asia with several regions highlighted in red and cyan. The red regions include parts of the Korean peninsula, Japan, the Philippines, and parts of Southeast Asia. The cyan regions include Taiwan and parts of Southeast Asia. The text "Summary: PAROS Publications for Year 2017" is overlaid on the map.

# **Summary: PAROS Publications for Year 2017**

## **Conversion to shockable rhythms during resuscitation and survival for out-of hospital cardiac arrest.**

Wah W, Wai KL, Pek PP, Ho AFW, Alsakaf O, Chia MYC, Noor JM, Kajino K, De Souza NNA, Ong MEH; PAROS Investigators.

*Am J Emerg Med. 2017 Feb;35(2):206-213. doi: 10.1016/j.ajem.2016.10.042. Epub 2016 Oct 25.*

### **Brief:**

In OHCA, the prognostic influence of conversion to shockable rhythms during resuscitation for initially non-shockable rhythms remains unknown.

A retrospective analysis of all OHCA cases collected from the PAROS registry in 7 countries in Asia between 2009 and 2012 was conducted to assess the relationship between initial and subsequent shockable rhythm and post-arrest survival and neurological outcomes after OHCA.

Initial shockable rhythm was the strongest predictor for survival. The conversion to subsequent shockable rhythm significantly improved post-arrest survival and neurological outcomes. This study suggests the importance of early resuscitation efforts even for initially non-shockable rhythms which has prognostic implications and selection of subsequent post-resuscitation therapy.

## **Characteristics and outcomes of young adults who suffered an out-of-hospital cardiac arrest (OHCA).**

Chia MY, Lu QS, Rahman NH, Doctor NE, Nishiuchi T, Leong BS, Tham LP, Goh ES, Tiah L, Monsomboon A, Ong ME; PAROS Clinical Research Network.

*Resuscitation. 2017 Feb;111:34-40. doi: 10.1016/j.resuscitation.2016.11.019. Epub 2016 Dec 5*

### **Brief:**

There is paucity of data examining the incidence and outcomes of young OHCA adults.

All EMS-attended OHCA adults between the ages of 16 and 35 years in the PAROS registry were analysed to determine the outcomes and characteristics of young adults who suffered an OHCA and identify factors that are associated with favourable neurologic outcomes.

OHCA among young adults are not uncommon. Traumatic OHCA, occurring most frequently in young adults had dismal prognosis. First arrest rhythms of VF/VT/unknown shockable rhythm, cardiac etiology, bystander-witnessed arrest, and bystander CPR were associated with favourable neurological outcomes.

## **Effect of known history of heart disease on survival outcomes after out-of-hospital cardiac arrests.**

Lee MH, Fook-Chong S, Wah W, Shin SD, Nishiuchi T, Ko PC, Naroo GY, Wong KD, Tiah L, Monsomboon A, Siddiqui FJ, Ong ME; PAROS Clinical Research Network.

*Emerg Med Australas.* 2017 May 31. doi: 10.1111/1742-6723.12809. [Epub ahead of print]

### **Brief:**

An observational, retrospective study on the PAROS OHCA registry from seven Asian countries in 2009-2012 to investigate the effect of known heart disease on post-out-of-hospital cardiac arrest (OHCA) survival outcomes, and its association with factors influencing survival was carried out.

From this study it was shown that history of heart disease independently predicted poorer survival to discharge during out-of-hospital cardiac arrest. Bystander CPR and AED rates were not higher in patients with known heart disease compared to those without.

# **The Pan-Asian Resuscitation Outcomes Study (PAROS) clinical research network: what, where, why and how.**

Doctor NE, Ahmad NS, Pek PP, Yap S, Ong ME.

*Singapore Med J. 2017 Jul;58(7):456-458. doi: 10.11622/smedj.2017057.*

## **Brief:**

Out-of-hospital cardiac arrest (OHCA) is a global health concern with an incidence rate of 50-60 per 100,000 person-years. To improve OHCA survival rates, several cardiac arrest registries have been set up in North America and Europe.

In Asia, however, there was previously no concerted effort in prehospital emergency care research owing to differences in prehospital emergency medical services systems, data collection methods and outcome reporting between countries.

Recognising the need for a collaborative prehospital emergency care research group in Asia, researchers from seven countries in the Asia-Pacific region (including Japan, South Korea, Taiwan, Thailand, United Arab Emirates-Dubai, Singapore and Malaysia) established the Pan-Asian Resuscitation Outcomes Study (PAROS) clinical research network in 2010.

This paper gives the overview, methodology and research accomplishments of the PAROS network.

## **Diurnal variation in outcomes after out-of-hospital cardiac arrest in Asian communities: The Pan-Asian Resuscitation Outcomes Study.**

Kim YJ, Ryoo HW, Shin SD, Song KJ, Ro YS, Lee KW, Ma MH, Ko PC, Gan HN, Shahidah N.

*Emerg Med Australas.* 2017 Oct;29(5):551-562. doi: 10.1111/1742-6723.12822.

### **Brief:**

This study aimed to determine whether the time of OHCA is associated with survival rate and neurological outcome after OHCA, as well as to compare the effect size of time of OHCA across six Asian regions.

Data from six Asian regions (Tokyo, Osaka, Aichi, Seoul, Taipei and Singapore) in 2009 to 2012 was extracted from the PAROS registry. The adult OHCA cases were divided depending on the arrest time: I (00.01–06.00 hours), II (06.01–12.00 hours), III (12.01–18.00 hours) and IV (18.01–24.00 hours) and analysed using multivariable logistic regression. The outcomes of survival and good neurological recovery were compared.

The study showed diurnal similarities in OHCA occurrence, as well as differences in survival rate and good neurological recovery rate among Asian regions.

# Modifiable Factors Associated With Survival After Out-of-Hospital Cardiac Arrest in the Pan-Asian Resuscitation Outcomes Study

Hideharu Tanaka, Marcus E. H. Ong, Fahad J. Siddiqui, Matthew H. M. Ma, Hiroshi Kaneko, Kyung Won Lee, Kentaro Kajino, Chih-Hao Lin, Han Nee Gan, Pairoj Khruengkarnchana, Omer Alsakaf, Nik H. Rahman, Nausheen E. Doctor, Pryseley Assam, Sang Do Shin, PAROS Clinical Research Network

*Ann Emerg Med.* 2017 Oct 3. pii: S0196-0644(17)31384-7. doi: 10.1016/j.annemergmed.2017.07.484. [Epub ahead of print]

## Brief:

A prospective, international, multicenter cohort study on the PAROS OHCA registry from seven Asian Pacific countries in 2009-2012 to identify modifiable factors associated with improved OHCA survival among communities in the PAROS Clinical Research Network was carried out.

In the PAROS cohort, bystander CPR, out-of-hospital defibrillation, and response time less than or equal to 8 minutes were positively associated with increased OHCA survival, whereas out-of-hospital advanced airway was associated with decreased out-of-hospital cardiac arrest survival. Developing EMS systems should focus on basic life support interventions in OHCA resuscitation.