Long-term outcomes following traumatic out of hospital cardiac arrest

Report/Abstract by Adam Rushford

Background:

Recent publications have outlined the factors associated with traumatic out of hospital cardiac arrest (OHCA) as well as the resuscitation of these patients. While this information is valuable in how we treat such injuries, the long-term outcomes of these patients are not fully understood. Thus, our study aimed to augment current literature on traumatic OHCA, describing survival and quality of life post-discharge. Moreover, due to the historically low survival rates of traumatic OHCA, there has been scattered debate as to whether resuscitation may be futile.

Methods and Design:

Using the Victorian Ambulance Cardiac Arrest Registry (VACAR), we were able to identify cases of traumatic OHCA between July 2008 and June 2014. Subsequently linking data with the Victorian State Trauma Registry (VSTR) and the National Coronial Information System (NCIS), we were able to extract patients who had been transported to hospital while excluding those who did not meet the criteria of traumatic cardiac arrest (medical cardiac arrest/other medical condition/not trauma induced).

Using the data analysis software Stata, Chi-squared and Fisher's exact tests were performed to compare categorical variables where appropriate whilst the Mann-Whitney U-test was used for continuous data such as age and pre-hospital time. The Glasgow Outcome Scale Extended and return to work status was used to measure functional outcomes of patients post injury.

Results:

Using ICD-10 and AIS to classify sever injuries (AIS3+ injuries considered severe), we were able to categorise patients by injury type, measuring overall survival rates at incremental time periods. A similar approach was used with major operations and interventions.

Maximum AIS scores were compared with survival and frequency of AIS3+ was expanded to include various body areas such as head, spine, thorax, abdomen and upper and lower extremities. Pre-hospital and in-hospital interventions were also analysed where in-hospital laparotomies and thoracotomies showing particular prevalence and was also the greatest determinant (of all analysed interventions) of survival to discharge.

Results were visible in the form a accompanying tables and histograms. Patients were monitored at 6, 12 and 24 months post injury and functional outcomes were clearly reported in the paper using the GOS-E.

Conclusion:

Patients generally demonstrated good survival outcomes and as a result, it could be argued that resuscitation is not futile.