Dr. Gene Moore:

Welcome to the September issue of the Journal. The lead paper is by Dr. Joe DuBose and the AAST AORTA Study Group who maintain a registry representing eight Level I Trauma Centers. Over a 26-month period, 114 patients were reported, 46 REBOA and 68 open occlusion. As these data reflect implementations of REBOA, placement was done via a femoral cut down in 50% of the patients. Furthermore, the patient cohorts were not similar as the open group had more penetrating wounds, more were undergoing CPR at the time of aortic occlusion, and the procedure was done predominantly by the trauma attending.

Perhaps the most useful information in the database at this time is the current results of REBOA. Interestingly, REBOA was deployed in Zone I in nearly 80% of the patients, but only one of these patients underwent cardiac repair. As expected, only one patient had inflation in Zone II. Presumably, the remaining 20% in Zone III were placed primarily for pelvic fractures. REBOA inflation improved hemodynamics in two-thirds of the patients, and the overall survival was 28%. Of note, time to aortic occlusion was similar for REBOA and open aortic occlusion (6.6 and 7.2 minutes). As reflected in the AAST discussion, few would debate that REBOA is preferred for Zone III occlusion but a role for thoracic injuries remains to be elucidated.

Dr. Howard Champion and associates from SimQuest and colleagues from the University of Texas in Houston evaluated the US Department of Transportation Fatality Analysis Reporting System (FARS) database from 1978-2013 to determine location and time of death. There was a reduction in vehicle-related fatality from 23/100,000 population to 10.4. The proportion of hospital deaths decreased by 58%, whereas the proportion of deaths in the prehospital phase increased 56%. In a subgroup analysis of early vehicle-related deaths occurred at a risk of 0.4%/minute for the first 30 minutes, 1% for the ensuing 60 minutes, and 0.2%/minutes thereafter. The authors conclude we need to focus on new strategies to improve prehospital care and trauma systems.
Dr. Eitan Heldenberg and colleagues from the Israeli Trauma Group interrogated the Israeli National Trauma Registry to determine the incidence and impact of vascular injury on outcome in terror-related explosions. Among 1260 explosion casualties, 9% had vascular trauma. Lower extremity was the most common site. The mortality was five times in patients with vascular injury (23% versus 5%). The authors suggest the presence of a vascular injury should be considered in prehospital triage to major trauma centers.

Dr. Josh Brown and colleagues from the University of Pittsburgh evaluated the role of prehospital lactate for triage in their air medical system. Major trauma center need was defined as greater than one unit RBCs in the ED, emergent operative or interventional radiology procedure, ICP monitoring, or death. More than 6000 patients were reviewed and 28% had trauma center need. Using a lactate threshold greater than four mmol/L, in addition to standard ACS criteria, reduced over-triage by 7% while increasing under-triage less than 1%.

In a related paper, Dr. Janie Baxter et al from the Royal Infirmary in Edinburgh performed a systematic review of lactate levels in the ED predicting outcome, and concluded they are useful. As always, there is abundant additional timely information in this issue. Happy reading!

Jo Fields: Thank you Dr. Moore.

And thank y’all for listening. If you have any questions or requests, please send them to info@jtrauma.org. Go Broncos!