Highlights from this issue

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Emergency Medicine loves a clinical prediction tool. Traditionally, these take a common condition and identify clinical factors to justify further testing. Our first paper this month focuses on a thankfully uncommon condition, abusive head trauma in children, and evaluates a prediction rule applied to a population of 87 children with confirmed intracranial injury on neuroimaging. While the numbers in this prospective external validation study from Australia appear small, it is important to recognise that the high proportion of abusive head trauma within the cohort (32%), allows for a meaningful validation of the Predicting Abusive Head Trauma (PredAHT) tool. Based on six clinical features often associated with abusive head trauma (such as bruising and retinal haemorrhages), the PreAHT tool gives a sensitivity of 74% (not high enough to rule-out the target condition) and a specificity of 87% (approaching clinical utility to rule-in). However, as the excellent accompanying commentary on this paper by Ffion Davies points out, the emergency clinician remains reliant on a number of more subtle factors such as social red flags and inconsistencies with the history to correctly identify the child at risk of abuse.

Continuing a paediatric head injury theme, our next article is a planned secondary analysis of over 20 000 children presenting to 10 Australasian emergency departments with head injury. The authors evaluate the diagnostic accuracy of the Glasgow Coma Scale in predicting traumatic brain injury. Despite a very low incidence of traumatic brain injury in this cohort (1.3%), and a preponderance of children with a GCS 15 (95.4%), the GCS had an area under the curve approaching 0.8 or above for the prediction of traumatic brain injury, mortality and the need for neurosurgery. Rather pleasing for a score developed in drunk Glaswegians.

This month's Editor's Choice allows us all to revise the clotting cascade, and in particular understand fibrinolysis in major trauma, providing novel insights into our use of tranexamic acid in these patients. In this hypothesis generating study of 52 injured patients, detailed retrospective sample analysis of the mechanisms of fibrinolysis, allows the authors to propose the existence of an early 'antifibrinolytic gap' with the natural antifibrinolytic system lagging several hours behind the natural profibrinolytics. It is proposed that an early dose of tranexamic acid may fill this gap and may explain why this readily available and cheap drug is so effective. Take home points around early administration of tranexamic and not restricting prescription to only those who are most severely injured, should be heeded by all.

There remains a continued drive to justify the added value of prehospital critical care teams. These resources are scarce, costly and often funded through charitable donations. Therefore, our next article, a retrospective trauma database analysis from Scotland, available as Open Access, evaluating the mortality benefit to patients with multiple injuries is important. Whilst only 4.5% of patients received physician-led prehospital critical care, there is at least a signal following multivariate analysis, that this intervention provides some mortality benefit at 30 days (Odds Ratio 0.56, 95% Confidence Interval 0.36-0.86).

Revisiting a concept of cranial trephination (reported as early as 8000BC as Mike Abernathy attests in his accompanying commentary), this month the EMJ presents a short report from Ireland describing successful ED evacuation of extradural haematoma through the use of burr holes. While not a new "innovation," this Swing Shift article brings to the fore a controversial topic for EM clinicians. The key to this report is the geographical remoteness of the emergency department, being over 250 km from the nearest neurosurgical centre. While this article provides an excellent algorithm for decision making in this situation, I am just thankful for once, that I work in such close proximity to our neurosurgical colleagues.

Moving away from this month's trauma theme, it is fantastic to see another excellent piece of work funded through a Royal College of Emergency Medicine research grant come to fruition. Matt Chandy and colleagues present a robust systematic review evaluating current evidence for non-invasive techniques to stimulate often illusive urine samples in young children. Whilst they demonstrate a proof of concept for such techniques, there appears to be more research required in this area.

And finally, in Spring 2020, the organ donation law in England is changing to an "opt-out" system. Some insights into what this may mean for EM practice are discussed in this month's Concepts paper by Matt Reed and colleagues from Edinburgh. The potential this law change has to increase organ donation rates, if lessons from this single centre pilot are heeded, are fantastic.

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