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Primary survey: Highlights from this issue

doi:10.1136/emermed-2023-213146

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The *EMJ* prides itself on being an international journal. Whilst submissions from the United Kingdom made up around 40% of our published work in 2022, we have readers from around the world and as an editorial team we encourage submissions from anywhere. Indeed, opening this month's *EMJ* and looking at where publications have originated from does have a pleasingly international feel. It reads like the locations of top fashion boutiques; Milan, San Francisco, Boston, Melbourne (and Plymouth). This is the first time I recall that international emergency care research teams have outweighed UK based authors in an issue – fantastic stuff. So, let's take a closer look at the diversity of material we have on offer.

Head injury

This month we include three articles that explore very different aspects of head injury. In our Editor's Choice, Alice Rogan and colleagues from New Zealand explore the role of serum S100B for ruling out intracranial pathology in mild traumatic brain injury. Looking back over the years the *EMJ* has published a few pieces of original research evaluating S100B, yet it has never made its way consistently into practice due to the ubiquitous use of CT and uncertainty in its test charateristics. In this prospective observational study the authors challenge this by demonstrating that S100B has a high diagnostic accuracy for ruling out serious pathology within 6 hours of injury and could lead to a theoretical reduction in the use of CT. Wide confidence intervals around the diagnostic accuracy statistics and the theoretical underpinnings suggest more work is needed to establish clinical effectiveness here.

Our second head injury paper, from Butterfield *et al* in Australia, looks at the more severe end of the injury spectrum in a retrospective cohort study of patients intubated prehospitally with severe traumatic brain injury. In 277 patients they found that prolonged hypoxia is an independent predictor of mortality (adjusted OR 5.18). The authors suggest that rapid interventions to prevent hypoxia from both prehospital services and bystanders may reduce secondary brain injury.

Our final head injury paper is a systematic review and meta-analysis from Samuel Moffatt and team in the UK, exploring pre-injury clopidogrel. While NICE guidelines do not include antiplatelets as an explicit indication for CT, practice is hugely variable here. It is therefore an important finding that this meta-analysis included nearly 30 000 patients from seven studies (although of varying methodological quality), found that clopidogrel monotherapy was not associated with an increased risk of traumatic intracerebral haemorrhage.

Paediatrics

With three original research papers and a research letter covering a variety of paediatric conditions from authors around the world, we cannot be accused of not thinking about the children or thinking they are just small adults. Continuing the antipodean theme we move to Melbourne for a retrospective analysis of non-traumatic limp epidemiology and work-up from Simon Craig's team. Take home messages here highlight lots of investigations, variability in practice and commonly benign diagnoses that are conservatively managed. Moving to the United States, Lo *et al* seek to derive a temperature threshold for the detection of serious bacterial infection in hypothermic infants. While they include an impressive cohort of over 3000 infants they conclude that no temperature threshold can reliably identify serious bacterial infection and further work on risk stratification is needed for this vulnerable group. We go back to Melbourne for a qualitative study of 43 clinicians that explores the facilitators and barriers to guideline uptake in paediatric head injuries that highlights information provision for clinicians as a key issue. Finally, a truly international survey of practice highlights a distrust in the current evidence for intravenous magnesium in paediatric asthma.

COVID-19

We continue to see a large number of COVID-19 submissions and three are published this month that cover predictors of delirium in COVID-19 presentations, risk prediction for test positivity and pulse oximetry. While the first two manuscripts focus on the disease itself, the last paper by Fogarty and colleagues from Nottingham, UK uses the almost unique disease characteristics of COVID-19 (a huge prevalence of hypoxia) as a vehicle to test pulse oximetry and the impact of hypotension on test accuracy. COVID-19 afforded this analysis of 3420 patients with paired arterial blood gases and demonstrates that with hypotension oxygen saturations may be overestimated. This may seem counter intuitive but have a read of the authors discussion around biological plausibility that succinctly explains why this may occur.

Toxicology

Our last original research paper this month is also our Readers' Choice. This nice short retrospective single centre paper from Humphries and colleagues in Plymouth explores the clinical effectiveness of the shorter paracetamol poisoning treatment regimen-SNAP. In 294 patients, the use of SNAP was shown to significantly reduce length of stay by around 8 hours with a reduction in anaphylactoid reactions. Have you introduced the SNAP regimen yet? Also have a read of our Concepts paper that introduces the syndrome of BOWFO-Benzodiazepine overdose, withdrawing from opioids and discusses the challenges in management.

Finally, we continue to champion the role of POCUS with our Sono Case Series, which this month extends the role to look at the evaluation of pleural effusions. Great work from all authors from around the world, it is a delight to showcase the diversity of work published this month.

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Emerg Med J: first published as 10.1136/emermed-2023-213146 on 23 February 2023. Downloaded from http://emj.bmj.com/ on April 20, 2024 by guest. Protected by copyright.