Highlights from this issue

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The COVID-19 oximetry at home programme

This months Editors Choice is an analysis of the CO@h programme. In November 2020, NHS England recommended that patients with symptomatic confirmed COVID-19 who were over 65 years or clinically vulnerable be provided with a pulse oximeter and to call emergency services if the reading was ≤92% or primary care if the reading was 93%–94%. During the study period of October 2020 to May 2021, 217K patients were within the inclusion criteria but only 2.5% of these were enrolled into the programme and there was considerable variation between the definition/inclusion of clinically vulnerable, start dates and take up in each region. Analysing data pre and post implementation, there was no significant difference in 28 day mortality. There was a small increase in both ED attendances and a similar increase in emergency hospital admissions, which may reflect that pulse oximetry was effective at detecting early deterioration?

Can the NEWS2 score be used reliably in COVID-19 patients?

Assessing all vital signs to calculate a NEWS2 score may not be possible for patient's being reviewed remotely (eg, primary care consultations or virtual COVID-19 wards) so which elements are most useful? The Reader's Choice is a retrospective study of hospitalised COVID-19 patients between March and June 2020. Patients with higher initial or maximum hospital NEWS2 were more likely to die, require ICU admission, and have longer lengths of stay. The respiratory components (respiratory rate, oxygen saturation and supplemental oxygen requirement) were the most valuable predictors in the short-term, thereby supporting the use of pulse oximeters by the CO@h programme. However, as the Royal College of Physicans recommend, NEWS2 must always be used alongside clinical judgement in the assessment of COVID-19 patients.

Bystander CPR during a pandemic

There have been a number of studies assessing characteristics of out of hospital cardiac arrests during the COVID-19 pandemic with varying results. A retrospective review of the data registry in Tokyo compared cases in 2020 to 2019, but also looked at the 7 weeks before and after a state of emergency lockdown was called in April 2020. The main finding was an increase in the rate of bystander CPR after the state of emergency was called, with no change in the rate of witnessed cardiac arrest. Was this was due to people being at home and more likely to be the bystander for relatives, or altruism of the population early in a pandemic? The most relevant finding was actually an increase in dispatcher CPR instruction from 34.4% to 43.9%. Whilst there was no associated improvement in survival, it would be interesting to explore what other factors increased the rate of bystander CPR to enhance the chain of survival.

Prehospital paediatric seizure treatment

Ambulance Victoria in Australia retrospectively assessed all children with suspected seizures to identify the prehospital antiepileptic drug use and need for respiratory support. Paramedics only had access to Midazolam for IM or IV/IO administration, with no buccal or rectal use. Respiratory support beyond oxygen and suction was required in 3.2% of patients, with a correlation between the number of doses: a third of patients who had two doses and half the patients who had more than two doses required respiratory support. The authors suggest researching alternative pre-hospital second-line agents such as Levetiracetam or sodium valproate.

Analgesia following paediatric cast immoblisation

What's your recommendation to parents for analgesia when discharging children with a limb fracture immobilised in a cast? One Italian study followed up patients after instructing to administer regular oral ibuprofen and to use acetaminophen (paracetamol) for rescue therapy as required. Of note, there were only a small number of displaced fractures and finger fractures were included. The majority of children did not receive any analgesia at home or only needed it for the first day. While we wouldn't want to under-treat pain in children, it sounds like an approach of 'analgesia as needed' may be appropriate for most patients.

Paediatric intubation adverse events

A single paediatric emergency Department in the United States retrospectively reviewed their intubations (with and without drugs) from 2004 to 2018 to identify the frequency of intubation-associated adverse events. In this setting nearly all intubations were performed by Paediatric EM fellows without routine anaesthetic support, and the first pass success rate was 72%. Hypoxia was the most common adverse event (18.6%) but the most common reason for intubation was also respiratory distress/failure reminding us that techniques to improve oxygenation before and during an intubation attempt should always be considered. The adjusted odds of a major adverse event increased with two or more attempts: emphasising the importance of preparation to optimise first attempt success.

Community emergency medicine (CEM)

This month's article by Hanks and colleagues* reviews the provision of CEM in the UK and Ireland in 2021, and identifies significant variation in patient selection, staff, equipment and funding models between the seven organisations. There is also considerable overlap between CEM and the work of ambulance services, general practitioners, and prehospital critical care teams/air ambulances. The paper starts a conversation about whether it is the role of Emergency Medicine to extend reach into the community and not be confined within the walls of a hospital, or whether we are already overstretched providing current emergency care for our patients.

Statistics

Finally, this month's concepts paper is on the topic of the statistics in diagnostic and prognostic tests. This is a must read paper for emergency clinicians who use diagnostic tests and decision tools on a daily basis to inform clinical decisions!

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