JournalScan

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Etomidate or midazolam for prehospital RSI? ► The authors conducted a retrospective case note review of consecutive rapid sequence intubations (RSI) at an American university-based air medical programme. They reviewed 112 rapid sequence intubations with etomidate and 97 with midazolam. The intubation success rates were comparable: 98% with etomidate and 99% with midazolam. The number of hypotensive episodes with etomidate (7 out of 74) and midazolam (3 out of 56) were not significantly different, although data were not available for some patients. The authors conclude that there was a good success rate and a low incidence of hypotension with both agents, but point out that the mean dose of midazolam used was considerably less than recommended for induction.

▲ Swanson ER, Fosnocht DE, Jensen SC. Comparison of etomidate and midazolam for prehospital rapid-sequence intubation. *Prehosp Emerg Care* 2004;8:273-9.

MRC CRASH trial results ► The corticosteroid randomisation after significant head injury (CRASH) trial enrolled more than 10,000 emergency patients with impaired consciousness. The trial was stopped in May 2004 when it unexpectedly revealed excess mortality in patients treated with methylprednisolone compared with those given placebo. The cause of the excess deaths remains unclear. The results of this trial raise questions about the effectiveness of steroids in patients with other injuries.

▲ CRASH trial collaborators. Effect of intravenous corticosteroids on death within 14 days in 10008 adults with clinically significant head injury (MRC CRASH trial): randomised placebo-controlled trial. *Lancet* 2004;364:1321-8.

Beta blockers during cardiopulmonary resuscitation

► The authors propose that global myocardial ischaemia during cardiac arrest accounts for post-resuscitation myocardial dysfunction and that beta-1 adrenergic effects of epinephrine make this worse, and therefore that beta adrenergic blockade during cardiac arrest may favourably improve myocardial oxygen consumption, minimising myocardial ischaemia and improving survival. To investigate this, the researchers performed a prospective randomised controlled trial on rats in whom ventricular fibrillation was induced. The rats were randomised to receive either esmolol or placebo during resuscitation. Esmolol administration during resuscitation reduced the number of shocks required, minimised post-resuscitation myocardial dysfunction and increased duration of survival. However, it is difficult to know to what extent the results from experimentation on 18 rats can be extrapolated to the human clinical setting.

▲ Cammarata G, Weil MH, Sun S, *et al.* Beta 1-Adrenergic Blockade during Cardiopulmonary resuscitation improves survival. *Crit Care Med* 2004;2:S440-1.

The Ottawa knee rule works ► This systematic review examined data from six studies involving over 4000 patients. The review shows that in adult patients with acute knee injuries, the rule is good at ruling out knee fractures and can substantially reduce the need for X-rays. This rule has the potential to become as important as the equivalent better known ankle rule.

▲ Bachmann LM, Haberzeth S, Steurer J, *et al.* The accuracy of the Ottawa knee rule to rule out knee fractures: a systematic review. *Ann Intern Med* 2004;140:121-4.

Ultrasound to check tracheal tube placements

► Investigators from a paediatric department in Taiwan have previously demonstrated the use of ultrasound to detect diaphragm paralysis, and wondered if they could use it to demonstrate passive diaphragm movement by IPPV and therefore confirm correct

tracheal tube placement. They acknowledge auscultation over lung and stomach as the primary confirmation method and advocate CXR to define tube tip position, but suggest use of ultrasound of the diaphragm instead of end-tidal CO₂ or oesophageal detector device. They looked at 59 children (newborn to 17 years) who were intubated for cardiopulmonary arrest or impending respiratory failure. They claim that they correctly detected two oesophageal intubations and eight incidents of placement down right mainstem bronchus as well as the 59 eventual correct tube placements. However, they do not report what they were using as gold standard to allow them to make the claim that they were correct and they did not explore how their ultrasound method compared to conventional methods of checking tube placement. They did admit that their machine was cumbersome to use in the resuscitation setting. It seems unlikely that this interesting idea will have a huge effect upon practice.

▲ Kai-Sheng Hsieh, Cheng-Liang Lee, Chu-Chung Lin, *et al.* Secondary confirmation of endotracheal tube position by ultrasound image. *Crit Care Med* 2004;32(No 9 Suppl):S374-S377.

Referral of nasal fractures to ENT ► This retrospective study examined the notes of 342 patients referred from the emergency department to the Ear, Nose, and Throat (ENT) department. A major flaw in the study was that there was no mention of those patients with nose injury discharged from the emergency department without follow-up. Of those referred to ENT, the authors categorised patients as those 'with clinical features' (nasal asymmetry, nasal obstruction, or both) and those 'without'. Not surprisingly, they showed that patients 'without' clinical features are less likely to attend their ENT appointment or subsequently have surgery. They conclude that only have patients 'with clinical features' should be referred. However, 19 of the 55 (35%) of patients who received surgery were in the group the authors suggest do not require referral! The message from the study appears a little confused.

▲ Karagama YG, Newton JR, Clayton MGG. Are nasal fractures being referred appropriately from the accident and emergency department to ENT? *Injury* 2004;35:968-71.

Sleep and junior doctors ► These two studies from a large US hospital on a group of interns (junior doctors) will be of interest to doctors working long shifts everywhere. The first study revealed that eliminating extended work shifts in an intensive care unit significantly decreased attentional failures during night work hours. In a companion paper published in the same journal, and in a similar vein, the investigators concluded that interns made substantially more serious errors when they worked frequent shifts of 24 hours or more than when they worked shorter shifts.

▲ Lockley SW, Cronin JW, Evans EE, *et al.* Effects of reducing interns' weekly work hours on sleep and attentional failures. *NEJM* 2004;351:1829-37.

▲ Landrigan CP, Rothschild JM, Cronin JW, *et al.* Effect of reducing intern's work hours on serious medical errors in intensive care units. *NEJM* 2004;351:1838-48.

Alcohol interventions in emergency medicine ► The authors of this study highlight the value of point of care referrals for emergency department patients with alcohol problems. They report that a group of patients who were referred to an alcohol-health worker had lower alcohol consumption and fewer re-visits to the emergency department at follow-up than a group not referred. The measured effects suggest that the simple act of referring a patient with alcohol problems for treatment (regardless of whether treatment was complied with) might itself have preventative benefits, perhaps by underscoring concern about the behaviour. The act of making a referral was more powerful than a health promotion leaflet. Also the subset of referred patients who kept their appointment with the alcohol-health worker drank less than those who did not keep their appointments, although this was not statistically significant.

▲ Crawford MJ, Patton R, Touquet R, *et al.* Screening and referral for brief intervention of alcohol-misusing patients in an emergency department: a pragmatic randomised controlled trial. *Lancet* 2004;364:1334-9.

Wet cement causes full thickness skin burns ► The Welsh centre for burns and plastic surgery reports that 2.2% of referrals to them are for cement burns: 50% being full thickness and 21% requiring surgery. 95% of the patients were unaware of the potential for cement to cause burns, and 88% did not notice any warnings on the cement bag. The authors suggest that better information and warnings from manufacturers could prevent burns.

▲ Lewis PM, Ennis O, Kashif A, *et al.* Wet cement remains a poorly recognised cause of full-thickness skin burns. *Injury* 2004;**35**:982–5.

Bedside features of shock in children ► This paper from Kenya raises concerns over the inter-observer reliability of the readily obtainable features of shock in critically ill and injured children. One hundred consecutive children who were admitted were assessed by four physicians for capillary refill time, temperature gradient, radial pulse volume, skin turgor and the presence of sunken eyes. The authors interpret the results as showing fair agreement for sunken eyes and moderate agreement for capillary refill time, weak pulse volume, skin turgor, and substantial agreement for temperature gradient. However, the confidence intervals appear to be rather wide, such that the study does not seem to be large enough to prove anything. However, the authors have a valid point that even markers which are traditionally regarded as objective, may actually be somewhat subjective.

▲ Otieno H, Were E, Ahmed I, *et al.* Are bedside features of shock reproducible between different observers? *Arch Dis Child* 2004;**89**:977–9.

Enteral fluid to rehydrate children with gastroenteritis ► This meta-analysis of randomised controlled trials included 1545 children in 11 countries. The investigators conclude that for childhood gastroenteritis, enteral rehydration is as effective (if not better) than intravenous rehydration. Enteral rehydration by the oral or nasogastric route appears to be successful in most children.

▲ Fonesca BK, Holdgate A, Craig JC. Enteral vs intravenous rehydration therapy for children with gastroenteritis. *Arch Pediatr Adolesc Med* 2004;**158**:483–90.

Oral dexamethasone helps mild croup ► The benefits of dexamethasone for moderate to severe croup have already been demonstrated. The results of this randomised double-blind placebo controlled trial from four Canadian paediatric emergency departments indicate that a single oral dose of dexamethasone is

also helpful in mild croup. A single oral dose of 0.6 mg per kilogram of body weight of dexamethasone reduced the return rate of children with croup to medical care provider within seven days. Children treated with dexamethasone also had quicker resolution of symptoms and lost less sleep.

▲ Bjornson CL, Klassen TP, Williamson J, *et al.* A randomised trial of a single dose of oral dexamethasone for mild croup. *NEJM* 2004;**351**:1306–13.

Pharmacological treatments for bronchiolitis ► The authors review clinical trials of the treatment of bronchiolitis in children (including beta2 agonists, epinephrine, corticosteroids, and ribavirin). They conclude that there is not enough evidence that any of these treatments are effective. However, in the face of widespread and continued physician use, most studies are not of sufficient size or quality to rule out these treatments.

▲ King VJ, Viswanathan M, Bordley WC, *et al.* Pharmacologic treatment of bronchiolitis in infants and children. *Arch Pediatr Adolesc Med* 2004;**158**:127–37.

An unusual firework injury ► The potential dangers of fireworks in terms of causing burns are generally well appreciated, but this report describes a blast-type injury. A six year old boy sustained an injury when an 'air bomb' firework fell over and fired a flaming ball onto the right side of his chest. The flaming ball exploded resulting in a 3% body surface area partial thickness burn to his chest. In addition, he sustained a large right sided pulmonary contusion. He recovered well on oxygen and antibiotics and was discharged from hospital at four days.

▲ Rawlins JM, Khan A, Foo I. Pulmonary contusion - an unusual firework injury. *Burns* 2004;**30**:600–2.

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