Don’t have your cardiac arrest at home ➤ Patients who suffer from out of hospital cardiac arrest generally have a low chance of survival. This large study examined whether the outcome of out of hospital arrest is influenced by the patient’s location. According to the Swedish cardiac arrest registry, ambulance crews attended and attempted to resuscitate 24,630 out of hospital cardiac arrest patients between 1990 and 1999. Of these, 66% took place at home. Patients who suffered cardiac arrest at home were generally older, more likely to be female, less often had a witnessed event, less often had bystander CPR, were less often in VF, SBS had a longer time interval between collapsing and trained assistance arriving. Not surprisingly, given these data, patients who arrested elsewhere had a greater chance of arriving at hospital alive (19.4% vs. 11.3% p<0.0001) and were more likely to be alive at one month (6.2% vs 1.7% p<0.0001). Out of hospital cardiac arrest remains a challenge, particularly when in occurs at home.


Reperfusion therapy in acute myocardial infarction: a role for IIb/IIIa receptor antagonists? ➤ Myocardial reperfusion remains the cornerstone of early management of acute myocardial infarction. The clinical benefits of using aspirin in the acute setting has led to the belief that fibrinolytic therapy may be improved by adjunctive use of more potent platelet inhibitors. In small pilot trials, combined use of IIa/IIb inhibitors and fibrinolytic therapy increased the speed and completeness of recanalisation of the infarcted vessel and reduced reocclusion. There was also evidence to suggest that doses of reteplase could be reduced by half when given in combination with abciximab.

It was therefore with surprise that when tested in the large (1,508 patients) GUSTO V trial, this strategy resulted in a non-significant 0.3% decrease in the rate of death by 30 days relative to standard fibrinolytic therapy. However, this combination treatment was associated with a decreased rate of reinfarction and other non-fatal complications. The aim of this follow up analysis of GUSTO V was to determine if the beneficial effects of abciximab and reteplase on early non-fatal complications would equate to a reduction in the risk of death by one year. Disappointingly, this was not the case. Although trends had been observed for a mortality advantage with combination therapy in certain groups of patients (those less than 75 years of age, with anterior infarction, diabetes, or under four hours pain to treatment time), differences in outcome by one year in these subgroups were less apparent. Reasons for failure to reduce one year mortality remain unclear, but the authors offered various possibilities. They argue further that the prevention of reinfarction and other ischaemic events may be a worthwhile objective for an individual patient, but risk benefits must be carefully assessed beforehand.


Preventing falls in older people ➤ Emergency department staff will be aware of the large number of falls among the elderly: it is estimated that 35%–40% of those age over 65 years will fall annually. With an ever aging population, effective measures to prevent these falls are much needed. This paper reviews the evidence supporting interventions to prevent falls. Interventions recommended include medication review, with particular attention to psychotropic drugs and drugs causing hypotension. Other measures that have been shown to have a positive effect include: the use of walking aids, the commencement of exercise programmes, modification of environmental hazards, and treatment of cardiovascular risk factors. The National Service Framework for older persons has recommended that all hospitals have a specialist falls unit in place by 2004. Newcastle upon Tyne’s dedicated falls service has demonstrated effective falls and fracture prevention, with reduced hospital admission rates and length of stay. Impressively, bed occupancy was reduced by 66.1% bed days in comparison with peer trusts without such facilities. The critical impact upon the emergency department can only be imagined!


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The pupils in coma ➤ It is often taught that the presence or absence of a pupillary light reflex in a patient with coma is helpful in clinically distinguishing structural problems (for example, intracranial haemorrhage, cerebral infarction) from metabolic problems (for example, poisoning, hypoglycaemia, sepsis), with the latter exhibiting normal reactions. This Japanese study set out to investigate this. Their findings supported traditional dogma. Among 115 consecutive patients in coma, light reflexes were absent in 83% of those with structural causes, compared with 23% with metabolic causes. The authors also studied anisocoria (defined as a difference of pupillary diameters of more than 1 mm) and found that anisocoria was present in 39% of patients with structural causes, but only 4% with metabolic causes.


Dexamethasone for adults with bacterial meningitis ➤ Previous analysis of clinical studies in children indicated benefit of adjunctive treatment with dexamethasone in those with Haemophilus influenzae type b meningitis and suggested a benefit (if the treatment was initiated with or before parenteral antibiotics) in Streptococcus pneumoniae meningitis. This study continued this theme, but investigated the role of dexamethasone in adults with meningitis. The authors describe a methodologically sound, prospective, randomised, double blind trial of adjunctive dexamethasone for bacterial meningitis in 301 adults. The time period of the study was fairly long at nine years. Eligible patients were 17 years of age or older and had suspected meningitis in combination with positive features of meningitis in their cerebrospinal fluid. Patients were excluded if they had had antibiotics within the past 48 hours. Dexamethasone was administered 15 minutes before the first dose of antibiotics and was given every six hours for four days. The primary outcome measure was the score on the Glasgow Outcome Scale after eight weeks.

Adjunctive treatment was associated with a statistically significant reduction in the number of patients with unfavourable outcomes and in those who died. Those with pneumococcal meningitis showed the greatest benefit as did those with moderate to severe disease as assessed by the Glasgow Coma Scale on admission. The risk of adverse events did not differ significantly between the groups.

The accompanying editorial recommends the use of dexamethasone in most adults with suspected pneumococcal meningitis, excluding those who have already received antibiotics and those with septic shock.

Very importantly it also discusses the area where dexamethasone may be associated with adverse clinical outcomes. When penicillin resistant strains of S pneumoniae are identified, dexamethasone has been shown to substantially reduce vancomycin concentrations, the drug of choice in these patients, by reducing the cerebrospinal fluid inflammatory response.


Finger on the pulse: knee dislocations ▶ Although traumatic knee dislocation is comparatively rare, one third of patients have popliteal artery damage. The longer it takes to repair this vessel, the higher the rate of amputation. It has previously been reported that normal post-reduction pulses are detected in 5%–15% of patients with dislocation and vascular injury. The authors of this study reviewed 116 articles to determine the sensitivity and specificity of pulse examination in detecting arterial injuries requiring surgical intervention. Of the 116 articles, only seven met all methodological criteria. Of 284 dislocations, 18% had vascular injuries requiring surgery.

The authors acknowledge limitations of this meta-analysis. However, after pooling all the data, they demonstrate that abnormal pedal pulses present a sensitivity of 0.79, a specificity of 0.91, a positive predictive value of 0.75, and a negative predictive value of 0.93 in the detection of arterial injuries requiring surgical repair. They conclude that in a patient with a knee dislocation, abnormal pulses alone are not sensitive enough to detect a vascular injury requiring repair and further investigation (that is, angiography) is warranted. The authors propose a very clear algorithm for the management of these patients.


Identifying patients with possible post-traumatic symptoms ▶ Researchers in the Netherlands followed up a comparatively small cohort (79) of patients who presented to the emergency department with minor head injury. They discovered that the presence of headache, nausea, or dizziness at initial presentation was strongly associated with subsequent posttraumatic symptoms at six months. It seems that identifying which patients are likely to develop long term symptoms may be comparatively straightforward and certainly much more so than treating them effectively.


Children on bicycles: more evidence for mandatory helmet use ▶ In 2001, the Cochrane Collaboration systematic review reported that helmets reduce the risk of head injury in cyclists of all ages by 63% to 88%. Bicycle helmet legislation has been adopted in a somewhat patchy fashion around the world (Australia, New Zealand, parts of the USA, and four Canadian provinces). This Canadian population based study compared admissions among child cyclists in legislation and no legislation provinces over a four year period. Using the control group meant that the authors were able to study the impact of mandatory helmet use while controlling for temporal trends in injury rates. There was a 45% reduction in head injuries in legislation provinces compared with 27% reduction in the no legislation regions. There was no significant difference in rates of other injuries between the two groups. It would have been interesting to see the data for children treated solely in the emergency department, but despite this, the case for helmets among child cyclists seems to be compelling.


Swallowed magnets can cause problems! ▶ Children frequently present to the emergency department having swallowed various objects. In most cases, there is no cause for great alarm—spontaneous passage can be expected. However, the authors of this case report warn that ingestion of multiple powerful magnets can strongly attract to each other through bowel lumen and cause perforation, requiring laparotomy.


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