Primary survey

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Safety and effectiveness of ketamine

This prospective audit evaluates the outcome of ketamine sedation in the emergency department in comparison with midazolam and propofol. The incidence of adverse events was similar with all three drugs. The authors report, however, that despite significantly more patients in the ketamine group being sedated to a level of no-response, the incidence of apnoea and hypoxia was lower than for both midazolam and propofol. The incidence of adverse events was significantly higher with deeper levels of sedation with midazolam, but not with ketamine. Although, not surprisingly, re-emergence phenomena occurred more frequently with ketamine (and particularly in younger patients) than with the other agents, there were no persistent psychological symptoms and only midazolam was significantly associated with recall of the intervention. Increasing age resulted in longer times to recovery with midazolam, but not with ketamine. Importantly, they report that midazolam is most often selected as the agent of choice due to the clinician's familiarity with the drug, whereas ketamine was most frequently selected on the basis of its pharmacological profile. This paper describes an excellent example of simple, pragmatic research of direct relevance to clinical practice, and demonstrates that evidence-based medicine is achievable in practice (***see page 579***).

Impact of NICE head injury guidelines

Despite their aim to promote and epitomise evidence-based practice, NICE guidelines are not immune to controversy. When their head injury guidelines were published in 2003, concerns were expressed that their aims of increasing CT scan rates but reducing the number of skull *x* rays and admissions would not be achieved. A paper published in 2007, however, suggests that the guidelines had achieved their aims, at least in some centres. Others have reported more mixed results. In this month's *EMJ* Steve Goodacre adds important information to the debate from an England-wide database, reporting that since the introduction of the NICE guidelines in 2003 admission rates have increased significantly. Although he admits that these cannot be directly linked as cause and effect with certainty, this remains a clear possibility, and he suggests that in the absence of evidence of patient benefit from hospital admission the head injury guideline may not be resulting in cost-effective care. The ball is clearly in NICE's court (***see page 556***).

Telephone triage of 999 calls

Another area of practice that is not without controversy is telephone triage of calls requesting unscheduled care. NHS Direct has been the focus of criticism, but in the UK emergency (999) calls are also subject to triage in an attempt to prioritise the assignment of increasingly sparse ambulance resources and, increasingly, to identify patients who may not need the traditional response of a lights-and-sirens ambulance staffed by a paramedic. Gray and Walker add to the data which suggest that telephone triage is not a reliable means of identifying patients with conditions that do not require emergency care. There are, perhaps three lessons that can be learned from this. Firstly, decision-support systems cannot realistically be expected to perform functions for which they were not designed. The triage system used by most UK ambulance services was intended to identify high-acuity calls to maximise patient safety. The twin aims of achieving a high sensitivity for seriously ill patients and accurately identifying low-acuity patients may be mutually exclusive. Secondly, clinicians are naturally risk-averse and may not accept triage systems that might award some patients, no matter how low in number, with a lower priority of response than their condition warrants. Perhaps the key lesson, however, is about how the existing ambulance triage system should be used. Gray and Walker report that significant proportions (more than a third) of patients in all three UK ambulance triage categories may receive more appropriate care than admission via a paramedic-staffed ambulance to the ED. Until now, however, there has been a widespread policy of targeting extended-scope paramedics with primary care skills only to patients triaged into the low priority category. As such patients typically make up only 12–15% of the emergency ambulance call load, the findings of this paper suggest that the cost-effectiveness of extended-scope paramedic practitioners may be greatest when they are targeted to the medium- and high-priority patients who make up the bulk of the 999 call volume (***see page 601***).

Pain assessment in children

This paper adds to the weight of evidence indicating that clinician's observational assessment of the severity of pain does not correlate well with that reported by patients using standardised self-reporting measurement tools, and tends to underestimate it. The authors suggest that this holds true even for children as young as three. Provision of adequate analgesia is arguably one of the most humane interventions that clinicians can offer their patients, yet it seems that there is still room for improvement, even in our most vulnerable client group (***see page 552***).

Morphine for patients with appendicitis

Disconcertingly, the authors of this paper indicate that the provision of analgesia for patients with acute abdominal pain remains controversial—to a sufficient extent that they felt able to justify a randomised controlled trial that compared the outcome of morphine with placebo in patients scheduled for appendectomy. Perhaps not surprisingly the paper reports significantly greater reductions in pain scores in patients receiving morphine, without any associated impact on doctor's diagnoses or treatment plans and with no increase in adverse event rates. As someone with an intact appendix and an aversion to pain, I sincerely hope that no further studies of this type are necessary to ensure adequate and early analgesia for all (***see page 586***).