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Highlights from this issue

doi:10.1136/emered-2015-205195

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Glucose and acute coronary syndromes

Balancing diagnosis with risk is part of the intrinsic function of emergency medicine, recognising the reality that traditional strategies used by our colleagues do not always allow for the incidence of conditions which, although they may not fit into a clear diagnostic box, have the potential for devastating impact on a patient's health.

Key amongst this group are the acute coronary syndromes, in which clinician gestalt has limited efficacy, routine tests only identify a proportion, and presenting complaints are variable and inconstant, particularly in some populations. The burden of the sheer numbers of patients is huge, with up to 10% of the 18 million patients each year through UK emergency departments potentially suffering from an ACS.

In this issue, Gardner and colleagues investigate the relationship between raised admission blood glucose in the ED and major adverse cardiac events (MACE) up to 30 days post attendance. This study analysed data from the ASPECT trial, and found that patients with serum glucose above 7 mmol/l were one and a half times more likely to experience a MACE than those with glucose lower than 7. This was independent of a formal diagnosis of diabetes, and may be due to abnormal glucose regulation, catecholamine release or other mechanisms, and makes an important contribution to our ability to find the optimum combination of clinical assessment and quantitative testing in this area.

Another one from the heart

The study by Vissier in this issue is definitely worth reading, but should stimulate the reader to delve more deeply into the literature on diagnosis. The study compares the ability of the HEART score, a bedside scoring system using history, ECG, age, the presence of risk-factors and troponin levels, to clinician gestalt (low, medium and high probability) to predict MACE at 6 weeks. A combination of HEART score and gestalt was also investigated. The investigators found that, based on the c-statistic, gestalt did not perform as well as the HEART score in predicting MACE, but a combination of both was superior to either.

The result is interesting in that it suggests that, even with a fairly good decision rule, physician gestalt brings something to the table. It is worth noting however, that the c-statistic is equivalent to the area under the ROC curve, which is related to sensitivity and specificity of test. A future step that these, and other authors, may wish to consider is predicting risk, which is slightly different. While sensitivity and specificity measures the characteristics of a specific test, calibration, the other aspect of test performance, measures whether observed risk is equivalent to actual risk, or development of disease, and uses likelihood ratios. Likelihood ratios incorporate prevalence and may accurately assess risk, but often do not affect the c-statistic.

GCS woes

The Glasgow Coma Scale (GCS) was introduced in the 1970's as a simple tool to describe states of impairment of consciousness, and to replace the previous descriptors of post-head injury coma, such as comatose, drowsy, obtunded and stuporose. Since its inception, there have been concerns expressed regarding complexity, spurious precision, lack of agreement between individuals and groups of clinicians, and therefore validity of the scale. Kehoe and colleagues assessed the performance of the GCS in elderly patients with traumatic brain injury (TBI), and found that the distribution of GCS differed between young and old patients with TBI, with twice the number of young people having a GCS 3–8, despite a higher burden of anatomical injury in the elderly group.

Although not able to define the reasons behind this phenomenon, this important study highlights that elderly patients with severe traumatic brain injury may present with a higher GCS than younger patients with similar pathology. It further impresses on us the need to be far more thoughtful about the use of GCS, more rigorous in the training and practice of this assessment, and more discriminating in the decisions that are made based on the scale.

A pain in the neck?

Non-traumatic neck and back pain also make up a large part of the work of emergency departments, and are often resistant both to therapy and evidence. Our

management of these complaints is intensely variable, and includes erratic analgesic use and archaic utilisation of sedatives.

An intriguing study investigating the use of a centrally-acting anti-cholinergic drug, benzotropine, is published in this issue, following a case series where this therapy appeared to be effective. Although small and potentially underpowered to find a significant improvement in pain and range of motion, this study represents a valuable attempt to rationally investigate treatments in a highly prevalent and under-investigated group of patients. It may be that a larger study would elicit a greater benefit, but the publication of smaller negative studies in peer-reviewed journals has in itself an incremental and beneficial effect, by diminishing the skew towards large trials that unbalances later attempts to analyse evidence.

Editor's choice

Dasan reports a mixed-methods study into an area that should be very dear to our hearts, as it concerns us and our ability to perform within our chosen speciality. Whether we are driven by adrenaline or intellect, whether we are on the critical care or primary care ends of the emergency medicine spectrum, or whether we are purely stimulated by the complexities of diagnosis of the undifferentiated patient, the reality is that emergency medicine specialists suffer a substantial degree of burnout and stress.

In this research, the authors describe low levels of compassion fatigue among UK NHS consultants, however the proportion with this problem were more likely to report lowering their standards of care, and were more likely to contemplate early retirement. These reports were related to their work environment and longevity, with a disturbing worsening of reported compassion fatigue over the first 10 years as a consultant.

Despite a relatively low response rate, important issues such as identification of at-risk clinicians and modifiable job factors are raised, upon which the longevity of our speciality itself may depend.

