Anaesthetic training in accident and emergency

EDITOR,—I read with interest the comments of Boyle et al1 regarding anaesthetic training for accident and emergency (A&E) specialist registrars. They suggest that there is a definite advantage in spending six months as a “true” anaesthetic SHO as part of the A&E specialist registrar scheme, rather than as a supernumerary extra in theatre. As someone who initially undertook a training in anaesthesia with a view to entering higher training in A&E via this route, I would agree that it offers more than the opportunity to become confident and competent at advanced airway management in the relatively controlled theatre setting. As our specialty continues to develop and accepts more responsibility for early advanced airway management, ventilatory and circulatory support and rapid sequence inductions, both within the A&E department and in the pre-hospital setting, I feel that we should encourage more of our junior trainees interested in emergency in A&E to enter the specialist registrar grade via this route.

J O DONELLI Specialist Registrar in Accident and Emergency Medicine, Royal Infirmary of Edinburgh, Lauriston Place, Edinburgh EH3 9YW (johnodonnell@fimecon.net)

Rapid sequence intubation

EDITOR,—All emergency medicine specialists should be competent in rapid sequence intubation (RSI). We thank the authors for their commitment to training this essential skill.

The simulator experience with video playback could be an extremely powerful teaching aid and a potential attendant complication. Currently, only a few accident and emergency (A&E) departments in the United Kingdom have access to this expensive tool. RSI is a skill that is used with short notice and requires confidence and competence to perform appropriately. The cognitive and psychomotor skills needed are unlikely to be retained from a single course. RSI should therefore be taught as part of an integrated training programme. This should include prolonged exposure to intubations during an anaesthetic attachment, a short course similar to the National Emergency Airway Management Course from the USA covering core knowledge, and a process of revalidation and quality assurance.

We feel that the use of simulators would not be practicable for the primary training of the large numbers of UK A&E specialists in RSI. The use of simulators could, however, play a vital role in the regular appraisal and revalidation of individual practitioners once they have completed their training programme. This revalidation of skills and the regular audit of results should form the basis for the essential quality assurance, which this programme would need.

In summary, if we follow the airline pilot analogy, training occurs in the classroom and in the air, revalidation is the work of the simulator.

STEPHEN BUSH Specialist Registrar in Accident and Emergency (stephen.bush@cfwcom.net)

ALASDAR GRAY Consultant in Accident and Emergency

ALISTAIR MCGOWAN Consultant in Accident and Emergency

Taken from The Wellington group, we face the challenge of creating realistic scenarios of critically ill and injured patients, providing the opportunity for an interobserver reliability. There is no explanation for the change in practice implied by this conclusion.

Our methodological concerns are threefold. Information gathered retrospectively from notes and request forms casts doubt over the accuracy and completeness of the symptoms and signs (particularly the symptom of nausea). The inclusion criterion is ill defined (patients who are referred for computed tomography). There is no explanation for the inclusion of nausea (it is not one of Rothrock's original criteria).

There are also theoretical objections. To be useful, a clinical filter must be applied to unselected patients and include criteria that have a high inter-observer reliability. There is no logic in applying a clinical filter after the decision to investigate has been made.

Furthermore, both studies acknowledge that they do not tackle the problem of subarachnoid haemorrhage in young patients presenting with isolated headache. Surely this is a major consideration in formulating any criteria for computed tomography (CT)?

We applied Harris’ criteria to our prospective series of patients attending A&E with non-traumatic headache (248 patients). Seventy-two CT scans would have been performed. The criteria would have missed three (1.2%) patients with an abnormal CT scan. Judging from the differing rates of CT abnormality in the two studies (35% vs 6%), CT rates in the UK are well below those in the USA. Given that we accept a detection rate of 1 of 80 for patients with skull fracture and GCS 15, perhaps we should be scanning more patients with non-traumatic headache not fewer.


High level simulator

EDITOR,—We were delighted to read of the use of a high level simulator in emergency department training.

From January 2000, we in the south west have secured three years of funding for the use of the same METI-HPS simulator for specialist registrar training at the Bristol Simulation Centre (www.bris.ac.uk/Depts/BMSC/). Like the Wellington group, we face the challenge of creating realistic scenarios of critically ill and injured patients for the purpose of formative assessment. Clear advantages of the high level simulator over traditional advanced life support group scenario training include:

● real-time, accurate audio and visual monitoring, response to clinical and pharmacological interventions
● the use of videotape assisted hot review
● interactive physiology and pharmacology tuition, particularly in regards to the use of inotropes, anti-arrhythmics, sedatives, opioids and induction agents.

The additional features available on the METI-HPS were perhaps a little understated in the Wellington paper. Voice simulation is standard, and has played a vital part in thrombolysis study days run at the Bristol Medical Simulation Centre. The mannequin is also able to simulate needle decompression of a tension pneumothorax (with audible hiss) and successful pericardiocentesis of a cardiac tamponade (with “blood” aspiration). It is able to blink and reproduce unilateral pupillary signs. A child mannequin is available, and a neonatal one is being developed.

On the other hand, present the simulated wheezing is not convincing in asthma scenarios, and the mannequin cannot simulate grand mal fitting, colour change (pallor or cyanosis) or perspiration.

Like the Wellington study day, the south west simulator programme for trainees is an innovative extension of traditional emergency department training. We see it as an evolving project that will be carefully evaluated from both the trainer and trainee perspective. A further use of this technology already allows online access to live training sessions broadcast from the centre via satellite (www.multi-med.co.uk) to user terminals installed at nine hospital sites in the UK.

We would welcome correspondence nationally and internationally.

GAVIN LLOYD
South-west Regional Training Committee for Emergency Medicine (gavin.lloyd@abbe.west.nhs.uk)


Emergency cranial computed tomography

EDITOR,—Harris et al1 apply Rothrock’s criteria2 to a UK population of non-trauma patients. Their abstract concludes “Simple criteria can be usefully applied to patients presenting to an A&E department in this country to target patients most likely to have clinically significant findings on urgent cranial computed tomography”. We believe that the method and findings of the study do not justify the change in practice implied by this conclusion.


The criteria would have missed three (1.2%) patients with an abnormal CT scan. Judging from the differing rates of CT abnormality in the two studies (35% vs 6%), CT rates in the UK are well below those in the USA. Given that we accept a detection rate of 1 of 80 for patients with skull fracture and GCS 15, perhaps we should be scanning more patients with non-traumatic headache not fewer.

The irritable hip

EDITOR,— As Mattick et al explain, the irritable hip is a common presentation requiring that the exclusion of serious pathology is the primary consideration. The protocol described allows appropriate outpatient management of many children. The text describes how no single investigation or clinical examination is predictive of septic arthritis. We were however disappointed to see a “blanket” approach to investigations with all children undergoing blood tests. History and examination are more useful than any investigation. If a child has been unwell, whether feverish or not, septic arthritis should be considered and appropriate investigation and treatment instituted.

Furthermore, in a well child with an isolated painful hip, structural problems need to be excluded with imaging but we have not found blood tests helpful. These are the factors that we use in the individual evaluation of a child with a painful hip in our emergency department.

We appreciate that the comprehensive approach by Mattick et al is aimed at detecting serious disorders but do not agree that blood tests are necessary for all limping children.

KATE LAMBERT
MIKE RICKARDS
Queen Elizabeth Hospital, Gateshead NE9 6SX

NEIL HALFORD
Newcastle General Hospital, Newcastle upon Tyne NE4 6BB

The authors reply

We are pleased that our study has prompted discussion about the use of clinical guidelines for emergency crural computed tomography (CT) in the non-trauma population. This is a developing area where little evidence exists. It was interesting to hear that our modified criteria (any of: (1) GCS<14, (2) focal neurology and (3) headache with nausea or vomiting) would have missed three patients with abdominal aortic aneurysm and (3) headache with nausea or vomiting) would have missed three patients with abdominal aortic aneurysm and (3) headache with nausea or vomiting. The authors reply that our protocol does not appear to miss significant pathology in children presenting to A&E departments. Our protocol was not aimed at identifying “septic arthritis”, but identifying children who may be safely discharged home.

In addition, Bridges et al misquote our paper. Our paper states “no one clinical finding or investigation can be used in managing the limping child who attends the A&E department”. Our protocol was not aimed at identifying “septic arthritis”, but identifying children who may be safely discharged home. However, there is evidence demonstrating the pitfalls of relying on history and clinical examination alone. Taylor et al reported in a series of 509 cases of “irritable hip” that history is unreliable in this condition. A recent study identified four cases of occult osteomyelitis, at various sites in the distal limb, presenting to a paediatric A&E department with atrumatic limp. Clinical findings were unreliable with further investigation and the subsequent diagnosis resulting from the identification of a markedly increased erythrocyte sedimentation rate. Finally, Aston reported identification of neuroblastoma by detection of anaemia on investigation of the limping child. Therefore, we would advise caution in discharging children presenting to A&E departments with atrumatic limp based on history, clinical examination and imaging alone.

ANTHONY MATTECK
Royal Infirmary of Edinburgh

TOP BEATTIE
The Royal Hospital for Sick Children, Edinburgh

JAMES FERGUSON
Aberdeen Royal Infirmary

Topical anaesthesia use in the management of children’s lacerations, a postal survey

EDITOR,— The suturing of lacerations of children is often difficult. Infiltration with 1% plain lignocaine (lidocaine) is commonly used to make the suturing more comfortable. This infiltration may cause pain and render the child uncooperative for the rest of the procedure. Topical anaesthesia (TA) has been described since 1980.1 The agent commonly used is a mixture of 0.5% tetracaine, 0.05% adrenaline (epinephrine) and 11.8% cocaine (TAC). This method has a similar efficacy to infiltration but is less painful to apply2 and is used widely in the United States.

All 597 accident and emergency (A&E) departments in the UK were sent a questionnaire about their use of TA in children’s lacerations.

There was a 71% response rate. Of the 34% of all responders who used TA, 33% used Enlma, 31% used lignocaine and 26% used Aemetop. Less than half of those felt TA was preferable to injection. Only 8% used a cocaine and adrenaline mixture but 91% of those preferred it. TAC was used in 3%. Most (66%) departments did not use TA. There were many reasons given. The commonest reasons were “no experience” (28%), “TA ineffective” (20%), “slow onset” (10%) and “department protocol” (10%). Three per cent of responders were concerned about absorption. This survey has shown that only a minority of UK A&E departments use TA for suturing children’s lacerations and, of these, few use agents for which there is evidence. TAC use has been associated with prolonged fitting and mortality3 and is expensive and contains a controlled drug. The rare catastrophes to-


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Feigning dystonia to feed an unusual drug addiction

EDITOR,—We recently had a patient attend our department repeatedly feigning acute dystonia in an attempt to obtain procyclidine medication. The case illustrates the fact that many medications are abusable. Patients are knowledgeable and may be willing to go to some lengths to obtain them fraudulently. Accident and emergency staff should be alert to this possibility when faced with unusual stories or situations. The psychotropic drug directory is a brief handy reference, which may help in such situations and can be obtained free of charge from Lundbeck pharmaceuticals.

A 19 year old man of normal appearance, presented on three occasions complaining of neck pain and holding his neck in full extension. Examination revealed a full range of passive neck movements, with no other associated neurological or ocular abnormalities. The patient admitted to previous crack cocaine and marijuana misuse. He further stated that he had recently taken a substance he believed to be diazepam. A putative diagnosis of acute dystonia was made and he was treated with 5 mg intramuscular procyclidine. He made a recovery within a few minutes and was discharged.

The patient attended on two further occasions in the following month with the same presenting complaint. On his last visit he was aggressive, demanding an injection and “something to take home to stop this happening again”. Our suspicions were aroused by his demeanour and further discrete observation revealed that his posture normalised when he was unaware of being watched. He was warned of the abuse potential of procyclidine and offered the opportunity of consultation with the community psychiatric nurse. A note was made that he should have no further treatment without psychiatric evaluation. Acute dystonia can be a side effect of certain medications. It is treated with anti-cholinergic or antihistaminic medication. Procyclidine (Kemadrine) is the usual drug used. Procyclidine is an anti-cholinergic drug whose potential for misuse, although described, is not widely recognised. It is believed to have an euphorant effect. Indicators of misuse include absence of symptoms when a patient is unaware of being observed, dystonia of a static form, the presence of non-organic neurology, evidence of a secondary gain, or symptoms of somatisation disorder. If simulation is suspected a call to the patients’ general practitioner or to local emergency departments may reveal, that the patient is “shopping”.

B DOORIS
C REID

Department of Accident and Emergency Medicine, Letter Hospital, Corys Mill Lane, Stevenage SG1 4AB


NOTICES

13th Annual Congress of the European Society of Intensive Care Medicine

1–4 October 2000, Rome, Italy

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Books received


Clinical Toxicology Short Course

30 October to 8 November 2000, Adelaide, Australia

Further details: Dr Julian White, Poisons Information Centre, Adelaide Childrens Hospital Division, Womens and Childrens Hospital, King William Street, North Adelaide, SA 5006, Australia (tel: +61 8 82047000, fax: +61 8 82046049, e-mail: toxinaus@wch.sa.gov.au, web site: http://www.wch.sa.gov.au/paedm/clinton/courses.html).