LETTERS TO THE EDITOR

Exsanguinating pelvic fractures

EDITOR,—The resuscitation protocol for patients with multiple trauma (fig 1, algorithm) in the article by Meek and Ross on managing exsanguinating pelvic fractures in the UK is contrary to the discussion on imaging the abdomen in the text.¹

We are told that clinical examination is less reliable in multiple trauma to identify occult intraperitoneal injury, yet the algorithm (fig 1) recommends that the haemodynamically stable polytraumatised patient with pelvic ring fracture should be "watched very closely". This group should undergo immediate computed tomography instead. Computed tomography is able to detect associated intraperitoneal injury, as well as demonstrate the extent of retroperitoneal haematoma and injury to retroperitoneal structures such as the kidneys.² It should also specifically include more caudal cuts to provide additional detail regarding the configuration of the pelvic fracture, and may allow three dimensional bony reconstruction.³ Although the main concern of the paper was the management of exsanguinating patients with pelvic fractures, the algorithm would be strengthened by adopting this key alternative of computed tomography in investigating haemodynamically stable patients. Otherwise, the paper was an excellent review of management priorities in this potentially troublesome group of unstable trauma patients.

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The authors reply

We thank Dr Brown for highlighting an apparent contradiction in our review and we agree with his comments about computed tomography in stable patients, although our review was concerned with the exsanguinating patient. In addition to close observation, emergency computed tomography of the pelvis, abdomen, and other areas as indicated in these stable patients is indeed invaluable. The box labelled "Watch very closely" should read "Watch very closely, computed tomography of pelvis and abdomen".

- 1 Meek S, Ross R. How should we manage exsanguinating pelvic fractures in the United Kingdom? *J Accid Emerg Med* 1998;15:2-6.
- 2 Jerrard DA. Pelvic fractures. *Emerg Med Clin North Am* 1993;11:147-63.
- 3 Burk D, Mears D, Kennedy W. Three dimensional computed tomography of acetabular fractures. *Radiology* 1985;155:183-5.

Cost of alternative models of care for primary care patients attending accident and emergency departments

EDITOR,—Among the tentative conclusions that Leydon *et al* make in their review paper is the suggestion that primary care physicians working in accident and emergency (A&E) departments conduct fewer investigations and

make fewer referrals than A&E doctors.¹ In coming to this conclusion they refer to four papers: three from the UK and one from the Republic of Ireland. It would be valuable to examine the findings of two of these papers more closely before accepting the conclusion of Leydon *et al* uncritically.

Dale *et al* attempted to randomly allocate primary care patients to a given doctor (general practitioner (GP) or A&E training grade) during certain sessions in the A&E department.² They point out that this system broke down when the primary care workload was excessive at which time additional doctors assisted in the treatment of these patients. In addition registrars assigned to treat primary care type patients were often prevented from completing these sessions by departmental circumstances. The registrars in this study identified a higher percentage of fractures in the primary care patients (9.3%) than the GPs (6.6%). This last piece of information gives rise to a number of possibilities, among them that the triage process was not rigorously applied, which in turn implies that the registrars and GPs dealt with different patient populations.

Murphy *et al* in their randomised controlled trial carried out in St James's Hospital, Dublin make the valuable point that the lower rate of investigation and referral by GPs may reflect the fact that these doctors were more experienced than the senior house officers they worked with.³ Murphy and his coauthors avoided triage bias by looking at all category 3 (semiurgent) and category 4 (delay acceptable) patients. They did not attempt to separate "primary care" from "A&E" patients. This prudent measure avoids the apparent error of Dale's paper and reflects the reality that there are some patients who could be looked after appropriately in an A&E or primary care setting, depending on the aptitude of individual GPs.

It is likely that GPs working in A&E look after non-urgent attenders more cost efficiently than less experienced A&E doctors. However, it is also a fact of life in most of the country's A&E departments (even those which provide a designated primary care service staffed by GPs) that A&E doctors will continue to look after some primary care problems. This being the case it would be useful to increase the emphasis on primary care in senior house officer and specialist registrar education programmes. It also highlights the desirability of a primary care secondment in the specialist registrar training programme. These measures could lead to a reduction of unnecessary investigation and admission by junior A&E doctors.

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The authors and Professor George Freeman reply

Mr Eggleston (rightly) points out the "tentative" nature of our conclusions in our review paper. This was a function of the limited information on the actual costs associated with some of the primary care interventions reviewed. Notwithstanding this hurdle we proceeded to systematically examine the evidence for the likely cost implications of different methods of dealing with the primary care attender at the A&E department.

Eggleston's suggestion that there may have been a difference in the case mix dealt with by

GPs and hospital doctors in the Dale study is valid. Indeed Dale and his colleagues highlighted this as a potential limitation themselves. The randomisation to registrars was the most problematic in the King's study as they were most likely to be called away. They also by chance seemed to have a higher rate of fractures in their case load, but the difference was not thought to be significant. The possible biases were fully explored in the Dale analysis, such as the possibility that the pressures in the A&E environment may effect the triage system in operation, and these were not thought to be significant.

Further, the size of the study, the significant difference in per case costs between GP and hospital senior house officer/registrar, and the similar levels of patient satisfaction expressed during follow up strongly supports the argument that GPs can treat certain types of patient more cost effectively in the A&E department, without deleterious effects on patient outcome and satisfaction. This conclusion is corroborated by other studies, in particular the study conducted by Murphy and his colleagues in Dublin.³

The effect that experience has on a doctor's (whether GP, senior house officer, or registrar) method of practice is, of course, an important issue that requires consideration in this context. In terms of years of experience, in the study of Dale *et al* GPs were all in the early years of their careers and the differential was not regarded as significant. This may not be the case in other studies (median age in Murphy's paper was 32 for GPs and 26 for the usual A&E medical staff). Differences in investigations, referrals, and so on may not just interact with years of experience but also with the type of experience, training, and "culture" worked in. Why GPs treating certain types of patients appears to be cheaper, despite higher staff costs per hour, is unclear. Is it experience and the confidence that follows? Is it training? Further, what effect does patient expectation play on the trajectory of the consultation and the decisions made? Do patients expect more "active" investigative work from a "hospital" doctor than from a GP working in A&E? These questions might be fruitfully explored further.

Finally, we would support the idea that senior house officer and specialist registrar training programmes should increase the emphasis on primary care and should include a secondment in general practice. This could lead to a better understanding of the options available for effectively managing this significant proportion of their patient population.

- 1 Leydon GN, Lawrenson R, Meakin R, *et al*. The cost of alternative models of care for primary care patients attending accident and emergency departments: a systematic review. *J Accid Emerg Med* 1998;15:77-83.
- 2 Dale J, Green J, Reid F, *et al*. Primary care in the accident and emergency department: II. Comparison of general practitioners and hospital doctors. *BMJ* 1995;311:427-30.
- 3 Murphy AW, Bury G, Plunkett PK, *et al*. Randomised control trial of general practitioner versus usual medical care in an urban accident and emergency department: process, outcome, and comparative cost. *BMJ* 1996;312:1135-42.

Primary care problems in patients attending a semi-rural accident and emergency unit

EDITOR,—We were interested to read the article by Cottingham,¹ however his article appears to be based on false premises and contains a number of serious inaccuracies. The aim of his study is described as being to

determine the differences in use of resources by accident and emergency (A&E) primary care attenders between inner London and Eastbourne, and yet data relating to resource use were not collected. He misrepresents the purpose and findings of the A&E Primary Care Project at King's College Hospital, and his conclusion is fallacious.

The purpose of the King's project was "to compare consultations made by medical staff in the A&E department and vocationally trained local GPs [general practitioners] for patients assessed as having primary care needs".^{2,3} Although our study was based in an inner city department, it is inaccurate for Cottingham to suggest that we see the use of the A&E department by patients with primary care problems as just an inner city problem. Cottingham misinterprets the statement made in the report of the Royal Commission on the NHS in suggesting that the primary care use of A&E was seen as only an inner city problem,⁴ and he was wrong in suggesting that our study was intended to validate the Royal Commission's views.

We were also puzzled by why he suggests that we have "promulgated" the triage criteria we developed for our study. As we stated in our paper, "the development of a prospective method for identifying patients attending A&E with problems likely to be of a primary care type was a necessary step towards implementing service developments".² We have never suggested that the triage criteria are relevant outside this context.

It comes as no surprise to us that the primary care workload might be similar in some A&E departments outside inner London to the levels found at King's. While we stated "a need to be cautious in considering the applicability [of the King's findings] to other A&E settings",² we also argued that "the cost effectiveness [of employing GPs in A&E] is likely to reflect not only the characteristics and experience of the GPs employed in these services but also a range of local circumstances, such as demand and management and operational issues".⁴

We find the last sentence of the final paragraph of the discussion and the conclusion illogical. Cottingham has demonstrated that by using our criteria the Eastbourne A&E primary care workload is similar to that at King's. To conclude from this that our triage classification is not valid makes no sense. The only conclusion that can be derived from this study is that it provides evidence to support implementing an A&E primary care service development at Eastbourne.

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The author replies

Thank you for asking me to respond to the comments by Dale and Glucksmann. There are a number of points which have been raised that I would like to address. With regards to their comment on resource utilisation, I did not collect data on resource use as we do not have a GP service within the A&E unit. I describe their study as examining attendance patterns at their A&E unit.¹ Clearly this is part of the large important study, the Primary Care Project, but the point of the paper, as in their

title, is the prospective identification of patients. I apologise if they feel that I have misrepresented their work; it was certainly not my intention so to do.

I have not suggested that Dale *et al* regard such use of services as an inner city problem. I wrote, "It is thought that such problems are worst in deprived areas of inner cities".¹ The existence of such problems seems to be a generally held view in the A&E world and I have not attributed the statement to anyone.

I have quoted the Report of the Royal Commission on the NHS within the context of their paper and with reference to it. Their results and conclusions in my analysis seem to lead one to that conclusion.

To promulgate means simply to set forth or to publish; I am not sure why this causes puzzlement. As I explained, I have simply applied their criteria to my patient population.

I do not believe my conclusion to be nonsensical; since their paper has been published more precise tools have been developed that will lead to more accurate classification of patients. Perhaps we can agree to disagree. I am sure that Dale and Glucksmann will agree that more research is essential into this very important area of patient preference.

- 1 Cottingham RL. Primary care problems in patients attending a semi-rural accident and emergency unit: a prospective study. *J Accid Emerg Med* 1998;15:168-9.
- 2 Dale J, Green J, Reid F, *et al*. Primary care in the accident and emergency department: I. Prospective identification of patients. *BMJ* 1995; 311:423-6.
- 3 Dale J, Green J, Reid F, *et al*. Primary care in the accident and emergency department: II. comparison of general practitioners and hospital doctors. *BMJ* 1995;311:427-30.
- 4 Dale J, Lang H, Roberts J, *et al*. Cost effectiveness of treating primary care patients in accident and emergency: a comparison between general practitioners, senior house officers and registrars. *BMJ* 1996;312:1340-4.

The early management of meningococcal disease

EDITOR,—We commend the publication of a review of the early management of meningococcal disease.¹ This is certainly a condition in which the doctors of first contact must have a knowledge out of proportion to their previous experience.²

It was disappointing, however, that this review focused on purpura as the sole cutaneous manifestation of meningococcaemia. It is almost universally recognised that a febrile tachycardic child with a purpuric rash should be treated as having meningococcal septicaemia. There was, however, no mention of less specific skin appearances of meningococcal disease in this review.

In a prospective study of meningococcal disease presenting to hospital 13% had a maculopapular rash only.³ The authors could not find any evidence that meningococcal disease presenting with a maculopapular rash alone was less severe than that presenting with purpura.

Another prospective study found 22 out of 126 children presenting with meningococcal disease had maculopapular rather than haemorrhagic rashes.⁴ This group reported a fatal illustrative case of meningococcaemia misdiagnosed as measles in the presence of a maculopapular rash. The delayed or misdiagnosis of meningococcal disease in the presence of a maculopapular rash has been reported elsewhere.

The algorithm presented in the review offers false reassurance. The underlying message should be that the differential diagnosis of a toxic febrile child must include meningococcal disease whether they have a purpuric rash, a maculopapular rash, or no rash at all. To take reassurance from the absence of purpura or petechiae shows a lack of understanding of the spectrum of presentation of meningococcal disease.

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- 1 Hodgetts TJ, Brett A, Castle N. The early management of meningococcal disease. *J Accid Emerg Med* 1998;15:72-6.
- 2 Welsby PD, Gollidge CI. Meningococcal meningitis. *BMJ* 1990;300:1150-1.
- 3 Marzouk O, Thompson APJ, Sills JA, *et al*. Features and outcome in meningococcal disease presenting with maculopapular rash. *Arch Dis Child* 1991;66:485-7.
- 4 Riordan FAJ, Thompson APJ, Sills JA, *et al*. Who spots the spots? Diagnosis and treatment of early meningococcal disease in children. *BMJ* 1996;313:1255-6.

Ecstasy related trauma

EDITOR,—Each year there are an estimated 50 000 deaths and 1.5 million casualties as a result of road traffic accidents within the European Union,¹ and it has been estimated that at least 10% of these victims have taken some form psychotropic medication that may have contributed to their accident.² MDMA (3,4-methylenedioxymethamphetamine), widely known as ecstasy, is now cited as Europe's second most commonly used illicit drug and is likely to play a steadily increasing part in the aetiology of trauma.³ Over a three month period we treated 16 ecstasy abusers who had been injured as a result of road traffic accidents. Reckless driving was the cause of all accidents. Impaired mental function caused considerable difficulty in assessing neurological status in seven patients and the systemic effects of MDMA, including sinus tachycardia and pyrexia made general assessment problematic in 10. An array of serious injuries including 25 fractures were sustained by these patients. Eight who required acute surgery suffered no significant anaesthetic complications. We estimate the overall cost of hospital care for this group to be in excess of £50 000.

We believe that greater public awareness of the risks of driving under the influence of MDMA is desirable and advise that accident and emergency staff familiarise themselves with the effects of this drug in order to safely assess and manage these patients.

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- 1 De Gier JJ. Driving licences and known use of illicit drugs (IHP93-99). Maastricht: University of Limburg, Institute for Human Psychopharmacology, 1993.
- 2 European Commission. White paper on transport policy (COM 93-494). Brussels: European Commission, 1992.
- 3 United Nations. International Narcotics Control Board (INCB). Annual report. New York: UN, 1997.