LETTERS TO THE EDITOR

Bedside emergency department ultrasound

EDITOR,—We were interested to read the “for debate” articles on ultrasound performed by accident and emergency (A&E) physicians. There seemed to be more support from the radiologists than from the A&E authors for this potential service development.1 2

As advocates of bedside emergency ultrasound, we suggest the case for or against ultrasound examinations by A&E staff should take both a hospital and an A&E perspective. The primary step in any evaluation is to show an investigation such as ultrasound can be performed safely and appropriately in our departments. Once this had been done, studies can be conducted to determine its contribution to clinical practice.

A&E indications for focused ultrasound include: free abdominal fluid following blunt trauma, cardiac tamponade, confirmation of intrauterine pregnancy in the first trimester, sonographic Murphy’s sign in gallbladder disease, hydrenephrosis in renal colic and abdominal aortic aneurysm. At King’s, trained A&E physicians perform a limited scan to answer specific questions. The use of ultrasound in this regard is as an extension of the clinical examination to reach a diagnosis and initiate appropriate management. If a comprehensive scan is required, the patient is referred to the radiology department.

Radiological support for A&E ultrasound reflects the findings of a recent survey (unpublished) in which 25% of radiology clinical directors supported the concept of ultrasound performed by A&E doctors. This early endorsement is encouraging. The requirement for adequate training, skill maintenance and audit is common to many areas of clinical practice.

In a recent introductory two day ultrasound course at King’s for emergency physicians, we found that interpretation skills are learned early in the learning process, but it takes 17.3 months to train to perform bedside ultrasound. Murphy’s sign is learned within 1 month (SD 6.8). The principal learning curve for nonradiologist clinicians in our department is the ability to take both a hospital and an A&E perspective. We need to increase the number of staff taking ultrasound examinations by A&E staff to 10 per day. If we are to perform 10 ultrasound scans per day, each scan takes 5–10 minutes and assists in determining the management plan for the patient with perceived benefit with regard to time in the department and further investigations. Early impressions in patients with blunt abdominal trauma are that A&E ultrasound reduces the time for patients to proceed to theatre and also reduces the number of CT scans requested. This is currently being quantified.

The cost of a suitable ultrasound machine to perform these tasks is approximately £20 000. The longevity of such a machine is approximately 8 years. With very low maintenance costs, the principal revenue expense relates to training. Any service development involving acquisition of new skills requires an investment in training.

The question facing our specialty in the UK is whether the limited ultrasound examination performed by A&E physicians has net benefits for patient care and service efficiency. We need to increase our understanding within the specialty of the limited nature of the study we are encouraging. Once it is in use in several units it will be possible to attempt to unravel the more complicated issues regarding health economics and patient versus hospital value. It may not be possible yet to quantify the benefits from ultrasound performed by A&E physicians in the UK, but there can be little doubt about the enthusiastic interest from colleagues.

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Death with dignity in the accident and emergency short stay ward

EDITOR,—Many uses for the accident and emergency (A&E) short stay ward have been proposed, ranging from the management of head injury to the care of self poisoned patients.1 Since the opening of our new facility in November 1998 we have, on nine occasions, admitted patients to a sideroom of our short stay facility for palliative care. We propose that the short stay ward can offer a sensitive and dignified setting for the dying patient. Details of these patients are listed in table 1.

In all these cases the patient presented to the A&E department either with an emergent disorder or with the acute decompensation of a pre-existing condition. In each case consensus was reached between the duty A&E consultant and inpatient specialty team that the patient’s death was imminent and active intervention was not appropriate. The patient was then, after discussion with family members admitted to a sideroom of the short stay ward. This use of the short stay ward permits continuity of care by both medical and nursing staff. In addition

Table 1 Total attendance of deliberate self harm for study periods

<table>
<thead>
<tr>
<th>Year</th>
<th>Total adults</th>
<th>Total deliberate self harm</th>
<th>% Of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998/1999</td>
<td>2234</td>
<td>86</td>
<td>3.8</td>
</tr>
<tr>
<td>1999/2000</td>
<td>2230</td>
<td>74</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Table 2 Age and sex distribution of patients with deliberate self harm

<table>
<thead>
<tr>
<th>Age</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998/1999</td>
<td>11 (21.1)</td>
<td>15 (36.6)</td>
</tr>
<tr>
<td>25–40</td>
<td>31 (59.6)</td>
<td>20 (48.8)</td>
</tr>
<tr>
<td>41–65</td>
<td>9 (17.3)</td>
<td>6 (13.6)</td>
</tr>
<tr>
<td>&gt;65</td>
<td>0 (0)</td>
<td>8 (17.5)</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>58</td>
</tr>
</tbody>
</table>

Percentages are shown in parentheses.
it obviates the need for repeated intrusive examination and documentation.

We have found the short stay can offer privacy for patients and relatives permitting the prompt delivery of appropriate palliative care. In our experience this approach was greatly appreciated by patients and their families.

The importance of palliative care continues to receive attention with the development of many novel approaches in both primary care and hospital medicine.\(^1\) We advocate the judicious and sensitive use of the A&E short stay ward for this purpose and propose that it compares favourably with admission to busy medical or surgical admission wards.

D K PEDLEY
M JOHNSTON

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<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Age</th>
<th>Duration of stay (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post EMD arrest, metastatic bronchial carcinoma</td>
<td>60</td>
<td>3.5</td>
</tr>
<tr>
<td>Dissection thoracic aortic aneurysm</td>
<td>83</td>
<td>1.2</td>
</tr>
<tr>
<td>Massive intracerebral bleed</td>
<td>72</td>
<td>4</td>
</tr>
<tr>
<td>Acute on chronic respiratory failure</td>
<td>79</td>
<td>5.4</td>
</tr>
<tr>
<td>Severe head injury—not amenable to neurosurgery</td>
<td>85</td>
<td>1.2</td>
</tr>
<tr>
<td>Left sided pneumothorax, respiratory failure, previous multiple CVAs</td>
<td>67</td>
<td>5</td>
</tr>
<tr>
<td>Post-community VF arrest</td>
<td>86</td>
<td>2</td>
</tr>
<tr>
<td>Overwhelming sepsis, aplastic anaemia at presentation</td>
<td>57</td>
<td>0.6</td>
</tr>
<tr>
<td>Massive intracerebral bleed</td>
<td>59</td>
<td>3.5</td>
</tr>
</tbody>
</table>


Aortic injury review failed to mention the “osseous pinch”

EDITOR,—The article by Reid \textit{et al}\(^1\) contains an interesting case report of aortic rupture resulting from low velocity crush injury, followed by a literature review of the possible mechanisms of aortic disruption. Unfortunately, however, their literature review is incomplete. It fails to mention the “osseous pinch” theory of traumatic aortic rupture.\(^2\)\(^3\) The “osseous pinch” mechanism proposes that as a result of massive forces, the thoracic aorta ruptures as the first rib and clavicle “swing down” to “pinch” the aorta.\(^*\) The theory neatly provides an explanation as to why thoracic aortic disruption nearly always occurs at the same point (the junction of the arch with the descending part) as this is the point that has been shown radiologically to feel the “pinch”.\(^*\) The “osseous pinch” provides an attractive explanation for the mechanism of aortic rupture in the case described by Reid \textit{et al}\(^1\) as this explanation would account for the rupture in the absence of massive deceleration forces.\(^1\)

Reid \textit{et al}\(^1\) also suggest that their case report justifies low velocity crush injury causing aortic injury being added to the ATLS manual. However, the ATLS manual does not claim to be an exhaustive tome, but a practical guide to cover common situations.\(^1\) The fact that this isolated case was published as a report underlines that it is unusual; certainly, previously large studies demonstrate that thoracic aortic rupture most commonly follows high velocity impacts.\(^1\)

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4 American College of Surgeons Committee on Trauma. \textit{Advanced trauma life support program for doctors. 6th ed. Chicago: American College of Surgeons, 1997.}
Aortic injury review failed to mention the "osseous pinch"

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