

arterial blood pressure of 75 mmHg. Six litres of 0.9% saline were given for volume correction, certainly an over estimate of any ECF deficit – and potentially risking ECF volume overload and hyperchloraemic metabolic acidosis. Interestingly, the patient subsequently passed very dilute urine and became hypernatraemic beyond the rise expected by fall in serum glucose – so that they then were at risk of osmotic demyelination, a state that corrected with use of DDAVP. A similar scenario is well described in the correction of hyponatraemia associated with a volume deficit<sup>1</sup> where appropriate suppression of a hypovolaemic ADH signal results in a water diuresis (with low urinary osmolarity) and over-shoot hypernatraemia. I feel the case described is exactly analogous, with removal of hypovolaemia leading to water diuresis and significant over-elevation of serum sodium. This response is transient and physiological, although short duration treatment with DDAVP is appropriate.<sup>2</sup>

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## Clinical & Scientific letters

Letters not directly related to articles published in *Clinical Medicine* and presenting unpublished original data should be submitted for publication in this section. Clinical and scientific letters should not exceed 500 words and may include one table and up to five references.

### A survey of acute neurology at a general hospital in the UK

The Association of British Neurologists (ABN) in their publication *Acute neurological emergencies in adults* (2002) recommend that all patients with acute neurological disease should be seen by a neurologist within 24 hours. We therefore undertook a study to consider the proportion of patients admitted with neurological symptoms to a district general hospital covering a population of 350,000 to determine what level of access they have to a neurologist.

During a two-week period (22 September 2008 and 5 October 2008) all the accepted medical admissions were reviewed. Patients

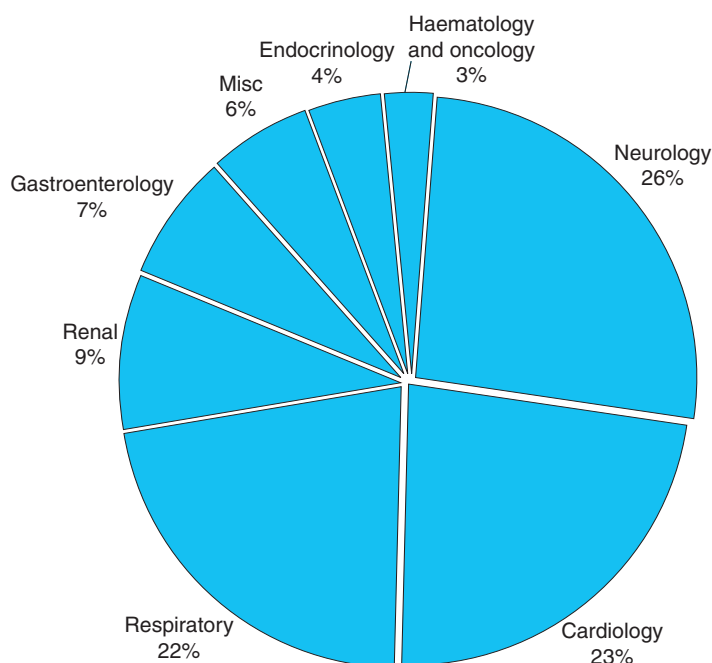
were grouped under a neurological category if the first differential diagnosis at the most senior review was a neurological disorder, or if the differential was yet unclear at the time of clerking but the presentation was predominantly neurological.

A total of 358 patients were admitted in this period, neurology had the highest proportion of admitted patients (93 patients or 26%). This was followed closely by cardiology (23%) and respiratory (22%). The other specialties made up the remainder (104 patients or 29%) (Fig 1).

Of the 93 neurological patients, most (21) were admitted for cognitive disorders, followed by 'blackouts/seizures' (19), falls (15), weakness (15), headache (11), dizziness/vertigo (10) and movement disorders (2). The mean age of these neurological patients was 70 (range 21–100); 40% were under 70 years of age; 55 patients were female and 38 were male. Only 10 patients (11%) were referred to the neurology team for specialist advice.

Our findings are similar to previous studies that have reported 19% of inpatients in general hospitals to have neurological symptoms. We were surprised by the low number of patients who were referred to a neurologist. The input of a neurologist has been shown to lead to a change in management of patients in approximately a third of

**Fig 1. Primary reason for urgent medical admission by specialty.**



cases.<sup>1</sup> It also improves the diagnosis rate and reduces average length of stay.<sup>2</sup>

Providing a comprehensive enough service to enable neurological review of all patients with neurological symptoms as recommended by the ABN would require a significant increase in resources. The hospital studied has three neurologists who cover the ward referrals during the week with approximately five hours between them allocated in their job plans for this activity. Carroll and Zajicek described the experience in a 24-hour acute neurology unit in Plymouth.<sup>3</sup> They concluded that per 100,000 population, 10.8 hours of specialist registrar time and 11 hours of consultant time per week, 15 neurology beds and 90 outpatient appointments would be required. This study was performed before the European Working Time Directive came into force.

Neurologists in the UK are under increasing amounts of pressure to provide outpatient reviews within timelines set out by the government and this is leading to a greater demand for them in a variety of settings. However, the benefits of their expertise in the management of hospital inpatients, in terms of ensuring appropriate investigation, an accurate diagnosis and reducing average length of stay should not be overlooked when planning services.

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## Percutaneous endoscopic gastrostomy insertion: are we getting better?

### Introduction

Percutaneous endoscopic gastrostomy (PEG) insertion is a well-established and widely used intervention to maintain enteral nutrition in individuals with unsafe oral intake and a functionally intact gut. Since its introduction in 1980 it is now performed globally but is associated with significant mortality and morbidity.<sup>1,2</sup> There has been recent helpful guidance around oral feeding difficulties and ethical dilemmas.<sup>3,4</sup>

### Aims

The aims of this retrospective study were to identify markers predictive of increased mortality in patients having a PEG for the first time, and to assess if use of sedation with benzodiazepines and local anaesthetic throat spray was associated with higher mortality. We also aimed to determine if mortality rates have improved in our unit.

### Methods

All procedures named, proposed and performed that contained the term PEG were identified from our endoscopy database in 2008. Demographic data, indication, blood results and mortality data were obtained from the Patient Administration System (PAS), Integrated Clinical Environment (ICE) reporting systems and Dietetic Continuum Database.

### Results

In total, 74 patients had a PEG inserted for the first time in 2008. Of these, 45 (61%) were males and 29 (39%) females with a mean age of 64 years. The indication was stroke/neurological in 38%, nutritional/feeding problems 27%, neoplasm 19% and others 16%. The 30-day and three-month mortality was 8% and 26% respectively. An elevated platelet count was significantly associated with higher 30-day and three-month mortality ( $p < 0.05$ ) while albumin was only significantly associated with a higher three-month mortality ( $p < 0.001$ ) using the Fisher exact test. Age was significantly associated with higher mortality at 30 days and three months using the

Mann–Whitney U test ( $p < 0.05$ ). Otherwise, gender, abnormal haemoglobin, white cell count, prothrombin time, creatinine and urea were not associated with mortality using the  $\chi^2$  or Fisher exact test. Higher than average doses of midazolam, fentanyl, combination midazolam and fentanyl or midazolam and local anaesthetic throat spray were not associated with increased mortality.

### Conclusions

Mortality rates have improved from 2004 to 2008 from 24% to 8% at 30 days and 41% to 26% at three months.<sup>5</sup> The mean age of patients having a PEG in 2004 was 75 compared to 64 in 2008. Factors predictive of poor outcome include age, platelet count and albumin. There was no increased mortality when benzodiazepines were used with local anaesthetic throat spray. This lack of association is likely due to improved patient selection and lower doses of sedation used. Ethical consideration, patient preference and factors predictive of poor outcome should all be taken into account when making decisions about PEGs.<sup>4</sup>

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