

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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#### Impact of centralisation of specialist services on sister hospital specialty opinion demand and consultant job plans: two years on

We have previously reported the impact of centralisation of respiratory services on specialty demand and consultant job planning one year after service reconfiguration and creation of the North Bristol Lung Centre (NBLC) at Southmead Hospital in October 2006.<sup>1</sup> Despite targeting respiratory admissions to the NBLC, there remained a need to provide specialist respiratory support to the sister hospital (Frenchay) by a consultant-led weekday respiratory opinion service. We have re-examined the impact of providing such a service on consultant workload over the same six-month period as before in the following year, two years after the initial reconfiguration. We wanted to assess whether demand at the sister hospital had diminished with further time after recon-

figuration (as an indicator of successful centralisation of respiratory specialist demand to the NBLC).

All respiratory referrals seen at Frenchay over an identical calendar six-month period to the initial study (September 2008 to March 2009) were prospectively recorded and independently analysed as before.<sup>1</sup> Statistical analysis was performed using GraphPad Prism version 5 software (GraphPad Software Inc, California, USA). In total, 267 referrals were seen over an identical period compared to 310 in the previous study. This equated to a mean (standard error) number of referrals per day of 1.93 (0.22) in the two-year analysis compared to 2.68 (0.19) in the one-year analysis, a significant decrease ( $p=0.011$ ,  $t$  test). The degree of monthly variation was less from 2.71 maximum down to 1.43 minimum, a variation of 189% compared to the 250% variation in the one-year analysis from 4.2 to 1.68.<sup>1</sup> Using the same assumptions to the previous analysis<sup>1</sup> to calculate programmed activities (PA), this equates to 0.97 hours/day (1.21 PA/week equivalent) with a monthly variation from 0.72 to 1.36 hours/day (0.89 to 1.69 PA/week equivalent). There was also a further reduction in diurnal variation from 10% in the one-year analysis to 2% (data not shown).

In summary, two years following centralisation of respiratory services onto a single site in our two-hospital trust, a continued but reduced need for respiratory services on the sister site has been met by a consultant-led service. The demand has reduced between one and two years after reconfiguration requiring 1.21 PA (0.89–1.69) of consultant time per week. These data suggest reconfiguration has become more effective with time centralising respiratory services and need on one site. We conclude that service reconfiguration and centralisation is more effective and successful with time but a residual need at the sister site must be factored in. This information may prove useful to other providers considering similar service reconfiguration but will require further monitoring.

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