On review of the patients whose cause of death were attributed to cancer, 12 did not have malignancy as initial HPN indication. Regarding mortality not linked to HPN, respiratory complications including pneumonia were the commonest causative factor (8/29, 28%).

Conclusions This study showed that mortality was associated with the underlying disease condition resulting in the need for HPN or other co-morbidities rather than direct complications of HPN itself.

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PWE-016 DELIVERING PARENTERAL NUTRITION– REAL WORLD CHALLENGES

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Introduction Parenteral nutrition (PN) is widely used to intravenously deliver nutrition to patients with non-functioning or inaccessible gut. The National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report in 2010, “A Mixed Bag” found good practice regarding PN in only 19% of cases. It recommended an urgent need to deliver high quality nutrition to all patients in hospital.

Aim This audit was designed to evaluate our Parenteral Nutrition Service against NCEPOD review. The primary aim was to establish whether the key recommendations of the NCEPOD report are being adhered to: documentation of indication and its appropriateness, consideration of enteral options, clinical and biochemical monitoring during PN, duration of PN and any complications.

Methods All adult inpatients who received PN at Darlington Memorial Hospital and University Hospital of North Durham between June– August 2018 were identified from 2 electronic databases viz. referrals to dietetics and electronic prescribing software. Data collection was done from case notes, inpatient electronic prescription charts and pathology results. Baseline demographics, documented indication for PN, anticipated and actual duration of PN, reason for discontinuing PN and associated complications were recorded and analysed using Excel®.

Results 49 in-patients were identified over the 3 month period, an annualised PN workload of approx. 200 pts/yr. Mean age was 69.2 y(4–3), mean weight prior to commencing PN 75.3kg(41–14.8kg). 22/49 pts were surgical, 1/49 medical and 16/49 on intensive care. 25/49 pts had a clearly documented indication (ITU 5/16, medicine 10/11, surgery 10/22) but only 1 patient had a documented anticipated duration for PN. Mean duration was 10 days(–2) and mean length of inpatient stay was 21 days(–3). Only 7/49 pts were reviewed by a Nutritional MDT team, although all pts were regularly reviewed by Dietitians. **Reasons for discontinuing PN:** oral feeding resumed in 28 pts, death/end of life care commenced in 10 pts, NG/NJ/PEG feeding commenced in 6 pts, patient refusal in 2 pts and 3 pts transferred to a tertiary service.

Complications: Abnormal LFTs in 3 pts, abnormal electrolytes in 33 pts and 1 midline associated thrombophlebitis. 16/49 pts had daily testing of serum biochemistry. 30 day all-cause mortality from commencing PN was 18% (9/49).

Conclusion Our study shows the need for a quality improvement program for PN including documentation of indications and goals of PN treatment. Patients commencing PN should be reviewed by a Nutrition MDT to improve initial assessment and monitoring. A decreased compliance with daily serum biochemistry correlates with an increased incidence of electrolyte abnormality.

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PWE-017 A MULTI-DISCIPLINARY APPROACH TO PERCUTANEOUS ENDOSCOPIC GASTROSTOMY INSERTION IN MOTOR NEURONE DISEASE

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Weight loss and bulbar dysfunction is common in motor neurone disease (MND). Gastrostomy placement is complex in this cohort. Percutaneous endoscopic gastrostomy (PEG) is reported as the favoured approach in patients without chronic respiratory failure with radiologically inserted gastrostomy insertion reserved for patients with severe respiratory compromise. The aim of this study was to evaluate the outcome for patients with MND receiving PEG insertion as part of a multidisciplinary team approach in a respiratory intensive care unit setting.

A retrospective observational study was conducted on MND patients on non-invasive ventilation (NIV) who were admitted for PEG insertion between September 2014 and April 2018. PEG were inserted with intravenous anaesthesia and analgesia (propofol infusion and fentanyl boluses) plus local anaesthesia to skin (lidocaine 1%) using non-invasive mechanical ventilation on pressure-control mode.

Fifty-nine PEG insertions were performed successfully in MND patients requiring NIV and all patients discharged from hospital. Subjects (37 males) had age 65±11 years. Six (10%)

Abstract PWE-017 Figure 1 Survival of MND patients who had a PEG insertion in terms of compliance to non-invasive ventilation.

were quaternary referrals following failed PEG insertion. Length of stay was 5 ± 5 days. Body mass index (BMI) at diagnosis was 27 ± 5 kg/m² with BMI at PEG insertion 22 ± 4 kg/m². Mean weight change from diagnosis to insertion was $-16 \pm 10\%$. Ventilator compliance time was 3 ± 6 hours. Eighteen patients were compliant to NIV (NIV usage >4 h daily). Thirty-day mortality was 10% and 90-day mortality was 15%. Survival time since MND diagnosis for non-complaint to NIV patients (859 ± 123 days) trended to be less than those compliant to NIV (1165 ± 203) ($p=0.058$) (Figure 1).

PEG insertion in MND patients requiring NIV is safe and effective. NIV compliance in this cohort of patients who have bulbar dysfunction might affect survival.

PWE-018 DERIVATION AND VALIDATION OF A ROYAL FREE HOSPITAL GASTROSTOMY RISK SCORE

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Introduction Percutaneous gastrostomy feeding tubes are used to provide long term artificial nutrition in patients with adequate intestinal absorptive capacity. Placement is associated with low immediate morbidity; however, the early mortality rate is high. Current selection for gastrostomy placement has a significant subjective element. In consequence there is a need for a validated, objective assessment tool, based on easily accessible information, to identify the risk-benefit of gastrostomy placement on an individual basis. The aim of this study was to derive and validate a Royal Free Hospital-Gastrostomy Risk Score (RFH-GRS).

Methods Extensive demographic and clinical data were collected on the 234 patients referred for gastrostomy placement, at the Royal Free Hospital, London, between 1 January 2016 and 31 December 2017; the entire cohort was followed until death or 31 December 2017. Multivariate analysis identified age, multimorbidity (assessed using the Charlson Comorbidity Index), prognosis, and recent infection as independent predictors of survival. Four further factors were identified by experienced nutritional practitioners for inclusion in the RFH-GRS *viz.* nutritional status using the MUST score, severity of dysphagia, anti-coagulation status and anatomical suitability. Each variable was allocated an appropriate categorical score. The

maximum total score was 31 for the multivariate model and 40 for the RFH-GRS. Scores were then retrospectively allocated to the 234 gastrostomy referrals and the predictive validity for survival of the two scores compared.

Results The median (range) multivariate model score was 5 (1–11); the median RFH-GRS was 10 (2–18). The quartiles within these ranges were used to allocate patients to one of four score groups. Comparison of cumulative survival, based on these groups, showed that the RFH-GRS had superior predictive validity (Figure 1). Patients with a RFH-GRS of – have a low risk of an adverse outcome following gastrostomy placement; 6–10 a moderate risk, so they are likely to benefit; 11–14 a medium to high risk so benefits may still outweigh the risk, and ≥ 15 a high risk, making it unlikely that they would benefit from the procedure.

Conclusion The RFH-GRS is a simple, validated tool for the assessment of patients referred for gastrostomy placement. It utilises routinely collected data and hence can be easily applied.

PWE-019 PROSPECTIVE VALIDATION OF THE ROYAL FREE HOSPITAL GASTROSTOMY RISK SCORE

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Introduction Percutaneous gastrostomy tubes are widely considered a safe and effective means for providing long-term enteral nutrition. However, placement is associated with high risk of death in the weeks following insertion. The Royal Free Hospital Gastrostomy Risk Score (RFH-GRS), was designed to facilitate risk-benefit assessment of patients referred for gastrostomy (Russell-Dalton et al. *Clin Nutr* 2019; 29:252.). It allocates a categorical score to eight factors *viz.* age, prognosis, nutritional status, severity of dysphagia, anatomical suitability, anti-coagulation status, comorbidities (Charlson Comorbidity Index) and recent infection; the maximum total is 40. Scores are stratified to facilitate risk-benefit assessment *viz.* 0–5: low risk, likely benefit; 6–10: moderate risk, likely benefit; 11–14: medium-high risk, benefits may still outweigh the risk; and

Abstract PWE-018 Figure 1 Cumulative survival in 234 gastrostomy candidates, by score