addition, the time from referral to insertion increased significantly across these periods ($p<0.01$). In the later part of 2011 an increase in referrals and appropriate insertions was observed—without a concomitant rise in complications.

Conclusion Introduction of a "virtual" team for PEG assessment reduced the number of procedures required (freeing time for other endoscopic procedures), and post-insertion complications. There was a non-significant trend for improved 30-day mortality. A "minimal input" approach to PEG assessment based on a detailed referral form is therefore feasible, safe and associated with significantly reduced rates of post-procedure morbidity.

Competing interests None declared.

PMO-085 SAFETY AND SUBSEQUENT USE OF PROPHYLACTIC PERCUTANEOUS GASTROSTOMY PLACEMENT BY ENDOSCOPICALLY ASSISTED GASTROPEXY AND DIRECT PUNCTURE USING THE FRESENIUS® PEXACT KIT IN HEAD AND NECK CANCER PATIENTS

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Introduction Maintaining oral nutrition in Head and Neck cancer patients undergoing treatment can be challenging. Therefore, patients deemed at risk of malnutrition are referred for prophylactic gastrostomy. Due to risk of tumour implantation at gastrostomy site with conventional "pull though" technique, we changed our practice to direct puncture gastrostomy in 2004, using the Fresenius ® PEXACT kit. We have previously reported series of 319 patients.[1]

Methods All procedures performed between January 2010 and June 2011 were identified using the endoscopy reporting system. Information regarding readmissions, complications, mortality, dietetic assessment and use of gastrostomy tube was obtained from hospital patient records.

Results 91 gastrostomies were identified in 91 patients, 49 (54%) had advanced T3/T4 cancers, 10 (11%) with T2 disease. 69 (76%) were males. Mean age = 55 years (range 32–78). Insertion was successful in all patients. All patients had prophylactic antibiotics prior to the procedure. There were no immediate procedure related complications (two immediate complications, one requiring a laparotomy, in cohort reported earlier, n=319).[1] There were no deaths within 7 days of procedure. Five patients died within 30 days (5.4%). Four were due to disease progression, one patient had a cardiac arrest in the community 23 days after the procedure. There was 1 (1.09%) unplanned admission 3 weeks after the procedure with bleeding from gastrostomy site requiring laparotomy. (14 unplanned admissions 30 days post procedure in earlier cohort, n=319).[1] There were no readmissions within 7 days. No cases of tumour implantation reported to date. Late displacement of gastrostomy tube (>30 days after insertion) was common (6.5%, same as in earlier cohort).[1] To date we have managed to get information regarding use of gastrostomy tube in 58 out of 91 patients. Available data date so far has shown 46/58 (79.3 %) patients used their gastrostomy tube for 2 weeks or more. 12/58 (20.6%) did not require use of gastrostomy tube.

Conclusion Endoscopically assisted gastropexy and direct puncture is a safe and reliable method of gastrostomy tube placement. Overall, our complication rate has fallen, with only one delayed major procedure related complication during this period. There have been no procedure related deaths or cases of tumour implantation.

Competing interests None declared.

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PMO-086 HOW USEFUL IS FEEDING JEJUNOSTOMY IN UPPER GASTRO INTESTINAL CANCER SURGERY—A RETROSPECTIVE REVIEW

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Introduction A retrospective review of outcome of 100 consectutive open feeding jejunostomies performed as part upper GI cancer surgery in our Centre in the last 3 years.

Methods 100 consecutive patients undergoing open insertion of Freka feeding jejunostomy as a part of Upper GI cancer surgery in the last 3 years are included. All feeding tubes were inserted approximately 30cms distal to the duodenojejunal flexure. The average procedure time for jejunostomy placement was 20 min. The feeding jejunostomy was flushed with water on the night of surgery and a standardised feeding regime initiated used from fthe first postoperative day. The standard regime was water at 20 mls/h on day 1 followed by feed (Jevity/Osmolyte) at 30 mls/h on day 2. The rate of feed was increased on daily increment of 10 mls/h/day to achieve target rate based on patient's nutritional requirements. All patients were discharged with feeding jejunostomy in situ. It was removed at first follow-up clinic appointment 2 weeks after discharge if patient was nutritionally stable.

Results A total of 100 patients (male: female=66:34) who had feeding jejunostomy tubes inserted are included. The indications were cardio-oesophagectomy (77%); total gastrectomy (19%); inoperable tumour at laparotomy (3%) and in one patient prior to neoadjuvant chemotherapy. There were no intra operative procedure related complications. The median duration the feeding jejunostomy was in situ was 28 days (range 3–238 days). Postoperative feeding tube related complications were seen in 14% (n=14). These include tube fallout (n=5); minimal leak (n=2) and skin puncture site cellulitis (n=7). Enteral feed related complications were seen in 15% (n=15). These complications were minor and they included diarrhoea (n=9), abdominal cramps and bloating (n=4). Major complication was seen in only 6.8% (n=2) both due to feed (Jevity) forming a solid bezoar which caused small bowel obstruction. Laparotomy was necessary in one patient, with full recovery. The other the patient died following small bowel infarction. The availability of enteral route was particularly beneficial in 30 of our patients, to provide additional nutritional support for longer than anticipated, due to post operative difficulties including poor oral intake, anastamotic leak, and respiratory complications. In our series in only 5% (n=5) additional parenteral nutrition was necessary. This includes chyle leak—(n=3) and dislodged feeding tube (n=2).

Conclusion Feeding jejunostomy aids early establishment of enteral nutrition in patients undergoing upper GI cancer surgery. It is useful in providing continued nutritional support in patients who develop perioperative complications where oral route for nutrition is otherwise unavailable or inadequate, although jejunostomy tube placement and usage can also be a source of morbidity.

Competing interests None declared.

PMO-087 LAPAROSCOPIC INSERTION OF FREKA FEEDING JEJUNOSTOMY AS A PART OF LAPAROSCOPIC THORACOSCOPIC CARDIO-OSOPHAGECTOMY—A REVIEW OF OUR OUTCOME

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Introduction A retrospective review of outcomes of laparoscopic insertion of feeding jejunostomy as a part of laparoscopic thoracoscopic cardio-oesophagectomy.

Methods From October 2010 to January 2012 (15 months) 18patients underwent laparoscopic thoracoscopic cardio-oesophagectomy. All 18 patients (12 male, 6 female) had laparoscopic insertion of Freka feeding jejunostomy are included in the study. The feeding jejunostomy was used for feeding from first post-operative day. The standard regime was water at 20 mls/h on day 1 followed by feed (jevity/osmolyte) at 30 mls/h on day 2. The rate of feed was increased at daily increments of 10 mls/h/day to achieve target rate to meet patient's nutritional requirements. Patients were discharged with feeding jejunostomy in situ, removed at follow-up if nutritionally stable.

Results The average procedure time was 20 min. Median duration of feeding jejunostomy in situ was 3 weeks (range 8 days—6 weeks). Tube related complications, n=3 patients (tube fallout-1, leak-2). Only one of these three patients needed additional parenteral nutrition. There were no procedure or feed related complications. The overall length of stay was not affected by this procedure. The availability of enteral route was useful in n=2 patients (chest infection-1, gastric stasis-1) for nutrition longer than the anticipated period.

Conclusion Laparoscopic insertion of feeding jejunostomy is safe, aids early establishment of enteral route for nutrition in patients undergoing cardio-oesophagectomy and useful in providing prolonged nutritional support in patients who develop complications were oral route is not possible.

Competing interests None declared.

Neoplasia (basic science)

PMO-088 A LARGE PROPORTION OF COLORECTAL TUMOUR-INFILTRATING CD4+ T CELLS ARE SUPPRESSIVE IRRESPECTIVE OF FOXP3 EXPRESSION

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Introduction The presence of increased numbers of $CD3^+$ T cells in colorectal cancer (CRC) correlates with improved prognosis. However, it is difficult to measure anti-tumour responses in tumour-infiltrating lymphocytes (TILs) suggesting these cells are suppressed. Although we have demonstrated $CD4^+Foxp3^+$ regulatory T cells (Tregs) within the tumour and its stroma, the numbers are often low. We sought to identify phenotypic and functional characteristics of $CD4^+Foxp3^-$ T cells to determine whether other regulatory populations exist within this environment.

Methods Tumour samples were obtained from CRC patients with different stages of malignancy. Fixed tumour samples were examined by immunofluoresence for CD3, CD8 and FoxP3. TILs from fresh tumour tissue were stained with a panel of 20 antibodies (including Helios, LAG-3, LAP) and examined by FACS.

Results Histology revealed tumours to be infiltrated by $CD4^+$, $CD8^+$ and $Foxp3^+$ positive cells. Despite an increase in $CD4^+$ and $CD8^+$ T cells in advanced tumours, there was not always a concomitant increase in $Foxp3^+$ cells. Flow cytometry revealed the majority of the Treg fraction was $Helios^+$ (indicating thymically-derived) and expressed higher levels of CTLA-4 and CD39 than Tregs from colon and blood. However, 30% of "conventional" $CD4^+Foxp3^-$ T cells express markers associated with Tregs including LAP (latency-associated peptide), LAG-3 and CD25 and were highly suppressive in vitro.

Conclusion Tumour-infiltrating $CD4^+$ T cells are heterogeneous. A high percentage of these cells appear to have a regulatory function and include both $Foxp3^+$ as well as $FoxP3^-$ T cells. Overcoming the suppressive environment of CRC is a major challenge for boosting anti-tumour immunity.

Competing interests None declared.

PMO-089 PREOPERATIVE NEUTROPHIL: LYMPHOCYTE RATIO IS NOT A PREDICTOR OF OUTCOME FOLLOWING HEPATIC RESECTION FOR COLORECTAL METASTASES

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Introduction A high pre-operative neutrophil:lymphocyte ratio (NLR) has been shown in several studies to be associated with shorter disease-free and overall survival for a number of malignancies, including colorectal[1] and both primary[2] and secondary[3] liver tumours. This may reflect reduced lymphocyte function, so impaired host response or neutrophil-mediated angiogenesis enhancing tumour spread and has been proposed as a prognostic predictor.[1–3] We aimed to test this association by analysing pre-operative NLR in all patients undergoing liver resection for colorectal metastases (CRM) and attempting correlation with tumour recurrence, overall and disease-free survival.

Methods Our unit is a tertiary referral centre for both laparoscopic and open hepatic surgery. A prospectively collected database of demographic details, radiological and histological findings and blood test results has been maintained since July 2005 and this data has been retrospectively analysed to demonstrate potential associations with NLR. An NLR >5 was considered raised.

Results Between 15 July 2005 and 10 January 2012 247 hepatic resections were undertaken for CRM. Median age at surgery was 67 (range 33—91) and 64% were male. Overall median survival was 1818 days and overall median disease-free survival was 542 days. 125/247 (51%) CRM developed recurrent disease within the follow-up period. Follow-up ranged from 10 days to 5.9 years (median 20 months). 30 patients had a NLR >5. When Kaplan—Meier analysis was performed to compare median survival in those with a low vs a high NLR, it was seen that there was no significant difference between the two groups (p=0.81). There was also found to be no association between NLR and tumour recurrence (p=0.49) or time to recurrence (p=0.77).

Conclusion Contrary to previously published studies, our unit has not demonstrated an association between pre-operative NLR and tumour recurrence or survival in patients undergoing liver resection for CRM and suggests that this is not a useful prognostic indicator in this group of patients.

Competing interests None declared.

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PMO-090 GALECTIN-3 INDUCES SECRETION OF CYTOKINES FROM VASCULAR ENDOTHELIUM THAT ENHANCE CANCER CELL-ENDOTHELIUM ADHESION: A NOVEL MECHANISM FOR GALECTIN-3-MEDIATED METASTASIS PROMOTION

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Introduction Galectin-3 is a galactoside-binding protein whose concentration is increased up to 31-fold in the bloodstream of patients with cancer including colorectal cancer. We have recently