post-operatively. At 3 months, all PA measures except time spent upright (p=0.009) and time spent standing (p=0.013) had recovered. Measures of PA correlated positively with physical and functional domains of HRQL, including EORTC-QLQ30 Global Health Status, FAACT Trial Outcome Index (TOI) and FACIT-TOI (p<0.001), and inversely with HADS-Depression (p<0.001).

Conclusion There is marked impairment of PA at the time of hospital discharge and a gradual recovery over 3–6 months. This carries significant implications in a disease where surgical patients may survive <2 years. PA measures are suitable outcomes for evaluating the impact of enhanced recovery programmes on functional recovery and HRQL.

Competing interests None declared.

PWE-030 IMMUNOCYTOCHEMICAL ASSESSMENT OF INTRA-TUMOUR MICROVESSEL DENSITY IN OESOPHAGOGASTRIC CANCER DOES NOT HAVE PROGNOSTIC SIGNIFICANCE

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Introduction Intra-tumour microvessel density (IMD), a marker of tumour angiogenesis, correlates with metastasis and poor prognosis in many cancers. In oesophagogastric cancer however, the prognostic significance of IMD assessment remains incompletely investigated.

Methods Patients undergoing surgery with curative intent, without pre-operative chemotherapy, were prospectively recruited between February 1999 and August 2000. Immunocytochemical staining of tumour microvessels was undertaken using anti-CD34 (QBEND 10 clone) antibodies. IMD (microvessels per mm^2) was assessed using a validated "hot-spot" technique. Patients were followed-up over a 10-year period using the Northern Ireland Cancer Registry. The relationship between IMD and standard clinicopathological variables was assessed using the Mann–Whitney U test. Univariate survival analysis was calculated using a Cox's proportional hazard model while survival analysis was calculated using Kaplan–Meier estimation and log rank.

Results 61 patients were recruited (male=45) with a median age of 66.0 years (range 39–83). The overall 10-year survival rate was 19.7% (n=12). IMD was significantly higher in males compared to females (332.93 vs 252.44, p=0.04) and adenocarcinomas compared to squamous cell carcinomas (356.10 vs 203.66, p<0.001). On univariate survival analysis only lymphovascular invasion predicted poor prognosis (HR 2.26, 95% CI 1.01 to 5.07, p=0.05). Kaplan–Meier survival analysis demonstrated no difference in long-term survival for patients with IMD levels greater or less than the median value (738 days vs 882 days, p=0.67).

Conclusion Immunocytochemical analysis of IMD does not have a prognostic benefit in determining long-term survival in patients with oesophagogastric cancer.

Competing interests None declared.

PWE-031 THE POTENTIAL OF HAEM TRANSPORT PROTEINS AS THERAPEUTIC TARGETS IN THE TREATMENT OF OESOPHAGEAL ADENOCARCINOMA

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Introduction Epidemiological evidence supports the potential role of dietary haem iron in gastrointestinal carcinogenesis.[1 2] Oesophageal cancer cells acquire inorganic and organic iron by progressive up-regulation of iron and haem transport proteins.[3] These alterations result in increased cellular iron loading which is likely to drive cellular proliferation.[3] The effect of perturbing haem import proteins, hemopexin receptor (LRP1) and haem carrier protein (HCP1), on cancer cell iron transport, phenotype and tumour burden is unknown. The aim was to determine the in vitro and in vivo effects of depriving oesophageal cancer cells of haem iron.

Methods Stable knock-downs of LRP1 and HCP1 were created by infection with specific shRNA lenti-viral vectors. Successful knock-down was confirmed by Western blotting. The effect on cellular iron transport and cell phenotype was assessed by qRT-PCR and phenotypic experiments for viability, proliferation, migration and anchorage independent growth. Stable knock-downs of LRP1 and HCP1 were then xenografted into NOD-SCID mice as an in vivo model of oesophageal adenocarcinoma.

Results Perturbation of LRP1 and HCP1 caused a compensatory up-regulation of inorganic iron import proteins and a decrease in iron storage capacity. Neoplastic activity was significantly impaired compared to control (proliferation, viability, colony forming and migration – all p=<0.01). Loss of active haem iron import significantly reduced xenograft tumour burden in murine models with a 70% (p=0.014) and 58% (p=0.05) reduction in average xenograft weight compared to control.

Conclusion Haem import significantly contributes to iron loading in oesophageal cancer cells and creates a more aggressive phenotype. Functional inhibition of haem importing proteins LRP1 and HCP1 curbs neoplastic activity and significantly reduces in vivo tumour burden in murine models. Haem iron transport proteins are potential therapeutic targets in the treatment of oesophageal adenocarcinoma.

Competing interests None declared.

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PWE-032 ENDOSCOPIC MUCOSAL RESECTION (EMR) FOLLOWED BY ADJUVANT RADIOFREQUENCY ABLATION (RFA) CAN RESULT IN BETTER OUTCOMES COMPARED TO EMR ALONE IN PATIENTS WITH BARRETT'S EARLY NEOPLASIA (EN). A COMPARATIVE STUDY FROM A TERTIARY CENTRE IN THE UK

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Introduction RFA has shown efficacy in eradicating Barrett's EN (high grade dysplasia (HGD) or intra-mucosal cancer (IMC)). To our knowledge, there are no studies directly comparing outcomes in patients with EN who undergo EMR alone vs EMR followed by RFA. The aim of this study was to assess the efficacy, safety and long term outcomes of adjuvant RFA in this setting.

Methods We searched our prospective Barrett's Oesophagus EMR database for patients who had EMR of lesions harbouring EN followed by RFA for eradication of residual Barrett's mucosa between 2007 and 2008 as part of a multi-centre trial (intervention group). The control group included patients with similar lesions