Methods Female mice (C57 strain) were divided into three groups of 5: ovariectomised (OVX), OVX with oestrogen replacement (OVX +E) (50 μg oestradiol per day dorsal implants) and intact females. 1.5 mm buccal ulcers were induced using a punch biopsy and treated with 1 M hydrochloric acid. Wounds were harvested at day 4. Wound planimetry and immunohistochemistry for macrophages and neutrophils were compared in a blinded fashion.

Results Results: Re-epithelialisation was greatest in the intact group (mean 0.88 mm SEM ± 0.22) compared to the OVX (0.51 mm ± 0.13) or OVX+E (0.79 mm ± 0.12) groups. The difference between intact and OVX groups was statistically significant (p=0.04). Neutrophil wound infiltration (cells/wound area) was greater in the OVX group (1842±75) than the intact group (1279±169, p There was a greater number of macrophages in the OVX wounds (1556±128) than both OVX+E (984±95 (p=0.02) and the intact group (1026±91, p=0.01).

Conclusion Lack of systemic oestrogen delays mucosal healing in buccal wounds. This may explain gender differences in the oesophageal epithelial response to gastro-oesophageal reflux injury.

Competing interests None declared.

PTU-172 OESOPHAGEAL CANCER RISK: RESULTS OF A PROSPECTIVE COHORT WITH BARRETT'S OESOPHAGUS

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Introduction Widely varying rates of oesophageal adenocarcinoma (OAC) in patients with Barrett's oesophagus (BO) have been reported, with recent studies and meta-analyses suggesting a lower incidence, affecting the cost effectiveness of surveillance. However, advances in endoscopic therapy for dysplasia suggest surveillance should potentially be extended to more elderly patients. We have therefore examined long term outcomes in a BO cohort.

Methods BO patients with intestinal metaplasia from a prospectively maintained database (1982–2008) were analysed. Cancer registrations and causes of death from death certificates were obtained from the NHS information centre for health and social care and cross-referenced with local data. The incidence of OAC was calculated as events per 100 person years (% per year) of follow-up. Regression analysis was used to determine associations between the OAC development and age, sex, hiatus hernia, BO length, strictures and ulcers. Standardised mortality ratios were calculated using age adjusted indirect standardisation. Patients were subdivided into those suitable for surveillance and those deemed unfit due to age or comorbidity.

Results 713 (429 male, median age at diagnosis 64 years, range 30–92) BO patients were in the cohort. After a median of 11 (range 2–24) years of follow-up, 38 (27 male, median age 70 (48–90)) patients were diagnosed with OAC. The incidence of OAC was 0.5% per annum (p.a.). In patients considered suitable for surveillance, the incidence was 0.6% p.a. compared to 0.3% (p=0.06) in those not surveyed due to age or comorbidity. The rate of OAC in surveyed patients from 1982 to 1989 was 0.6% p.a., from 1990 to 1999 0.4% and from 2000 to 2008 0.5%. OAC was associated with increasing BO length (OR 1.11 (95% CI 1.01 to 1.13), p=0.03), but not with male sex (OR 1.66 (95% CI 0.8 to 3.4)), hiatus hernia (OR 1.31 (95% CI 0.68 to 2.57)), ulcer (OR 0.39, (95% CI 0.01 to 1.65)) or stricture (OR 0.97 (95% CI 0.37 to 3.1)). Standardised mortality ratios was elevated for the whole group at 181 (95% CI 162 to 181). Increasing age was associated with dying from OAC (OR 1.09 (95% CI 1.07 to 1.11) but not with the development of OAC (OR 0.99, (95% CI 0.96 to 1.01). 41% deaths in the cohort were from cardiorespiratory disease.

Conclusion The risk of OAC within this prospectively surveyed cohort was 0.5% per annum, which is higher than recent estimates. The rate of OAC in surveyed BO appears to have remained stable over the last 3 decades. Increasing length of BO is associated with a higher risk of developing OAC. BO is associated with an excess mortality risk and this is mainly related to cardiorespiratory disease.

Competing interests None declared.

PTU-173 NEUROEPITHELIAL CELL TRANSFORMING GENE 1 IN ADENOCARCINOMA OF THE OESOPHAGO-GASTRIC JUNCTION: EXPRESSION, BIOLOGY AND PROGNOSTIC SIGNIFICANCE IN A LARGE WELL CHARACTERISED COHORT

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Introduction Neuroepithelial Transforming Gene 1 (NET1) is a protein involved in tumour invasion and metastasis and is associated with poor prognosis in a number of human cancers. We aimed to determine NET1 expression status and its prognostic significance in a large, well characterised cohort of patients with oesophageal cancer and cancer of the oesophago-gastric junction.

Methods NET1 expression was measured by immunohistochemistry in a 210 patient tissue micro-array (TMA). The TMA was constructed from bio-banked tissue using a comprehensive and prospectively maintained clinical database which includes demographic, clinical, histopathological and survival data on all patients.

Results Of 210 patients in the original cohort, 89 had a post-operative diagnosis of oesophageal adenocarcinoma and did not receive neoadjuvant chemotherapy or radiotherapy. Five patients had oesophageal adenocarcinoma, 81 had cancer of the oesophago-gastric junction and three had gastric adenocarcinoma. Of the 89 patients 51% were NET1 positive. NET1 staining was variable across tumour subtpes. Using the Siewert classification for OGJ tumours, significantly more type I tumours were NET1 positive (p=0.008) and there was significantly more Barrett's in the NET1 positive group (59% vs 30%, p=0.009). Median disease specific survival for the overall group was 37 months for NET1 negative patients compared with 23 months for NET1 positive. In patients with gastric and OGJ type III tumours, NET1 positivity was associated with worse median survival (23 vs 15 months, p=0.02). Within this subgroup (n=31), NET1 positive patients were more likely to be female (p=0.04), have advanced stage cancer (p=0.03), had a higher number of transmural cancers (p=0.006) and a significantly higher median number of positive lymph nodes (p=0.03).

Conclusion There is growing recognition of the heterogeneity of the different subtypes of OGJ tumours. While existing data shows differences in clinical and prognostic indices in these patients, there are no studies showing differences in tumour biology between OGJ sub-types. Our data suggests NET1, a known mediator of an aggressive tumour phenotype in numerous human cancers, is differentially expressed across OGJ sub-types and may be of prognostic significance in the clinical management of this disease.

Competing interests None declared.