

stomach between 1 October 2007 and 30 June 2009. For patients receiving palliative oncology, we compared characteristics of completers and non-completers of chemotherapy using χ^2 tests and multiple logistic regression models with correction for cluster sampling. For variables with missing data we imputed values using multiple imputation by chained equations.

Results Of 16 264 patients participating in the NOGCA in England, 2313 received palliative chemotherapy treatment. Female patients or patients of older age were less likely to receive treatment. Overall, only 39.7% completed their treatment. Factors associated with treatment completion were low performance status, high age and high level of deprivation. In our study, treatment completion was not related with site of cancer, pre-treatment stage, sex, co-morbidities or histology.

Conclusion Completion rates of palliative chemotherapy in patients with oesophago-gastric cancer are low. The low completion rates may reflect the complex medical decision making for this group of patients and the need to balance survival benefits, toxicity of treatment, patients' preferences and patients' quality of life. Patients unlikely to complete chemotherapy may be more appropriately managed on a palliative supportive care pathway with symptom control.

Competing interests None declared.

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PWE-023

PROGNOSTIC SIGNIFICANCE OF CIRCUMFERENTIAL RESECTION MARGIN STATUS IN OESOPHAGEAL CANCER—A SYSTEMATIC REVIEW AND META-ANALYSIS

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¹O Rotimi, *²D Greenwood, ²Y-K Tu. ¹Department of Histopathology, Leeds Teaching Hospitals Trust, Leeds, UK; ²Biostatistics Unit, Centre for Epidemiology & Biostatistics, University of Leeds, Leeds, UK

Introduction The status of the circumferential resection margin (CRM) in oesophageal cancer has been suggested as a prognostic factor but the reports are conflicting. Also, there are two methods of defining positive CRM—within 1 mm (Royal College of Pathologists, RCPATH UK)¹ and 0 mm (College of American Pathologists, CAP).²

Methods A systematic review was carried out using a pre-defined protocol and papers that met the inclusion criteria were selected. Data extracted from those with required adjusted HR for meta-analysis using STATA-11 statistical software. Assessments were made for heterogeneity, publication bias, small study effects and sensitivity analysis for influence.

Results Fourteen cohort studies^{3–16} were systematically reviewed but nine^{4 5 9 10–15} meta-analysed. Abstract PWE-023 table 1 shows the results of the pooled overall and CRM criteria sub-group estimates. There was significant heterogeneity between the studies (p value<0.001 and I² value of 74.8%). There was evidence of publication bias and small study effects (Egger's test p value 0.029). None of the studies had undue influence.

Abstract PWE-023 Table 1 Results of fixed effects meta-analysis by CRM criteria

Method	HR (95% CI)	Test of effect	Test of heterogeneity	I ² value
RCPATH criteria (UK)	1.45 (1.27 to 1.66)	<0.0001	0.003	72.70%
CAPcriteria (USA)	2.61 (1.90 to 3.59)	<0.0001	0.33	9.90%
Overall	1.58 (1.40 to 1.79)	<0.0001	<0.001	74.80%

Conclusion This meta-analysis provides evidence that the CRM status in oesophageal carcinoma has prognostic significance. This significance is present irrespective of the criteria used for defining the margin but the estimate for the 0 mm CAP criterion is much higher than those of the within 1 mm RCPATH criterion. The overall HR of 1.58 (95% CI 1.40 to 1.79) suggests patients with positive CRM have 60% more risk of death compared to patients with a negative margin. The significant heterogeneity and publication bias are limitations to the study and the former in particular requires further analysis.

Competing interests None declared.

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PWE-024

PREVALENCE, MANAGEMENT AND OUTCOME OF SUBMUCOSALLY INVASIVE CANCERS IN A WESTERN OESOPHAGOGASTRIC EMR POPULATION

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P J Basford,* R J Mead, M D Duku, G R Longcroft-Wheaton, P Bhandari. Department of Gastroenterology, Portsmouth Hospitals NHS Trust, Portsmouth, UK

Introduction Risk of lymph node metastases depends on good or bad prognostic features of submucosally (SM) invasive cancer specimen following endoscopic resection (ER). Invasion limited to SM1 level, lack of lymphovascular invasion and well differentiated grade are good prognostic features and may indicate that radical resection is not required following ER. However, depth of SM invasion can be very difficult to assess in ER specimens and hence a "safe" strategy would be to offer radical surgery to all patients with SM invasive disease, irrespective of other features. This is the policy we follow. We aimed to evaluate the outcome of these cancers in an ER population.

Methods All Upper Gastrointestinal ER procedures for the period 2005–2011 were recorded on a prospective database. All procedures were carried out by a single skilled endoscopist. Demographic data, histology, procedure success, long-term outcome and complications were assessed. Careful endoscopic assessment using chromoendoscopy, plus CT/EUS where appropriate, were performed prior to attempted endoscopic resection and afterwards if indicated.

Results Cancer with submucosal invasion was detected in 26 of 123 (21.1%) cases of oesophagogastric neoplasia. 22 patients were male and the mean age was 75.2 years (range 54–84 years). Submucosal invasion was present in 16 of 74 (21.6%) lesions arising in Barrett's

oesophagus, 4 of 7 (57.1%) oesophageal squamous lesions and 6 of 39 (15.3%) gastric lesions. All patients were discussed at a multi-disciplinary meeting and those patients who were fit were offered radical surgery or chemoradiotherapy. Six patients who were offered radical surgery opted for conservative management with endoscopic follow-up. 14 patients proceeded to radical surgery; six of these had no residual cancer in surgical specimen and eight had residual cancer present. 11 of the 14 are currently in disease free survival, two died of recurrence and one died of post-operative complications. Two patients received radical chemoradiotherapy; one is in disease free survival, the other died of advanced adenocarcinoma. One patient received radical radiotherapy and remains free of recurrence. Nine patients received conservative/endoscopic management; of these seven had disease free survival, two died of metastatic adenocarcinoma. Mean follow-up was 32 months.

Conclusion Our results show that submucosal invasion is found in a significant proportion of patients undergoing upper gastrointestinal ER. Management of SM invasive cancer following ER remains challenging and our series shows a wide variation in management outcomes. Further research to guide the optimum management of this group of patients is required.

Competing interests None declared.

PWE-025 POST-RADIOTHERAPY PHARYNGEAL/PROXIMAL OESOPHAGEAL STRICTURES IN HEAD AND NECK MALIGNANCY: OUTCOME OF ENDOSCOPIC BOUGIE DILATION

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¹R Sringeri,* ²L Priestnall, ³R Cullen, ¹N C Fisher. ¹Department of Gastroenterology, Birmingham, UK; ²Speech and Language Therapy Department, Birmingham, UK; ³ENT, The Dudley Group NHS Foundation Trust, Birmingham, UK

Introduction Chemo-radiotherapy is the standard of care for most patients with head and neck malignancy. Radiotherapy may lead to dysphagia due to pharyngeal/proximal oesophageal strictures. Endoscopic management of these strictures with antegrade dilation by using Savary Gilliard bougie dilators is described in literature.^{1 2} Our aim was to review the outcome in patients referred for bougie dilation for radiotherapy induced strictures.

Methods It is a retrospective case notes review.

Results 11 patients underwent bougie dilation of radiotherapy induced strictures in last 4 years. Nine male, two female patients with median age of 71 years. Five patients had laryngeal cancer and six had oropharyngeal cancer. All patients had radiotherapy where four had concurrent chemotherapy. Five patients required fluoroscopy and seven patients required nose endoscope. Median size of initial bougie size was 11 mm and final bougie size was 17 mm. Mean number of procedures per patient was 4. No complications noted. While three patients had good response, six had borderline and two had none. Median interval from completion of radiotherapy to index procedure was 2.5 years with range from 2 months to 12 years.

Conclusion Savary Gilliard bougie dilation appears to be safe and well tolerated method for dilating pharyngeal/proximal oesophageal strictures secondary to radiotherapy treatment for head and neck cancer. While symptom improvement varied among patients probably early intervention might benefit the patient.

Competing interests None declared.

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PWE-026 INFRARED SPECTROSCOPY ACURATELY DETECTS BARRETT'S MUCOSA BIOPSY SPECIMENS EX VIVO

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^{1,2}R J Haidry,* ^{1,2}L B Lovat, ²M Banks, ¹A Gupta, ¹M A Butt, ³M Novelli, ⁴T Kosciolk, ⁴A Marechal, ⁴P Rich. ¹Department of Surgery, National Medical Laser Centre, London, UK; ²Department of Gastroenterology, London, UK; ³Department of Histopathology, University College Hospital, London, UK; ⁴Institute of Structural and Molecular Biology, University Collge London, London, UK

Introduction Oesophageal cancer (OAC) arises in Barrett's oesophagus (BE) and carries a poor prognosis. Early mucosal neoplasia arising in BE can be treated successfully with minimally invasive endotherapy. Fourier transform infrared spectroscopy (FTIR) can detect specific molecules from their unique vibrational absorption spectra in complex materials like human tissue. There is growing literature on it's medical diagnostic uses in the mid-infrared (MID-IR) range of 1800–900 cm⁻¹.

Methods 98 biopsy specimens were obtained from 21 patients undergoing endoscopy for BE surveillance over 3 months. 30 were from squamous epithelium, at least 2 cm above the squamocolumnar junction & remainder from visible BE mucosa. At each site a biopsy was taken for MID-IR analysis. A matched biopsy was taken from the same site for histopathological grading. FTIR spectra were recorded on biopsies at room temperature with a Bruker IFS 66/S spectrometer fitted with a liquid nitrogen-cooled MCT-B detector and an Attenuated Total Reflection silicon microprism. For each spectrum, 1000 interferograms (approximately 2 min accumulation time) were averaged before Fourier transformation. Spectra were converted to second derivatives to remove baseline artefacts and improve signal resolution. An automated programme was used to quantify specific characteristic features and normalise them relative to intensities of the protein amide II band in the same spectrum. The results were used to calculate their correlation with presence of glandular mucosa in BE.

Results Normal squamous mucosa and BE could be differentiated with a sensitivity of 82% and specificity of 96% by analysing variations in the 1180–1000 cm⁻¹ region of second derivative of spectra. Bands in this region responsible for the observed differences arise from variations in levels of glycogen or a related material within the tissues. BE tissue appear to have at least 50% lower concentrations compared to the squamous epithelium.

Conclusion FTIR spectroscopy can accurately differentiate between the columnar mucosa of BE and normal squamous oesophagus. Further work is underway to examine the accuracy of this technique in differentiating different states of dysplasia in BE. IR spectroscopy provides a fast and effective means of detecting BE ex vivo and presents an exciting avenue of future research with a view to incorporating IR spectral analysis into existing technologies to capture real time spectral data at endoscopy to help guide endotherapy to these high risk patients.

Competing interests None declared.

PWE-027 HALO RADIOFREQUENCY ABLATION FOR SQUAMOUS HIGH GRADE DYSPLASIA AND EARLY SQUAMOUS CELL CARCINOMA: OUTCOMES FORM THE UK HALO RADIOFREQUENCY ABLATION REGISTRY

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^{1,2}R J Haidry,* ¹J Dunn, ²M Banks, ¹A Gupta, ¹M A Butt, ³H Smart, ⁴P Bhandari, ⁵L A Smith, ⁶R Willert, ⁷G Fullarton, ⁸M Di Pietro, ⁹I Penman, ¹⁰M Novelli, ^{1,2}L B Lovat. ¹Department of Surgery, National Medical Laser Centre, London, UK; ²Department of Gastroenterology, University College Hospital, London, UK; ³Department of Gastroenterology, Royal Liverpool University Hospital, Liverpool, UK; ⁴Department of Gastroenterology, Princess Alexandra Hospital, Portsmouth, UK; ⁵Department of