ATDs rather than ulcers alone, and they need to be considered in the management of NVUGIB.

Disclosure of Interest A. Taha Consultant for: Almiral Pharma UK, Vifor Pharma UK, Horizon Pharma USA, C. McCloskey: None Declared, T. Craigen: None Declared, W. Angerson: None Declared.

PTU-020 ANTITHROMBOTIC DRUGS AND NON-VARICEAL BLEEDING OUTCOMES AND RISK SCORING SYSTEMS – COMPARISON OF BLATCHFORD, ROCKALL, AND CHARLSON SCORES

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Introduction Antithrombotic drugs (ATDs) commonly cause non-variceal upper gastrointestinal bleeding (NVUGIB). Established risk scoring systems have not been validated in users of these drugs. We aimed to compare Blatchford, Rockall, and Charlson scores in predicting the outcomes of NVUGIB in ATD users and controls.

Methods A total of 2071 patients with NVUGIB, 2005–2011, were grouped into ATD users (n = 851) and controls (n = 1220). ATDs included low-dose aspirin, clopidogrel, dipyridamole, warfarin, and low-molecular weight heparin. Outcomes included length of hospital admission, the need for blood transfusion, re-bleeding requiring surgery, and 30-day mortality. Results were expressed as Spearman rank correlation coefficients (Rs) for length of admission and area-under-the-curve (AUC) values for the receiver opating characteristic curves (ROC) for binary outcomes, and were compared using z-tests, after Fisher's transformation in the case of Rs values.

Results (1) The LENGTH OF ADMISSION correlated with all three scores in non-ATD patients (controls), but these correlations were significantly weaker in ATD users. Rs in control vs. ATD: 0.45 vs. 0.20 for Blatchford; 0.48 vs. 0.32 for Rockall; and 0.42 vs. 0.26 for Charlson, all P < 0.001. Rockall had the strongest correlation with duration of admission and Blatchford the weakest (P < 0.01 vs. Rockall in ATD users). (2) The NEED FOR TRANSFUSION was best predicted by Blatchford (P < 0.001 vs. Rockall and Charlson in both ATD users and controls) followed by Rockall (P < 0.001 vs. Charlson in controls). All scores performed less well in ATD users than controls. AUC in control vs. ATD: 0.90 vs. 0.85 for Blatchford; 0.74 vs. 0.59 for Rockall; and 0.64 vs. 0.54 for Charlson, all P < 0.005. (3) In predicting the NEED FOR SURGERY, only Rockall performed significantly better than by chance. AUC in control vs. ATD: 0.62 vs. 0.59 for Blatchford; 0.73 vs. 0.74 for Rockall; and 0.53 vs. 0.50 for Charlson. (4) In predicting MORTALITY, the Charlson score performed best by a small margin, and there was a trend towards weaker relationships in ATD users. AUC in control vs. ATD: 0.71 vs. 0.61 for Blatchford; 0.74 vs. 0.71 for Rockall; and 0.81 vs. 0.72 for Charlson.

Conclusion (1) In both ATD users and controls, the Blatchford score was the strongest predictor of the need for blood transfusion, Rockall had the strongest correlation with duration of admission and with re-bleeding requiring surgery, and Charlson was best in predicting 30-day mortality. (2) There was a consistent tendency for all scoring systems to be less effective in predicting outcomes in ATD users than in controls. (3) Modifications of risk scoring systems should be explored to improve their efficiency in users of antithrombotic drugs.

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PTU-021 EOSINOPHILIC OESOPHAGITIS: DIAGNOSTIC RATES CAN BE IMPROVED BY EDUCATION

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Introduction Eosinophilic oesophagitis (EoE) is a chronic immune-mediated disease associated with oesophageal dysfunction, most commonly dysphagia. Recent consensus guidelines recommend obtaining biopsies from both the proximal and distal oesophagus in patients with dysphagia who have normal endoscopies.[1] This study aims to investigate the adherence to these guidelines and familiarise clinicians with this pathology.

Methods The study included 2 cycles, each of 6 months. Cycle 1 was from 1/5/12 until 6/11/12. Cycle 2 extended from 1/1/13 until 6/7/13. For each cycle the hospital database was used to review the records of all patients that underwent endoscopies for dysphagia as the primary symptom. All normal endoscopies were included. The number of biopsies and histology results were recorded. Following the first cycle recommendations and information was displayed in all endoscopy rooms and the results fed back to the lead clinicians before cycle 2 was carried out.

Results In Cycle 1, 258 patients underwent endoscopies for dysphagia with 75 considered endoscopically normal. In cycle 2, 263 endoscopies were carried out, of which 74 appeared normal. Biopsies were taken from 27% (n = 20) of the normal endoscopies in Cycle 1, with 5% (n = 1) of those biopsied proving histologically positive for EoE. This increased in Cycle 2 to 45% (n = 33) biopsied and EoE present in 12% (n = 4).

Conclusion Eosinophilic oesophagitis is an important diagnosis that may result in complications if missed and not specifically treated. Oesophageal biopsies are underperformed in patients with normal endoscopies. An improvement in biopsy rates through education has increased the number of successful diagnoses at this Trust. However, continued improvement is required as clinicians need to be vigilant regarding this this pathology when developing a differential diagnosis for dysphagia.

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Disclosure of Interest None Declared.

PTU-022 A NOVEL PHOTOMETRIC STEREO IMAGING SENSOR FOR ENDOSCOPY IMAGING: PROOF OF CONCEPT STUDIES ON A PORCINE MODEL

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Introduction The American Society of Gastroenterology Endoscopy led Preservation and Incorporation of Valuable Endoscopic
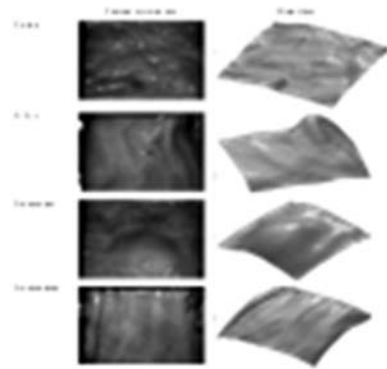
Abstract PTU-022 Figure 1

Innovations initiative has identified real time polyp diagnosis as one of the next major technology-driven changes in endoscopy.[1] A number of imaging techniques are presently being investigated in this area. The complex and demanding nature of the imaging environment, including issues relating to operation in a confined space, the presence of surface fluids and the highly reflective nature of the mucosa, renders 3D surfaccapture and analysis for the purpose of diagnosis an extremely challenging task. A novel Photometric Stereo (PS) imaging sensor has never been previously assessed for mucosal imaging. PS imaging requires the capture of the mucosal regions while illuminated using light from differing known directions and offers the potential for the recovery of high resolution 3D shape and topographic texture data. The captured PS images are then used to recover and analyse the 3D surface geometry.

Methods Using a porcine gut model, photometric images were captured using a six-light source PS setup. PS assumes diffuse reflectance from the illuminated surfaces. We use a least squares approximation approach to estimate the surface in the presence of the specular highlights. Several areas of the porcine gastrointestinal tract were scanned. For each area investigated six photometric images were captured. This data was then used to recover the depth information.

Results 3D reconstruction was obtained on all mucosal areas of the gastrointestinal tract that were studied (Figure 1). We observe that the recovered 3D surface retains the surface geometry in the captured areas and important structural information at a fine level of detail, even in the presence of numerous specular reflections. This is highly significant for automated processing and analysis of surface abnormalities.

Conclusion Using a novel sensor technology it was possible to obtain mucosal views and 3D surface reconstruction on all areas of the gastrointestinal tract using a porcine model. 3D geometric representations of the mucosal views were obtained, raising the possibility of automated computer analysis of endoscopic images. This novel technique needs to be explored further in human studies.

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Disclosure of Interest None Declared.

PTU-023 | **SEDATION IN THE ENDOSCOPY DEPARTMENT – DO WE NEED MORE TRAINING?**

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Introduction The 2004 report of the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) highlighted that only 35% of endoscopists surveyed were known to have attended courses on safe sedation. The report recommended that all those responsible for the administration of sedation in the endoscopy department should receive formal training and clear protocols for the administration of sedation should be made available and implemented.

Methods We undertook a paper survey of 40 gastroenterology trainees across 5 UK Deaneries during December 2013 to determine current practices of sedation and training in endoscopy as well as level of knowledge of the sedation agents.

Results All 40 of the trainees surveyed responded. 21 (53%) had received formal training in sedation for endoscopy with the most common setting for training being at local trust induction. 35 (88%) would value an introductory course in sedation as part of local trust induction.

Only 14 (35%) were aware of a sedation protocol in their department. 27 (68%) reported Fentanyl as the commonest first-line opioid used, although it was rarely administered in upper GI endoscopy. 28 (70%) trainees performed the majority of their upper GI endoscopies 'unsedated' with throat-spray only. These findings were similar in both sedation-trained and non-trained cohorts. For colonoscopy, 18 (90%) of those who had received formal training in sedation would administer an opioid first, before Midazolam, whereas 13 (72%) trainees without sedation training would use this sequence.

28 (70%) trainees stated correctly the maximum doses for Midazolam and Fentanyl as recommended by BSG guidelines, and were appropriately cautious about the initial dose of Midazolam administered to an elderly patient. 14(74%) of the trained cohort correctly said that Fentanyl takes 1–2 min to act, compared to 7 (39%) in the untrained cohort. All trainees surveyed knew the reversal agents for Midazolam and Fentanyl.

Conclusion 47% of trainees did not receive structured training in safe sedation, despite national guidelines advising this to be an essential part of the training program. The majority of trainees would value sedation training. We also identified some gaps in trainees' knowledge of the action of sedation agents. We propose that a formal training session in sedation or an e-learning module could be incorporated as part of a deanery or trust induction for gastroenterology and regularly reviewed thereafter.

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2   BSG 2003: Guidelines on safety and sedation during endoscopic procedures

Disclosure of Interest None Declared.

PTU-024 | **NON-RADICAL, STEPWISE ENDOSCOPIC ABLATION OF BARRETT'S EPITHELIUM IN SHORT SEGMENT BARRETT'S OESOPHAGUS HAS LOW STRICTURE RATE**

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Introduction Radical endoscopic ablation of Barrett's epithelium performing 4–6 endoscopic resections during the same