monotherapy or as first line combination treatment as well as a rescue modality after failed conventional endoscopic treatment.

Competing interests None declared.

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OC-143 ARTIFICIAL NEURAL NETWORK FOR THE RISK STRATIFICATION OF ACUTE UPPER GASTROINTESTINAL BLEEDING: MULTICENTRE COMPARATIVE ANALYSIS VS THE GLASGOW BLATCHFORD AND ROCKALL SCORES

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[1]A Ali,* [2]J Swingland, [1]C H Choi, [1]J Chan, [3]S Khan, [2]S Bose, [1]L Ayaru. *[1]Department of Gastroenterology, Charing Cross and Hammersmith Hospitals, Imperial College Healthcare NHS Trust; [2]PET Methodology, MRC Clinical Science Centre, Hammersmith Campus, Imperial College, London, UK; [3]Department of Medicine, Imperial College London, London, UK*

Introduction Most patients presenting with acute upper GI bleeding (AUGIB) are at low risk of requiring clinical intervention or death. Nevertheless, risk assessment conventionally involves inpatient upper GI endoscopy which increases the cost of care. Non-endosopic risk scores, Glasgow Blatchford (GBS) and admission Rockall, are limited by poor specificity. The aim of this study was to develop an Artificial Neural Network (ANN) for the non-endoscopic triage of AUGIB.

Methods An internal cohort of patients with AUGIB (n=400) admitted to the emergency departments of two teaching hospitals, January 2008 to December 2009, was retrospectively identified. A separate group with AUGIB (n=200) admitted to a third teaching hospital made up the external validation cohort. The composite endpoint was clinical intervention (blood transfusion, endoscopic therapy or surgery) and/or death. A multi-layered perceptron ANN model was generated using back propagation and logistic activation function with hidden nodes to make a prediction from 30 input variables. Training and validation of the internal cohort was performed through a "leave one out" analysis. Optimisation was carried out by excluding statistically insignificant variables and the ANN validated in the external cohort. ROC curve analysis was used to compare the ANN, GBS and Rockall scores.

Results Demographics for patients in the internal cohort were: mean age 57 years, 70% male, 39.5% met the composite endpoint (22.3% endoscopic therapy, 25.3% transfusion, 1.5% surgery, 3.2% 30-day mortality). The external cohort was not significantly different apart from increased NSAID/anticoagulant use, smoking and prior history of AUGIB. In predicting the composite endpoint the ANN model performed well on external validation and had a significantly higher specificity (87.8%, 95% CI 81.4 to 92.7) than the other scores (GBS: 11.1% 95% CI 7.10 to 12.2, admission Rockall: 19.1% 95% CI 14.3 to 21.0, complete Rockall: 28.3% 95% CI 19.2 to 34.0). The ANN also had significantly higher PPV (77.1% 95% CI 65.1 to 86.4) (GBS: 42.9% 95% CI 40.3 to 43.5, admission Rockall: 45.0% 95% CI 41.8 to 46.3, complete Rockall: 60.2% 95% CI 55.2 to 63.4). In contrast the sensitivity (61.7%) and NPV (77.5% 95% CI 71.8 to 81.8) of the ANN model was inferior to the GBS score (100%) and (100% 95% CI 95.4 to 100). The ANN was significantly more accurate 0.83 (95% CI 0.77 to 0.90) than the GBS 0.56 (95% CI 0.46 to 0.65) or admission Rockall scores 0.60 (95% CI 0.51 to 0.69).

Conclusion An ANN model can accurately predict need for intervention and outcome in patients with acute upper gastrointestinal bleeding and compares favourably with established risk scores.

Competing interests None declared.

OC-144 THE MANAGEMENT OF LOW-RISK PRIMARY UPPER GASTROINTESTINAL HAEMORRHAGE IN THE COMMUNITY: A 5-YEAR OBSERVATIONAL STUDY

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[1]C McLaughlin, [2]H Dalton,* [2]L Vine, [2]L Chapman, [2]P Deering, [1]S Whittaker, [2]J Beckly, [2]P Fortun, [2]I Murray, [2]H Hussaini, [2]N Michell, [2]B Stableforth, [2]P Thatcher, [2]N Hare, [2]J Palmer. *[1]Peninsula College of Medicine and Dentistry, UK; [2]Royal Cornwall Hospital, Truro, UK*

Introduction Acute upper gastrointestinal haemorrhage is a common medical emergency, initially managed with in-patient care. Bleeding stops spontaneously in over 80% of cases indicating patients with low-risk upper gastrointestinal haemorrhage may be more optimally managed in the community, without the need for admission to hospital. We have previously shown that using the Glasgow Blatchford Score (GBS) is an accurate method of identifying low risk cases.[1 2]

Aims To assess the safety of managing patients with low risk upper gastrointestinal haemorrhage without admission to hospital.

Methods Prospective/retrospective study of all patients presenting to a UK teaching hospital with low risk upper gastrointestinal haemorrhage who were managed without admission to hospital over 5 years. Low risk was defined as: GBS ≤2, age <70 years, no other active medical problems, not taking warfarin, suspected non-variceal bleed. Outcome measures were the need for intervention (blood transfusion, endoscopic therapy or surgery) and death.

Results 142 patients fulfilled the inclusion criteria, and were managed without admission to hospital. Upper GI endoscopy was preformed at a median of 1 day (range 0–18 days). No patients required endoscopic intervention, blood transfusion or surgery. The 28-day mortality was nil. 41 patients had a normal endoscopy. 11 had significant endoscopic findings (peptic ulceration =10, oozing Mallory Weiss tear =1) but did not require intervention. Significant endoscopic findings were unrelated to age (p=0.547), and four patients <30 years had significant findings (peptic ulceration n=3, Mallory Weiss tear n=1).

Conclusion Patients presenting with a primary upper gastrointestinal haemorrhage aged <70 years with a GBS of ≤2 are at low risk, and can be safely managed in the community. All such patients should have an upper GI endoscopy. The findings in this paper were presented to the NHS Innovation Challenge Prize Final, London, 29th September 2011.

Competing interests None declared.

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OC-145 ENDOSCOPIC PROCEDURE RELATED TOLERABILITY: DISCOMFORT IS WORSE AT COLONOSCOPY BY COMPARISON TO DISTRESS AT GASTROSCOPY?

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A J Irvine,* M Kurien, A D Hopper, D S Sanders. *Department of Gastroenterology, Royal Hallamshire Hospital, Sheffield, UK*

Introduction Patients often find endoscopic procedures difficult to tolerate. This may reflect actual "discomfort" of the procedure (eg, due to abdominal bloating) or distress (eg, related to intubation). While previous studies have identified factors that may influence procedural tolerability, no study has tried to discriminate specifically between discomfort and distress. We sought to prospectively evaluate these outcomes in patients undergoing colonoscopy, flexible sigmoidoscopy and gastroscopy.

Methods Consecutive patients attending a tertiary referral centre for clinically indicted endoscopic examination were prospectively recruited between August and December 2011. Sex, age, body mass index (BMI) and previous endoscopy experience were recorded. Procedural completion time, quality of bowel preparation and endoscopic findings were also documented. Patients were asked to grade anticipated and actual procedural discomfort and distress scores using a previously validated Numeric Rating Scale ranging form 0-10 as well as being asked to complete a Hospital Anxiety and Depression Scale. Patients also provided qualitative data, providing insights into their perceptions on perceived distress or discomfort. Data were analysed using SPSS version 19 with T-test analysis undertaken.

Results 271 patients were prospectively recruited (127 male, 144 female; median 56 years, range 17–89 years). Of these, 124 patients had a gastroscopy, 116 underwent colonoscopy and 31 had flexible sigmoidoscopy examinations. 34 patients (12.5%) underwent bi-directional endoscopy. Analysis showed that discomfort scores were significantly higher in patients undergoing colonoscopy compared to gastroscopy (4.65 vs 2.90, $p<0.001$) and also when comparing flexible sigmoidoscopy to gastroscopy (4.10 vs 2.90, $p=0.047$). No difference was identified when comparing flexible sigmoidoscopy discomfort levels to colonoscopy ($p=0.365$). Interestingly, while discomfort scores were significantly lower in the gastroscopy group, overall distress levels were significantly higher in this group compared to the colonoscopy group (3.99 vs 3.16, $p=0.049$). Data provided from the qualitative analysis would suggest that this is primarily due to the distress caused by oesophageal intubation.

Conclusion This is the first study to discriminate between distress and discomfort in endoscopic procedures and highlights variations in tolerability dependent on the underlying procedure undertaken. Our observations provides evidence to suggest greater attention should be made by endoscopists during oesophageal intubation during gastroscopy and with regards to gas insufflation during lower gastrointestinal endoscopic examinations.

Competing interests None declared.

OC-146 OUTCOME OF ENDOSCOPIC SUBMUCOSAL DISSECTION (ESD) FOR SUPERFICIAL OESOPHAGEAL NEOPLASM: A UK PILOT SERIES

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[1]T P George,* [1]R Shakespeare, [1]M Collins, [2]A Burdge. *[1]Department of Gastroenterology, Cross Border Upper GI Cancer Centre, Maelor Hospital, Wrexham, UK; [2]Department of Histopathology, Cross Border Upper GI Cancer Centre, Maelor Hospital, Wrexham, UK*

Introduction In Japan endoscopic submucosal dissection (ESD) is accepted as a safe and effective treatment for early oesophageal cancer. Experience in the UK remains limited and oesophagectomy is still the gold standard. The aim of this prospective single centre pilot study was to evaluate the safety and clinical outcomes of oesophageal ESD in a UK setting.

Methods Between July 2008 and November 2011 the regional upper GI MDT for North Wales and Cheshire considered 14 patients with early oesophageal cancer (T1N0M0) (n=11) and high grade dysplasia (n=3) for ESD after full staging. All patients underwent trimodal endoscopy (autofluorescence, narrow band imaging, magnification, and chromoendoscopy) to assess the lesion and depth of invasion. Informed consent was obtained after full discussion and counselling as to alternative treatment options. Standard ESD technique was used, whereby the lesion was isolated by circumferential cutting using a flush and IT2 knife after marking the edges and raising with submucosal injection; followed by dissection. Specimens were staged according to the Kikuchi classification. Patients with residual Barrett's (n=5) had radio-frequency ablation after ESD to reduce the risk of metachronous cancer. Data were collected prospectively and audited by an independent group.

Results Of the 14 cases (nine male, five female; mean age 73 years), two were excluded as trimodal endoscopy showed evidence of deep submucosal infiltration and one patient declined treatment. Mean specimen size was 16 mm. Procedure time ranged from 120 to 210 min. Enbloc resection rate was 91%. R0 resection rate of the lateral and deep margins were 82% and 64% respectively (Abstract OC-146 table 1). There were no major complications, although one procedure was abandoned as the endoscopic field of view was obscured by bleeding. Mean hospital stay was 72 h. Procedure and disease specific mortality was zero. Over a median follow-up period of 20.5 months there was one recurrence. This occurred in a patient with incomplete resection of both lateral and deep margins at ESD. Those with R1 resection of the deep margins showed no evidence of recurrence.

Abstract OC-146 Table 1 Complete resection and complication rates of endoscopic submucosal dissection

	n (%)
ESD	11
Enbloc resection rate	10 (91)
R0 lateral margin	9 (82)
R0 deep margin	7 (64)
Major complications	0
Minor complication (minor bleeding)	1 (9)
Disease specific mortality	0
Recurrence	1 (9)

Conclusion ESD is a safe and effective treatment with high cure rate for early oesophageal neoplasm, even when the endoscopist is in the steep part of the learning curve. ESD has the advantage of high enbloc resection rates and low risk of recurrence. In our opinion all patients in the UK with early oesophageal cancer and high grade dysplasia should have access to ESD as a standard treatment option.

Competing interests None declared.

OC-147 MULTICENTRE (CERT-N) AUDIT OF EXPERIENCE AND OUTCOMES OF ENDOSCOPIC BALLOON DILATATION TO TREAT CROHN'S DISEASE STRICTURES

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[1]M Bhalme,* [2]E Hargreaves, [3]T Gledhill, [2]Y Prasad, [2]J Geraghty, [2]S Sarkar, [4]R Willert. *[1]North Manchester General Hospital, Manchester, UK; [2]Royal Liverpool and Broadgreen University Hospitals, Liverpool, UK; [3]Aintree University Hospital, Aintree, UK; [4]Central Manchester University Hospitals, Manchester, UK*

Introduction Strictures are a common complication of Crohn's disease (CD), both de novo and following surgery (Sx). While endoscopic balloon dilatation (EBD) offers a valuable alternative to Sx in managing them, there is paucity of data on factors that may influence the safety and efficacy of this technique. Our aim was to perform a multi-centre audit to determine our experience and outcomes of EBD in symptomatic CD strictures.

Methods A retrospective audit across three major hospitals in Northwest England was performed on patients between 1998 and 2011. Demographics, smoking status, immunomodulation, CRP, endoscopic findings, EBD details including complications and subsequent surgery at follow-up were all recorded. Success of EBD was defined as symptomatic improvement without need for surgery at follow-up.

Results Patient & Disease Demographics: 71 patients (43 female; age range 17–85 years, median 47) were audited. Duration of CD was