(0.17±0.1%, N=3). Neither FeNTA nor FeCitrate reversed the effect of Hydroxychloroquine suggesting its effect is not mediated by changes in iron metabolism. A trend towards higher pH was seen with Hydroxychloroquine compared to control (7.22±0.016 vs 6.66±0.19) but this did not reach significance.

Conclusion Hydroxychloroquine enhances antibiotic efficacy and macrophage killing of AIEC. Its mechanism of action is not via pH dependent iron metabolism but is likely due to direct phagolysosomal pH changes. Further work is required to determine its mechanism of action but it holds potential as a treatment for Crohn's.

Competing interests P Flanagan: None declared, B Campbell: None declared, J Rhodes consultant for: a member of advisory boards for Atlantic, Procter and Gamble and Falk, Speaker bureau with: Received speaking honoraria from Abbott, Falk, Ferring, Glaxo Smith Kline, Procter and Gamble, Schering Plough, Shire and Wyeth, Conflict with: With the University of Liverpool and Provexis UK, holds a patent for use of a soluble fibre preparation as maintenance therapy for Crohn's disease plus a patent pending for its use in antibiotic-associated diarrhoea.

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BSG endoscopy section symposium and free papers: "Managing bleeding risk"

OC-141 UPPER GI BLEEDING IN SCOTLAND 2000–2010: IMPROVING OUTCOME BUT A SIGNIFICANT WEEKEND EFFECT

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Introduction Recent studies have suggested a reduction in incidence of upper GI haemorrhage (UGIH) and a possible worse outcome if patients present at weekends. Our aim was to assess trends in numbers and mortality of patients admitted with UGIH in Scotland and to examine whether weekend presentation affected outcome.

Methods We identified 23 ICD-10 codes that identified UGIH and interrogated ISD Scotland data using these codes for the 10-year period 2000–2010. We analysed the annual numbers of patients and their 30-day mortality during this period, comparing length of stay and mortality for those admitted at weekends and weekdays.

Results A total of 61 574 Scottish residents were admitted to Scottish hospitals with a diagnosis of UGIH during the years 2000/1–2009/10. There was no significant change in annual numbers of admissions during this period, but there was a reduction in 30-day mortality from 10.3% to 8.8% ($p<0.001$). For the whole study period, patients admitted with UGIH at weekends had a higher 30-day mortality compared with those admitted on weekdays ($p<0.05$). A significantly higher mortality for patients admitted at weekends was seen in 9 of the 10 years, including each of the last five years. This was despite patients admitted at weekends being younger than those admitted on weekdays (57.6 yrs vs 58.8 yrs; $p<0.001$). Over the study period there was a greater length of stay for patients admitted on weekends compared with weekdays ($p<0.05$), with the greatest difference found in the most recent year of study.

Conclusion There has been a gradual reduction in mortality for patients admitted with UGIH in Scotland over the past 10 years. Despite a younger age, patients admitted at weekends had consistently higher mortality and greater length of stay compared with weekday admissions.

Competing interests None declared.

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OC-142 HEMOSPRAY FOR NON-VARICEAL UPPER GASTROINTESTINAL BLEEDING: RESULTS OF THE SEAL DATASET (SURVEY TO EVALUATE THE APPLICATION OF HEMOSPRAY IN THE LUMINAL TRACT)

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Introduction Hemospray is an endoscopic haemostatic agent licensed for use in non-variceal upper gastrointestinal bleeding (UGIB). It has been shown to be effective in achieving haemostasis in bleeding peptic ulcers in a pilot study from Hong Kong.[1]

Methods From June until September 2011 several European hospitals participated in the SEAL dataset. Data on the use of Hemospray, lesions treated and other endoscopic modalities employed were prospectively collected. Rockall score and treatment outcomes were obtained retrospectively. The type of lesion treated and the use of Hemospray as monotherapy or combination therapy was at discretion of the endoscopist.

Results Eighty two patients (57M:25F) were treated across 10 hospitals. Median age was 70 years. Aetiology of UGIB was gastroduodenal ulceration in 52% (n=43), post EMR 9% (n=7), tumour 6% (n=5), oesophageal ulceration 4% (n=3), dieulafoy lesion 4% (n=3), GAVE 2% (n=2), post-polypectomy 2% (n=2) and other causes totalling 21% (n=17). The gastroduodenal ulcers were classified as Forrest 1a (n=19), Forrest 1b (n=21) and unclassified (n=3). Hemospray was used as monotherapy in the majority of patients (57% n=47). In 8 (10%) it was used as first modality followed by additional endoscopic treatment and in 27 (33%) it was used as an adjuvant (rescue) therapy. Primary haemostasis was achieved in 71 patients (87%). Results of therapy for each of the three subgroups are shown in the Abstract OC-142 table 1. There were five deaths none of which were due to bleeding. Cause of death was liver disease in two patients, myocardial infarction, aspiration pneumonia and perforation in the remaining three patients respectively. There were eight technical complications: four blockages of the application catheter, one blockage of the endoscope working channel, on two occasions the endoscope became adherent to the oesophageal mucosa after use in retroflexion and on one occasion the CO_2 propellant cartridge failed to operate.

Abstract OC-142 Table 1

	Hemospray monotherapy	Hemospray + additional endoscopic treatment	Standard endoscopic therapy + hemospray
Number of patients	47	8	27
Rockall score (median)	6	7	6.5
Primary haemostasis	46/47 (98%)	6/8 (75%)	19/27 (70%)
Rebleed (7 days)	7/46 (15%)	1/6 (17%)	7/19 (37%)
Mortality (7 days)	3/47 (6%)	0	2/27 (7%)
Number of peptic ulcers	19	6	18
Proportion forrest 1a	7/19 (37%)	3/6 (50%)	9/18 (50%)
Proportion forrest 1b	10/19 (53%)	3/6 (50%)	8/18 (44%)
Unclassified	2/19	0	1/18

Conclusion Hemospray provides an effective endoscopic modality for achieving primary haemostasis of non variceal UGIB as

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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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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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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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.