

powders desiccate bleeding lesions and promote clotting. They can be used either as an adjunct to conventional haemostatic modalities or as monotherapy.

Aim We report our early experience with Endoclot usage in upper gastrointestinal bleed.

Methods N=12 patients; M7:F5; Median age 75y (63y–92y). All were frail with multiple co-morbidities (Table 1). Endoscopic diagnosis: duodenal ulcer (6), bleeding GI lymphoma (2), gastric ulcer (1), post gastric polyp biopsy bleed (1), GIST (1) and Mallory Weiss tear (1). Endoclot was used as monotherapy in 3/12 and as adjunct in 9/12. All patients had immediate haemostasis and one patient had late re bleed at 120hrs (8%). 1/12 died within 24hr. 6/12 were alive at 30 days.

Results

Conclusion Haemostatic powder spray is a promising new technique, particularly for difficult bleeds in frail patients.

REFERENCE

Leahy A, *et al.*, Early clinical experience of endoclot™ in the treatment of acute gastro-intestinal bleeding.
Gut 2013;62:A149

Disclosure of Interest None Declared.

PTU-036 ENVIRONMENTAL ENTEROPATHY: IMAGING THE CELLULAR BASIS OF DISRUPTED BARRIER FUNCTION

¹P Kelly*, ²T Banda, ²R Soko, ²R Banda, ¹J Louis-Auguste. ¹DDC, Blizard Institute, Barts and the London, London, UK; ²University Teaching Hospital, Lusaka, Zambia

10.1136/gutjnl-2014-307263.110

Introduction Environmental enteropathy (EE), originally termed tropical enteropathy, is very common in overcrowded living conditions in developing countries. It predisposes to growth failure in the young, and probably to poor performance of oral vaccines. By permitting microbial translocation it probably contributes to insidious systemic immune activation. In order to understand the impairment of barrier function in EE, we performed confocal laser endomicroscopy (CLE) in 62 healthy volunteers from a poor community in Lusaka, Zambia.

Methods These asymptomatic volunteers were drawn from a community in Misisi with which we have been conducting studies for 15 years. On day 1 a 3 h lactulose: mannitol permeability and zinc absorption test was performed. On day 2 CLE of the duodenal mucosa was performed with diazepam/pethidine sedation and 5–10 ml 2% intravenous fluorescein, and images collected for 10 min exactly (mean number of images analysed 135, SD57). Biopsies were subsequently taken to analyse villous morphology and tight junction protein expression (data not yet available).

Results In the first 22 volunteers (12 female, 10 male) studied, a wide range of villous architectural patterns was observed from leaf-like to convolutions. Similarly, a wide range of barrier abnormalities was observed, with some volunteers showing severe fluorescein leakage within one minute of fluorescein injection. Epithelial breaks, particularly multicellular breaks termed microerosions, were strongly correlated with the rate of fluorescein efflux (Spearman's rho 0.92; $P < 0.0001$). The number of plumes was almost as strongly correlated (rho = 0.69; $P = 0.0004$). All volunteers showed some abnormality, with Watson grade = 3 in all cases, corroborating our previous reports that EE is ubiquitous in this population. We also observed that fluorescein leakage and epithelial barrier defects were not correlated with villous architectural change (rho = 0.01; $P = 0.96$),

suggesting that villous remodelling and barrier defects are differentially determined.

Conclusion CLE permits imaging of small intestinal epithelial barrier defects and suggests that cellular breaches are major routes of intestinal permeability but independent of villous architecture.

Disclosure of Interest None Declared.

PTU-037 DOUBLE BALLOON ENTEROSCOPY – A SINGLE AUSTRALIAN TERTIARY CENTRE EXPERIENCE

¹P Sattianayagam*, ²P Desmond, ²A Taylor. ¹Gastroenterology, Kent and Canterbury Hospital, Canterbury, UK; ²Gastroenterology, St. Vincent's Hospital, Melbourne, Australia

10.1136/gutjnl-2014-307263.111

Introduction Double balloon enteroscopy (DBE) has revolutionised the diagnosis and therapies available in the management of small bowel diseases. There are currently no large series of its diagnostic and therapeutic capability from Australia.

Methods We evaluated the baseline demographics, diagnostic findings and therapeutic interventions of all patients undergoing DBE between 2004 and 2012 at St. Vincent's Hospital, Melbourne.

Results There were 357 procedures (218 antegrade) performed in 294 patients (152 female and 142 male). Intubation distances were greater via an antegrade route than retrograde and were even lower in those retrograde cases who had undergone prior abdominal surgery. Thirty-five patients had bidirectional DBE with complete enteroscopy in one of these cases. Indications for DBE included obscure gastrointestinal bleeding (76%), abdominal pain (13%) and diarrhoea (3%). Obscure gastrointestinal bleeding was the main indication contributing to the diagnostic yield of 46% in the entire series. This was especially prevalent in those >75 years, who typically had more cardiorespiratory co-morbidities and were also more likely to be on anti-platelet therapy or anticoagulation. An antegrade approach had a higher diagnostic yield in the series than a retrograde one (54% vs. 34%). Angiectasias were the commonest diagnosis (21% cases) and occurred more frequently in those presenting with overt haemorrhage or requiring transfusion. Polyps/mass lesions (several of which were discovered on screening of patients with polyposis syndromes) and ulcers/strictures (which were typically associated with Crohn's disease) were the other major diagnostic groups (12 and 4% cases respectively). Both were more prevalent in younger patients. A retrograde approach was better for diagnosis of ulcers/strictures. The therapeutic yield in the entire series of 23% was noticeably better via an antegrade approach and in the elderly. Haemostasis of angiectasias was the commonest therapy (19% cases in the whole series) followed by polypectomy and stricture dilatation (4 and 2% cases in the series respectively), which potentially obviated the need for surgery.

Conclusion DBE is a major contributor to the management of small bowel disease in an Australian population. Obscure gastrointestinal bleeding is the main indication with better diagnostic and therapeutic yields in the elderly and when there is overt haemorrhage or transfusion requirement. An antegrade approach is more useful in these patients unlike in those with ulcers and strictures, who typically had Crohn's disease and were younger and in whom a retrograde approach was more

beneficial. With its diagnostic and therapeutic capability DBE should be contemplated in small bowel disease in the setting of a multidisciplinary approach.

Disclosure of Interest None Declared.

PTU-038 PROLONGED OVERT OBSCURE GASTROINTESTINAL BLEEDING – A “REAL WORLD” EXPERIENCE

¹P Sattianayagam*, ²P Desmond, ²A Taylor. ¹Gastroenterology, Kent and Canterbury Hospital, Canterbury, UK; ²Gastroenterology, St. Vincent's Hospital, Melbourne, Australia

10.1136/gutjnl-2014-307263.112

Introduction Prolonged overt obscure gastrointestinal bleeding (OGIB) after an initial normal oesophagogastroduodenoscopy and colonoscopy can be difficult to manage. “Real-world” studies with all of the endoscopic (capsule endoscopy, device-assisted enteroscopy), radiological (radionuclide red cell scan, CT angiography and angiographic embolisation) and surgical interventions or therapies are lacking.

Methods We studied the investigation and treatment of such patients, requiring transfusion with ≥ 1 inpatient stay of 7 days between 2004 and 2012 at St. Vincent's Hospital and Epworth Eastern Hospital, Melbourne, Australia.

Results Twenty-eight patients presented at a median age of 67.5 years. The median blood transfusion requirement per patient from symptom presentation to diagnosis or census was 26 units. Anti-platelet and anticoagulation therapy was taken by 50% patients. Twenty-four had diagnoses made (21 small and 3 large intestinal). These included angioectasias in 8 patients (6 small and 2 large bowel) who were >65 years and six of whom were taking anti-platelet therapy for cardiac disease; portal hypertensive enteropathy/ small bowel varices in four patients who were <60 years; and small intestinal tumours in 5 patients (2 gastrointestinal stromal tumours and 3 carcinoid tumours), the latter of which needed surgery for diagnosis and treatment in all cases. Repeat gastroscopy allowed histoacryl glue injection of peri-anastomotic varices in one case and repeat colonoscopy permitted treatment of angioectasias in two elderly patients. Radionuclide red cell scans had the highest radiological diagnostic yield (51%) but were beneficial only in conjunction with other tests. CT angiography (diagnostic yield 30%) resulted in successful angiographic embolisation in 3/9 cases (a small intestinal angioectasia and bleeding associated with colonic diverticula and a pancreaticoduodenal artery pseudoaneurysm). Capsule endoscopy had the highest endoscopic diagnostic yield (53%). In two patients repeat examination was diagnostic (an angioectasia and a gastrointestinal stromal tumour). Antegrade double balloon enteroscopy had the best enteroscopic yield (31%). In 2 cases it allowed argon plasma coagulation of small intestinal angioectasias, which were missed by prior enteroscopy. Surgery had a diagnostic and therapeutic yield of 60%.

Conclusion Prolonged overt OGIB is difficult to manage. There may be clues to the underlying diagnosis from the history and clinical features. Capsule endoscopy is a good first-line test, which can guide enteroscopy. Similarly CT angiography can guide angiographic embolisation. Surgery is best as a last resort but is not always productive. Management should be individualised with consideration given to repeating investigations.

Disclosure of Interest None Declared.

PTU-039 SHOULD MR ENTEROGRAPHY BE THE PREFERRED SURVEILLANCE MODALITY COMPARED TO SMALL BOWEL CAPSULE ENDOSCOPY IN PEUTZ-JEGHER'S SYNDROME?

¹R Rameshshanker*, ²A Gupta, ³A O'Rourke, ⁴S Clark, ⁴R Phillips, ¹C Fraser. ¹Wolfson Endoscopy Unit, St Mark's Hospital, London, UK; ²Radiology, St Mark's Hospital, London, UK; ³Wolfson Endoscopy Unit, St Mark's Hospital, London, UK; ⁴Polyposis Registry, St Mark's Hospital, London, UK

10.1136/gutjnl-2014-307263.113

Introduction Peutz-Jeghers syndrome (PJS) causes multiple hamartomatous polyp formation throughout the gastrointestinal tract. Large polyps within the small bowel (SB) may cause complications and morbidity including obstruction, bleeding, an increased risk of cancer and post surgical adhesional disease. Regular surveillance and removal of large polyps are important to prevent complications from occurring.

Methods The aim of our study was to assess the utility of SB capsule endoscopy (SBCE) compared with MR enterography (MRE) for the detection of small bowel PJS polyps.

We performed a retrospective review of all adult PJS patients under the care of the St Mark's Polyposis Registry between 2006–2012. Participants' MRE and SBCE findings, enteroscopy reports and case notes were reviewed. Polyps >10 mm were regarded as clinically relevant. Large polyps (>15 mm) resected at push enteroscopy (PE), double balloon enteroscopy (DBE) or intraoperative enteroscopy (IOE) were correlated in terms of size, location, number and need for resection with both MRE and SBCE findings.

Results 95 patient episodes involving 83 patients (median age 38yrs, 60% female) were included. SBCE was performed in 78 patient episodes, either alone ($n = 29$) or prior to MRE ($n = 49$). Reasons for MRE post SBCE were: previous study involvement ($n = 19$), post-polypectomy reassessment ($n = 10$), persistent symptoms ($n = 9$) and confirmation of significant polyp findings ($n = 11$). There was no significant difference between patients in whom >10 mm polyps were detected (77 vs. 106 for SBCE and MRE, respectively; $p = 0.124$). In 6 patients, large polyps (>15 mm) not detected at SBCE, were identified at MRE. Endoscopic removal of large polyps was performed during 63 patient episodes. 22 patients episodes did not require polypectomy. DBE's were incomplete due to failure of deep intubation in 7 patients (19%) but 4 of these patients subsequently underwent laparoscopic assisted DBE and successful polypectomy.

Concordance with DBE findings for polyp size for SBCE vs. MRE was 61% and 79%, respectively ($p = 0.18$). Concordance with DBE findings for polyp location for SBCE vs. MRE was 79% and 92%, respectively ($p = 0.76$).

Conclusion MRE appears at least as effective as the current iteration of SBCE for small-bowel polyp surveillance in adults with PJS. MRE may be less prone to missing large polyps and more accurate in polyp size assessment and localisation and in post-polypectomy reassessment of the SB.

Disclosure of Interest None Declared.

PTU-040 FIVE YEAR OUTCOMES FOR PATIENTS UNDERGOING ENDOSCOPIC THERAPY FOR BARRETT'S RELATED NEOPLASIA FROM THE UNITED KINGDOM'S LARGEST SINGLE CENTRE EXPERIENCE

^{1,2}RJ Haidry*, ¹M Banks, ¹A Gupta, ²M Butt, ¹M Rodriguez-Justo, ¹M Novelli, ^{1,2}L Lovat. ¹UCLH, London, UK; ²NMLC, UCL, London, UK

10.1136/gutjnl-2014-307263.114