

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

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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

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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