post-transplant group. Paired pre and post-operative data were available for eight patients: function scores improved significantly for general health (p=0.04**). Improvements in physical function, social functioning, emotional role limitations, energy/fatigue, emotional well-being and pain were seen but this did not reach statistical significance. Physical role limitation was the only function to decline. Of the eight pairs, two patients had significantly better overall scores post transplant (p=0.02, p=0.01**) and four had improved overall scores not reaching statistical significance. *independent T test **Wilcoxon signed rank.

**Conclusion** In this small experience there was an overall trend for better quality of life after transplantation, but certain QOL parameters appear to improve more than others. If quality of life is to be an indication for transplantation it will be important to select patients on the basis of quality of life parameters that are known to improve after transplantation. Longer term and larger studies are required.

**Competing interests** None declared.

PTU-151 SMALL BOWEL ULTRASOUND: DIAGNOSTIC YIELD IN ESTABLISHED SMALL BOWEL CROHN’S DISEASE
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**Introduction** Crohn’s disease is an intestinal inflammatory disorder which frequently involves the small intestine. Accurate localisation of disease is important to direct targeted therapy. Video capsule endoscopy (VCE) has revolutionised clinical assessment of small intestinal Crohn’s disease. Small bowel ultrasound (SB USS) is a rapid, inexpensive, interactive and non-invasive alternative method for assessing small bowel Crohn’s disease, which is in routine use only at selected UK institutions. We evaluated the diagnostic yield of SB USS in VCE determined Crohn’s disease.

**Methods** A retrospective assessment of patients who had undergone VCE in 2008—2010 was carried out. Patients investigated for suspected small bowel Crohn’s disease, or who had findings of small bowel Crohn’s on VCE were included, if they had also had a SB USS within 12 months. VCE findings were graded as mild (apthous ulcers only), moderate (apthous ulcers with mucosal distortion) or severe (aphthous ulcers with mucosal distortion and strictures/stenosis). SB USS was graded positive or negative for small bowel Crohn’s disease. Both assessments were single operator. Either investigation could predate the other. Results were expressed as sensitivity, specificity, positive and negative predictive value (PPV and NPV) of SB USS compared with VCE for detection of small bowel Crohn’s. Sub-analysis of SB USS findings for VCE-defined severity of small bowel Crohn’s disease was carried out.

**Results** 196 VCE procedures were reviewed, of which 22 fulfilled the inclusion criteria. 10 patients had SB Crohn’s on VCE; this was detected in four patients by SB USS (sensitivity 40%). 12 patients had no evidence of SB Crohn’s on VCE; none of these had SB USS findings of Crohn’s disease (specificity 100%). Of 18 patients with no evidence of SB Crohn’s on SB USS, VCE findings of Crohn’s disease were apparent in 6 patients (negative predictive value 67%); however, all patients with positive findings of Crohn’s disease on SB USS had evidence of SB Crohn’s on VCE (positive predictive value 100%). Sub-analysis for severity of inflammation on VCE was carried out. Of 4 patients with positive findings at SB USS, 3 were severe and one moderate on VCE. One patient with severe Crohn’s on VCE was missed by SB USS; however, the patient’s body habitus was unfavourable.

**Conclusion** SB USS has excellent positive predictive value (100%) and specificity (100%) for detection of SB Crohn’s disease, with only moderate negative predictive value (67%). In addition, all detected cases were moderate or severe, which may complicate VCE. It therefore seems a safe, quick, relatively cheap initial investigation in expert hands, which may obviate more costly, invasive investigations. A prospective evaluation of these diagnostic modalities should be carried out.

**PTU-152** SIGNIFICANT IMPROVEMENTS IN ABDOMINAL PAIN AND BOWEL SYMPTOMS IN A PHASE 3 TRIAL OF LINACLIDOTE IN PATIENTS WITH IRRITABLE BOWEL SYNDROME WITH CONSTIPATION (IBS-C): A EUROPEAN PERSPECTIVE
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**Introduction** Linaclotide, a minimally absorbed guanylate cyclase-C agonist, was evaluated in a Phase 3 trial. To fulfil EMA submission requirements, the efficacy, safety and effects of withdrawal of linaclotide 290 µg in patients with IBS-C were assessed.

**Methods** In a randomised, double-blind, placebo (PBO)-controlled trial, IBS-C patients (modified Rome II criteria), with an average of <3 complete spontaneous bowel movements (CSBM)/week (wk), <5 spontaneous bowel movements (SBM)/wk and abdominal pain ≥3 (0—10 scale) during a 2-wk baseline period, received oral, once-daily linaclotide or PBO for a 12-wk treatment period (TP). In a 4-wk randomised withdrawal period (RWP), linaclotide-treated patients were re-randomised to receive linaclotide or PBO, and PBO-treated patients to receive linaclotide.

**Results** 800 patients (median age 44; female 90.5%) received linaclotide (n=405) or PBO (n=395). For the first co-primary parameter (≥30% reduction from baseline in mean abdominal pain or discomfort score for ≥6 of the 1st 12 wks with neither score worsening), 54.8% of linaclotide-treated patients and 41.8% of PBO-treated patients responded (p=0.0002). For the second co-primary parameter (patients “considerably relieved”/“completely relieved” on the weekly degree-of-relief of IBS symptoms question for ≥6 of the 1st 12 wks), 37.0% of linaclotide-treated patients and 18.5% of PBO-treated patients responded (<p=0.0001). Linaclotide significantly improved all secondary parameters (including CSBM frequency rate, stool consistency, bloating and severity of straining) vs PBO (except wk 12 EQ-5D VAS; p=0.06). Improvements occurred in wk 1 and were sustained throughout the TP. During the RWP, patients continuing linaclotide had sustained efficacy in abdominal pain/discomfort response and IBS degree-of-relief response, and patients switched to PBO had symptom recurrence to the level of PBO during treatment. In patients initially treated with PBO and switched to linaclotide, abdominal pain improved to the level of linaclotide patients during the TP. Similar trends were seen in other abdominal/bowel parameters. Diarrhoea was the most common AE, causing discontinuation in 5.7% of linaclotide-treated patients and 0.3% of PBO-treated patients.

**Conclusion** In patients with IBS-C, linaclotide significantly improved all primary and secondary abdominal pain and bowel symptom parameters with no evidence of rebound on stopping treatment.

**Competing interests** E M Quigley Consultant for: Ironwood Pharmaceuticals, A J Lembo Grant/Research Support from: Ironwood Pharmaceuticals, Consultant for: Ironwood Pharmaceuticals/Salix/Prometheus/Akermes/Andelys/GSK/Theravance, Conflict with: Lecture fees from Ironwood Pharmaceuticals, C Diaz Employee of.
**PTU-154** INVESTIGATION OF THE OPTIMAL DURATION OF THE GLUCOSE HYDROGEN METHANE BREATH TEST
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2. Inflammatory Bowel Disease and Coeliac state there is a definite increased risk of fracture in these conditions and recommend DEXA scanning after introduction of gluten free diet in subgroups of patients where the risk of osteoporotic fracture is high. A 10-year risk of major osteoporotic and hip fracture using the WHO Fracture Risk Assessment Score (FRAX) can be calculated in patients with coeliac disease and this score mapped to the National Osteoporosis Guideline Group (NOGG) assessment tool may be better to decide the need for a DEXA scan.

**Methods**

The aim of this study was to determine if the WHO FRAX can be used to screen patients with Coeliac disease to decide who needed a DEXA scan, and make pathways more cost effective. A retrospective analysis of all duodenal biopsies in our Trust between June 2010 and April 2011 was undertaken and 50 de
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**Results**

Of 50 patients with a definitive pathological diagnosis of coeliac disease, 33 were female and 17 male. The median age at diagnosis was 45, with 30 (60%) of patients aged between 42 and 71 yrs, making them eligible for the FRAX score. Documentation of smoking status, alcohol history, use of corticosteroids, past medical history and family history of fracture was done for most patients. Of the 50 patients, 13 had already had a DEXA scan; in two pts a FRAX score was unable to be calculated due to information not being documented. 17 had not had a DEXA scan; seven of these were unable to be FRAX scored due to information not being documented. 11 patients had both FRAX scores and DEXA scores: 4 had T scores <−2.5, indicating eligibility for treatment of osteoporosis. In these patients FRAX scores, without a BMD measurement, ranged from 6.1% to 13% for a major osteoporotic fracture and 0.9% to 6.6% for a hip fracture. In the seven patients with T scores >−2.5, FRAX scores, without a BMD measurement, ranged from 3.1% to 9.5% for a major osteoporotic fracture and 0.2% to 1.8% for a hip fracture.

**Conclusion**

The majority of coeliac patients in this study were females, over the age of 40. Coeliac patients, over the age of 40, with FRAX scores for a major osteoporotic fracture >9.5% and for a hip fracture >1.8% may need DEXA scans and be offered osteoporosis treatment. A cost effectiveness analysis of this strategy is needed to change the current guidance.

**Competing interests** E Derbyshire: None Declared, A Dhar Speaker bureau with: several Pharmaceutical Companies, Conflict with: Honoria from Pharmaceutical and endoscopy industry.

**REFERENCES**

1. http://www.shef.ac.uk/FRAX

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