bypass, cholecystectomy), symptoms, previous tests and outcomes of BAS were reviewed. Logistic regression was performed to determine predictors of BAM.

Results Patient age range was 18–85 years, median 50 years with the majority female (76; 63%). Of the patients investigated with SeHCAT scan, 78% had had a colonoscopy, 33% an OGD and 21% a CT scan.

Only Crohn's disease and right hemicolectomy were significantly associated with BAM. The frequency and nature (steatorrhoea or watery diarrhoea) of the stool was not significantly correlated with BAM.

The number of SeHCAT tests increased from 2 in 2009 to 62 in 2012. 57 (47%) had a positive scan of who 83% were given BAS post-test and of these 52% had a good response to therapy, 23% didn't respond and 10% couldn't tolerate the BAS. 14% of patients had a trial of therapy pre-test;38% of these responded to therapy. 29% of patients given BAS weren't seen after treatment so response is unknown. Unsurprisingly of those with a negative SeHCAT scan (n = 63) only one patient had a partial response to treatment. Of these 6 were given treatment prior to their test. Only one had Crohn's disease and none had a right hemicolectomy so the trial of treatment in most was unnecessary.

Conclusion SeHCAT was often performed after many other investigations for diarrhoea. NICE guidelines suggest SeHCAT scan should be considered early in the investigation of chronic diarrhoea.

Of the SeHCAT scans performed, 57% were positive and could have prevented invasive tests if performed earlier. For patients with Crohn's disease or right hemicolectomy sensitivity and PPV was sufficiently high to warrant treatment without testing as per NICE.

REFERENCE

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Disclosure of Interest None Declared.

PTH-109 MANAGEMENT OF BILE ACID MALABSORPTION (BAM) WITH LOW FAT DIETARY INTERVENTIONS

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Introduction BAM is the unrecognised cause for loose stool for 500,000 people in the UK. It is increasingly recognised as a potential cause of distressing gastrointestinal (GI) symptoms after cancer treatment. This study aims to evaluate the efficacy of low fat dietary interventions in the management of BAM.

Methods Patients with new onset GI symptoms after cancer treatment and a 7 day 23-selena-25-homocholoytaurine (SeHCAT) scan <20%, were included in a prospective service evaluation. Patients were advised on a low fat dietary intervention by a Registered Dietitian, which aimed to provide 20% of total energy from fat. Patients rated their GI symptoms using a 10 point numerical rating scale, and completed 7 day dietary diaries, before and after dietary intervention. The dietary diaries were analysed using the dietplan6 dietary analysis programme. Significance of changes in symptom scores were analysed using Wilcoxon signed-ranks test, change in dietary fat intake using a paired t-test.

Results 40 patients (20 male, 20 female) with a median age 61 (range 22–90) years were recruited. The cancer diagnoses were GI (28%), gynaecological (30%), urological (30%) and other (12%). 7.5% had borderline BAM (15–20% 7 day retention), 25% mild BAM (10–15% retention), 17.5% moderate (5–10% retention) and 50% severe (<5% retention). 62.5% of patients were taking a bile acid sequestrant. Symptoms reported were urgency (83%), bloating (43%), increased frequency (43%), lack of control (40%), abdominal pain (38%), nocturnal defaecation (28%), incomplete evacuation (25%) and greasy/pale stools (23%). After dietary intervention, the mean scores for all symptoms decreased. There was a significant reduction in mean ratings for urgency, bloating, lack of control, bowel frequency ($p = <0.01$), flatulence, abdominal pain, greasy/pale stool and abdominal gurgling ($p = <0.05$). Mean dietary fat intake reduced from 62.3 g of fat before dietary intervention to 42.2 g of fat after intervention ($p = <0.01$). There was no statistically significant change in dietary fibre intake.

Conclusion The use of low fat dietary interventions in patients with a SeHCAT scan <20% leads to clinically important improvement in GI symptoms and should be widely used.

Disclosure of Interest None Declared.

PTH-110 FACTORS PREDICTIVE OF BILE ACID DIARRHOEA AND LONG TERM TREATMENT OUTCOMES

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Introduction Bile acid diarrhoea (BAD) is a recognised cause of chronic diarrhoea, however detection remains sub-optimal. Knowledge of factors predictive of BAD could help improve detection. This study evaluates factors predictive of BAD (7 day SeHCAT retention <10%) and determines long treatment outcomes in those instigated on medical therapy.

Methods 515 patients underwent a SeHCAT test in a University hospital (2001–2012). Of these 41% (210/515) had evidence of BAD. Demographic data, clinical and biochemical indices were collected in all patients tested. Binary logistic regression was then used to determine factors predictive of BAD. 107 of the 210 (51%) patients with BAD were diagnosed between 2001–2009 and commenced on bile acid sequestrants.[1] In March 2013, these patients (n = 107) were re-contacted and reassessed either in a gastroenterology clinic or via telephone consultation, determining their bowel frequency, current symptoms, response to bile acid sequestrants and whether on continuing treatment. Comparisons were made in pre and post treatment variables using a paired sample t-test.

Results Binary Logistic regression identified only terminal ileal Crohn's, terminal ileal resection, previous small bowel surgery and cholecystectomy as predictors of BAD ($p < 0.0001$). With regards to follow up, 54% (58/107) of patients (median age 57 years, range 29–74 years, 42 females) were contactable and agreeable to follow up assessment. The mean time since diagnosis of BAM was 7.1 years, with a mean result of 3.6% at diagnosis. 38% (22/58) of patients were still on bile acid sequestrants at follow up, with 28% using alternative anti-diarrhoeal agents. In those who were on bile acid sequestrant therapy, mean stool frequency decreased from 7.3 stools per day to 3.9 ($p < 0.0001$). The 34% (20/58) of patients not receiving medical

therapy had no change in their daily bowel frequency (7.0 vs 5.35, p = 0.40). The main reason for discontinuing medical therapy in this group was poor tolerability of the prescribed bile acid sequestrant (Colestyramine/ Colestipol). Crohn's disease was the only alternative diagnosis established in 10% (2/20), accounting for potential persisting symptoms.

Conclusion This is the first longitudinal study to assess patients with BAM and identifies factors predictive of this condition. Our findings suggest BAM is a chronic condition, which best improves with bile acid sequestrants. Given the problems with tolerability of older bile acid sequestrants, consideration should be given to Colsevalam, which may have a better tolerability profile.

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Disclosure of Interest None Declared.

PTH-111 "NON CELIAC GLUTEN SENSITIVITY" (NCGS) IS UNCOMMON IN PATIENTS SPONTANEOUSLY ADHERING TO GLUTEN FREE DIET (GFD), AND IS OUTNUMBERED BY "FODMAPS SENSITIVITY"

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Introduction It is controversial whether symptoms in patients fulfilling the clinical criteria for NCGS[1] are specifically triggered by gluten or by cereal components other than gluten and specifically FODMAPs, or are attributable to a nocebo effect[2]. Our aim was to test assess gluten or FODMAPs dependence of symptoms in patients diagnosed as NCGS.

Methods NCGS patients referred to our Clinic were randomised to a double blind cross over study involving challenge with 10 g gluten Vs 10 g gluten free flour containing FODMAPs for 10 days each with 2 weeks wash-out in between (challenge stage). Patients were subsequently kept on a low FODMAPs diet for 8 weeks (low FODMAPs stage) Endpoints: patients were asked to indicate by symptom recurrence the gluten phase of challenge; correct identification was taken to indicate NCGS and incorrect identification accompanied by reduction of GSRS score during the low FODMAPs diet were taken to indicate FODMAPs sensitivity.

Results Twenty-five patients without celiac disease (age 42+9 years, M/F = 2/23, 10 HLA DQ2/8 positive, 13 negative, 2 unknown) on strict GFD entered the study. During the challenge stage, the gluten phase was correctly identified by 8 patients thus fulfilling criteria for NCGS (4 with HLA DQ2/8). Scores for the 3 dimensions of GSRS (pain p = 0.03; indigestion p = 0.02; and diarrhoea p = 0.02) were higher in NCGS patients during the gluten than gluten free flour challenge. Twelve patients thought they were challenged gluten while on gluten free flour indicating gluten independent symptom recurrence (gluten insensitive). GSRS scores in these patients were higher (pain p = 0.004; reflux p = 0.013; indigestion p = 0.014, constipation p = 0.014) during challenge with gluten free flour than with gluten. Five patients reported mild symptoms during both phases suggesting a nocebo effect. During the low FODMAPs stage the score of indigestion dimension (comprising borborygmus, bloating, eructation, flatus) was significantly reduced (p = 0.011) in the gluten insensitive patients suggesting FODMAPs sensitivity. There was no significant change in the 5 dimensions of the GSRS in NCGS patients.

Conclusion We conclude that the population of patients reporting intolerance to gluten containing diet is a mixed population of NCGS and of FODMAPs sensitive patients. NCGS is uncommon and is outnumbered by FODMAPs sensitivity in patients spontaneously adhering to GFD. Distinction between these 2 conditions is clinically relevant in relation to dietary counselling.

REFERENCES

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Disclosure of Interest None Declared.

PTH-112 A SINGLE CENTRE EXPERIENCE OF TREATMENT OF REFRACTORY CELIAC DISEASE TYPE 2

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Introduction Refractory celiac disease (RCD) is a persistent malabsorption and villous atrophy despite adhering to a strict gluten-free diet (GFD) for at least 6–12 months in the absence of other cause [1]. It is a rare complication of celiac disease (CD). RCD is classified based on the T-cells in the intraepithelial lymphocyte (IEL) morphology into type 1 with normal IEL and type 2 with aberrant IEL. RCD1 is managed with strict nutritional and pharmacological management. RCD2 can be complicated by ulcerative jejunitis or enteropathy associated lymphoma (EATL), the latter having a 5-year mortality of 8–20%. It is therefore necessary to investigate and manage RCD2 which has a less predicted response and has a poor prognosis due to the associated complications. Treatment options vary due to the low incidence of RCD2 and hence the small numbers of randomised control trials.

We present a single centre's experience in the treatment of RCD2.

Methods We performed a single centre retrospective study of all cases of RCD2 using the celiac database in a single centre between 2000 and 2013. Case notes, biological and histological data were reviewed for patients with a diagnosis of RCD2 diagnosed between 2000 and 2013. All patients were treated with prednisolone, 20 mg, and azathioprine, 2 mg/kg/day with repeat small bowel biopsy and T cell receptor analysis by PCR at 4 monthly intervals.

Results Fourteen out of twenty patients with RCD2 were successfully treated with prednisolone and azathioprine to become either type 1 refractory celiac disease, in 12 patients, or celiac disease, in 2 patients, with a better 5-year survival. None of the type 2 refractory patients developed lymphoma on this treatment.

Conclusion Prednisolone combined with azathioprine can be used successfully to treat RCD2. Our experience shows it is a safe and successful approach to improve prognosis. We successfully treated 7 out of 10 patients with RCD2 with this regimen.

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Disclosure of Interest None Declared.