evaluated. Furthermore, pre-treatment structures in the microbiome were compared with structures 1 week and 2 months after treatment.

Results Alpha diversity analysis showed that both richness and evenness were recovered to pre-treatment levels at 2 months after eradication therapy. There were almost no differences in bacterial species abundance between pre- and post-treatment samples in beta diversity analysis. Although the relative abundance of *Bacteroidetes* tended to increase and *Actinobacteria* significantly decreased immediately after eradication, the taxonomic composition was similar to that pre-eradication at 2 months post-eradication. However, 2 students showed significant structural changes in their relative abundances at the phylum level.

Conclusions This study suggests a limited impact of *H. pylori* eradication therapy on the gut microbiome in healthy mid-teenagers. However, we should continuously monitor the effects of changes to the gut microbiome caused by antibiotic use.

IDDF2018-ABS-0055 THE NATURAL HISTORY OF TERMINAL ILEAL RESECTION IN CROHN'S DISEASE

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Background CD can affect any part of the GI tract, but the terminal ileum (TI) is the most common. The risk of surgery based on all population-based studies, at 1, 5, and 10 years after diagnosis of CD is 16.3%, 33.3% and 46.6% respectively. The risk of reoperation following a TI resection has been reported as 70% at 20 years based on a population of 1379 patients. A recent study comparing laparoscopic ileal resection versus infliximab found that laparoscopic ileocaecal resection results in similar quality-of-life scores and is not associated with more serious adverse. The long-term outcomes of those undergoing ileal resection have yet to be studied and may help identify risk factors for those that may require further operations.

Methods The Hospital Episodes Statistics (HES) dataset was used to identify all patients admitted to hospitals in England from 1997–2012. Time trends and multivariate logistic regression analysis was undertaken to determine factors associated with repeated resection.

Results 1 55 236 patients were identified as having CD with a median follow-up was 92 months (IQR 43–143). Of these, 18.8% (29,257) underwent TI resection. Amongst this subgroup, 11.0% (n=3,101/29,257) required more than one resection. The total number of procedures performed was 32,889, of which 56.6% (n=18,622/32,889) were right hemicolectomy/ileo-caecal resection. The median time between resections was 41 months (IQR 15–74 months). There was no significant change in the number of procedures performed each year (p=0.693). Of the total population, 7.8% (n=12,173/155,236) had Infliximab therapy.

Conclusions Nearly one in five patients will require surgical intervention over a 15 year period for CD, of those undergoing TI resection only 11% of these will require further surgery. This is the largest population-based study reporting the requirement for further surgery following TI resection and suggests that the reoperation rate is far lower than previously reported. The number of procedures performed has largely remained the same over time suggesting that medical therapy

has not altered the overall rates of further surgery following TI surgery in CD.

IDDF2018-ABS-0073 DIFFERENCES WITH EXPERIENCED NURSE ASSISTANCE DURING COLONOSCOPY IN DETECTING POLYP AND ADENOMA: A RANDOMISED CLINICAL TRIAL

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Background This study aims to evaluate whether the participation of an experienced endoscopy nurse in colonoscopy increases the polyp detection rate (PDR) and adenoma detection rate (ADR) of experienced colonoscopists.

Methods This study was a randomised controlled trial (ClinicalTrials.gov No. NCT02292563). Patients were randomly assigned to the experienced colonoscopist alone (single observer) group or experienced nurse participation (dual observer) group. The primary outcome was the PDR and ADR. The advanced lesions detection rate was also recorded.

Results A total of 587 patients were included in the analysis. Among these patients, 291 patients were assigned to the single observer group, while 296 patients were assigned to the dual observer group. The PDR was 33% in the single observer group and 41.9% in the dual observer group (p=0.026), while the ADR was 23.0% in the single observer group and 30.4% in the dual observer group (p=0.043). No significant difference was found for advanced lesions between groups.

Conclusions The present data demonstrated that experienced nurse observation during colonoscopy could improve polyp and adenoma detection rates, even if the colonoscopist is experienced.

IDDF2018-ABS-0076 OPTIMISED 14-DAY LEVOFLOXACIN SEQUENTIAL VERSUS 10-DAY BISMUTH QUADRUPLE THERAPY CONTAINING HIGH DOSE ESOMEPRAZOLE IN THE SECOND-LINE AND THIRD-LINE TREATMENT OF HELICOBACTER PYLORI – A MULTICENTER RANDOMISED TRIAL

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Background We aimed to compare the efficacy of 14 day levofloxacin sequential therapy versus 10 day bismuth quadruple therapy in the second-line and third-line treatment of *Helicobacter pylori* (*H. pylori*) infection.

Methods *H. pylori* infected patients who failed after one treatment were eligible in this open labelled, multicenter, randomised trial, and were randomised to receive (1) levofloxacin sequential therapy (EAML): esomeprazole 40 mg and amoxicillin 1 g for the first 7 days, followed by esomeprazole 40 mg, metronidazole 500 mg, and levofloxacin 250 mg for another 7 days (all twice daily); or (2) bismuth quadruple therapy (BQ): esomeprazole

40 mg twice daily, bismuth tripotassium dicitrate 300 mg four times a day, tetracycline 500 mg four times a day, and metronidazole 500 mg three times a day, for 10 days. The primary end point was the eradication rate in the second-line treatment according to intention to treat (ITT) analysis. The minimum inhibitory concentrations were determined by agar dilution test.

Results The results were available for analysis in 398 patients up to Dec, 2017. The preliminary eradication rate in the EAML and BQ groups were 88.9% (169/190) and 91% (172/189), respectively ($p=0.505$) in the ITT analysis, and were 89.9% (169/188) and 96.1% (172/179) in the PP analyses, respectively ($p=0.021$) in the second line treatment. The efficacy of levofloxacin sequential therapy, but not bismuth quadruple therapy, appeared to be affected by levofloxacin resistance. In the third-line therapy, the eradication rate of EAML was 60% (3/5) for patients who failed after bismuth quadruple therapy. The eradication rate of BQ was 80% (12/15) for patients who failed after levofloxacin sequential therapy. The cumulative eradication rates were 95.3% (181/190) and 92.6% (175/189) in the EAML (2nd)-BQ(3rd) and the BQ(2nd)-EAML (3rd) groups ($p=0.276$). The frequencies of adverse effects were 42.8% (62/145) and 81.9% (118/144) in patients treated with EAML and BQ, respectively ($p<0.001$).

Conclusions Levofloxacin sequential therapy and bismuth quadruple therapy are similarly effective in the second-line treatment for *H. pylori* infection. (Trial registration number: NCT NCT03148366).

IDDF2018-ABS-0220 FAECAL MICROBIOTA TRANSPLANTATION FOR MAINTENANCE OF CLINICAL REMISSION IN PATIENTS WITH ACTIVE ULCERATIVE COLITIS: A RANDOMISED CONTROL TRIAL

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Background Though faecal microbiota transplantation (FMT) has been shown to be efficacious for induction of remission in patients with active UC, the long-term clinical outcomes after initial response have not been assessed.

Methods This single-blind, randomised, placebo-controlled trial was conducted at Dayanand Medical College and Hospital, India. Patients with active UC (Mayo score 4–10) who achieved clinical remission with multi-session FMT (0, 2, 6, 10, 14, 18 and 22 weeks) were randomly allocated in a 1:1 ratio to either maintenance FMT or placebo colonoscopic infusion every 8 weeks till 48 weeks. The primary endpoint was the maintenance of steroid-free clinical remission (Mayo score ≤ 2), and secondary endpoints were the achievement of deep remission (clinical and endoscopic remission, i.e. endoscopic Mayo score 0) and histological remission (Nancy grade 0, 1) at the end of 48 weeks. Clinical disease activity and adverse events were assessed at each visit or earlier in case of worsening of symptoms. The analysis was done by intention-to-treat and included all patients who underwent one session of FMT after initial clinical remission at week 22.

Results Forty-three of 78 patients treated with multi-session FMT achieved clinical remission, 22 of these were randomly

assigned to receive FMT and 21 received placebo, colonoscopically every 8 weeks. The primary outcome was achieved in 19/22 (86.4%) patients allocated FMT versus 14/21 (66.7%) patients assigned placebo ($p=0.126$). Secondary end-points of deep remission [18/22 (81.8%) with FMT versus 8/21 (38.1%) with placebo $p=0.003$] and histological remission [12/22 (54.5%) with FMT versus 3/21 (14.3%) with placebo $p=0.006$] were achieved in a significantly higher number of patients with FMT. Two patients receiving FMT and 5 patients on placebo relapsed. All relapses were treated with steroids. There were no serious adverse events necessitating discontinuation in patients on FMT, 1 patient who relapsed on placebo required colectomy.

Conclusions Maintenance therapy with FMT is required in patients who had earlier been treated with FMT for induction of remission. Moreover, FMT also enhances achievement of deep and histological remission.

Clinical Hepatology

IDDF2018-ABS-0058 EARLY NORMALISATION OF ALANINE AMINOTRANSFERASE (ALT) AFTER NUCLEOS(T)IDE ANALOGUE TREATMENT REDUCES THE RISK OF HEPATOCELLULAR CARCINOMA (HCC) IN PATIENTS WITH CHRONIC HEPATITIS B – A TERRITORY-WIDE STUDY OF 21,182 SUBJECTS

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Background We aimed to evaluate the impact of alanine aminotransferase (ALT) normalisation (ALTn) achieved at different time after the start of antiviral treatment on the risk of hepatocellular carcinoma (HCC) in patients with chronic hepatitis B (CHB).

Methods We identified a territory-wide cohort of CHB patients who received entecavir and/or tenofovir disoproxil fumarate (TDF) for ≥ 1 year between 2005 and 2016 in Hong Kong. Serial on-treatment ALT levels were analysed. ALTn referred to ALT level lower than the upper limit of normal (ULN) (30 U/L in males and 19 U/L in females). Early ALTn was defined as ALTn within 12 months. The primary outcome was HCC based on ICD-9-CM diagnosis codes. Patients with cancers previously or during the first year of treatment were excluded.

Results 21,182 CHB patients (10 437 with and 10 745 without ALTn at 12 months after antiviral treatment) were identified and followed for a median (interquartile range) of 4.1 (2.4–6.0) years. Patients with or without ALTn at 12 months differed in gender distribution (76.9% vs. 58.4% male), baseline ALT (58 vs. 61 U/L), baseline serum HBV DNA (4.9 vs. 5.1 log₁₀IU/mL), proportion of positive hepatitis B e antigen (31.5% vs. 37.1%), and presence of cirrhosis (8.8% vs. 10.5%) and diabetes mellitus (8.1% vs. 9.1%); 509 (2.4%) patients developed HCC. ALTn at 3, 6, 9 and 12 months