receiving different induction dosing regimens of infliximab. However, using propensity score matching, the short-term colectomy rates appear to be better in those receiving accelerated induction regime. A prospective study to confirm findings is planned.

Abstracts of Distinction

ATH-07

PRE-MORBID DEPRESSION AMONGST INDIVIDUALS SUBSEQUENTLY DEVELOPING INFLAMMATORY BOWEL DISEASE: A POTENTIAL CO-FACTOR MEDIATING DISEASE ONSET?

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Introduction Patients with depression are at higher risk of later being diagnosed with Inflammatory Bowel Disease (IBD). Some speculate depression results in a pro-inflammatory state, predisposing to the development of IBD. An alternative explanation may be that patients experience undiagnosed gastrointestinal (GI) symptoms for long periods of time, during which they become depressed before receiving a delayed diagnosis of IBD. We aimed to determine if rates of depression are higher in individuals who subsequently develop IBD compared to the background population after adjustment for GI symptoms.

Methods Using a nationally representative research database, we identified incident cases of IBD diagnosed from 1998–2016. A non-IBD control group was matched 4:1 for age and sex. Our primary outcome measures were the prevalence of depression, antidepressant medication (ADM) use and GI symptoms in the year of IBD diagnosis and each of the ten years before. Controls were assigned the IBD diagnosis date of their matched IBD patient as a pseudo-diagnosis date. We used multivariable logistic regression to determine the risk of having depression and/or using an ADM in each of the ten years before IBD diagnosis/pseudo-diagnosis among IBD patients compared with controls. To prevent confounding by delayed of IBD we adjusted for the presence of GI symptoms in that year. Other covariates included age, sex, socioeconomic status and smoking status.

Results We identified 19555 cases of IBD and 78114 non-IBD controls. Depression was more prevalent among IBD patients

compared with controls even 9 years prior to diagnosis (2.1% vs 1.8%, $p=0.03$). There was an excess of ADM use among IBD patients compared with controls as long as 9 years before diagnosis (4.9% vs 4.4%, $p=0.03$). GI symptoms were more common among IBD patients even 10 years before diagnosis (6.3% vs 4.4%, $p<0.01$). Multivariable regression demonstrated patients who went on to be diagnosed with IBD were more likely to use ADMs as far as 7 years before diagnosis (OR 1.12, 95%CI 1.02–1.22, $p=0.01$).

Conclusions This is the first study to demonstrate the higher prevalence of depression and ADM use in IBD patients as long as 9 years before diagnosis. Some patients have GI symptoms up to a decade before receiving a diagnosis of IBD, suggesting delayed diagnosis is longer and more common than previously believed. Even after adjusting for the presence of GI symptoms, the higher risk of ADM use significantly predates IBD diagnosis, suggesting depression may play a part in mediating the onset of IBD.

ATH-08

THE LARGEST SINGLE-CENTRE EXPERIENCE WITH STENT THERAPY IN CROHN'S DISEASE – A REPORT ON OUTCOMES

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Introduction Intestinal strictures in Crohn's disease (CD) produce significant morbidity and are the commonest indication for surgery. Removable stent therapy is emerging as an effective, low complication, stricture resolution technique. (Das et al. 2018, Attar et al 2017) We present the clinical outcomes of the largest, single centre series, of CD patients undergoing removable 'self-expanding-metal-stent'(SEMS) therapy for stricture resolution.

Methods Symptomatic CD patients were assessed with MR enterography. Short (≤ 6 cm), fibrotic, ileocolonic and anastomotic strictures were approved for stent therapy from an IBD MDT setting. Strictures were assessed, and only endoscopically impassable strictures treated. Inaccessible or inflammatory strictures were excluded. The Hannaro Diamed 'HRC-20-080-230', partially covered SEMS was deployed under endoscopic and fluoroscopic guidance. Stent retrieval occurred at 6–10 days post insertion. Clinical IBD data was collected. Post-

Abstract ATH-07 Figure 1 Prevalence of depression before IBD diagnosis compared with controls

Male / Female		45% / 55%
Average Age of Diagnosis (of 20)		33.4 (Range 14 to 50)
Average Disease Duration (Years - Up to Year of Stenting - of 20)		17.45
Average Age at Stenting (of 20)		47.65
Total Stents / Total Patients		22 Stents / 20 Patients
Anastomotic Strictures Treated (of 20)		18 (90%)
Smoking history (of 20)	Non-smoker	10 (50%)
	Current	4 (20%)
	Former	6 (30%)
Disease Extent (of 20)	Large Bowel	8 (40%)
	Small bowel	20 (100%)
	Perianal	1 (5%)
Medication at time of Stent (of 20)	Anti-TNF - IFX / Humira	8 (40%)
	Thiopurine	5 (25%)
	Methotrexate	0 (0%)
	Other	2 (10%)
Duration of Current Medication (Cacluation Up to time of stenting - of 13)		Months 16.6 (Range 3 - 48)
Family History of IBD (of 20)		6 (30%)
Sugical History - Colorectal (of 20)	Right Hemicolectomy	13 (65%)
	Other	9 (45%)
	Median Surgeries	1.5
Symptom Resolution or Improvement (of 13)		11 (84.6%)
CDAI Post Stent Therapy (of 14)		82
HBI Post Stent Therapy (of 14)		6
Remission Post Stenting (CDAI - of 14)		12 (85.7%)
Adverse Event (of 22 Stents)	5 Total	
	3 Asymptomatic Stent Migration / 2 Admissions with pain	
Re-Intervention within 12 months (of 20 patients)		1
Type		Restenting
Surgery Within 24 months of Stenting (of 20 patients)		0 (0.0%)

Abstract ATH-08 Figure 1

stenting follow-up was conducted, and therapeutic success assessed with validated tools (CDAI/HBI).

Results Twenty-six patients were considered for stenting. Six patients were excluded based on endoscopic criteria. Twenty-two stents were placed for 20 patients. Stent deployment and retrieval was successful in 100% of cases when attempted. Ninety percent (18 of 20) of strictures were anastomotic. Patient characteristics are detailed in figure 1. Symptom improvement or resolution was noted in 84.6% of patients at follow up. Re-stenting was needed in two patients, with a

single repeat procedure required within 12 months. Across all stenting episodes 5 adverse events were noted (2 episodes of stent related discomfort/3 asymptomatic stent migrations). There were no bleeding events, perforations or any need for emergency surgery. None of the cohort have required stricture related surgery on extended follow up (Range: 2 – 42 months).

Conclusions In this series, removable SEMS therapy for ileocolonic CD strictures was found to be technically successful and clinically efficacious. The absence of perforation events and

the complete lack of need for any stricture related surgery are both notable. The apparent efficacy, safety, long term benefit and low re-intervention rate with SEMS therapy in CD, merits further large-scale trial investigation in direct comparison with other modalities.

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ATH-09

METABOLOMICS & MULTI-OMICS ANALYSIS OF CROHN'S DISEASE

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Background Faecal metabolomic studies show that CD patients have specific volatile organic compounds (VOCs) profiles different from healthy subjects. Integration of metabolomics with bacterial and fungal data is now possible and allows the correlation of metabolites and the microorganisms that are likely involved in their production. We present metabolomics data from a cohort of CD patients and integrate this with microbiome data to assess which microorganisms are likely active in the disease.

Methods Stool samples from 43 donors (23 CD and 20 controls) were analysed. Briefly, gases from 450–500 mg faecal aliquots were analysed by headspace, solid phase micro extraction gas chromatography/mass spectrometry. Data were interpreted using AMDIS with NIST reference library. Statistical analysis was performed in Metaboanalyst. VOCs data were then integrated with bacterial 16S rRNA and fungal 18S rRNA data from the same cohort with DIABLO (MixOmics). This uses supervised analysis to highlight signature features and to identify correlated variables.

Results Analysis of VOCs showed that CD patients formed a separate cluster and several metabolites were increased in CD including VOCs related to fungi: 3,7-dimethyl-1,6-octadien-3-ol and octanal. Branched chained fatty acids were also increased in CD, along with esters, butanoic acid, nonanal and indole. Multi-omics integration analysis comparing CD and controls showed that branched-chain fatty acids (high in CD) were correlated with gut fermenters, mainly Firmicutes. A second comparison saw CD active (n= 11) vs controls (n=20). Correlation of signature variables showed that OTUs assigned to Saccharomycetales yeasts and a mould (*Aspergillus*) were correlated to fungal metabolites (heptanal and 3,7-dimethylocta-1,6-dien-3-ol), supporting a possible role of fungi in active CD. These fungi were also correlated to Clostridiales and Enterobacteriales. This last model gave interesting results, however, the unbalance in number of samples between the two categories contributed to give a balanced error rate (BER) of the model relatively high (≈45%), therefore these data are not definitive.

Conclusion This is the first study to integrate metabolomics, microbiome and mycobiome data in CD: its potential is evident. We were able to pinpoint which microorganisms are likely active in disease and understand which produce metabolites of interest. The metabolomics data are consistent with

earlier literature. The correlation of fungi metabolites with fungal species is also very relevant. The high BER does not allow us to draw definite conclusions and further studies, with larger cohorts, are required. However, we can say that fungi are very likely to be active during relapse.

ATH-10

VEDOLIZUMAB FOR REFRACTORY CROHN'S DISEASE (CD) IN ADOLESCENTS: EXPERIENCE FROM TWO UK IBD CENTRES

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Introduction There is an increasing incidence of CD in adolescents and young persons (AYP). Whilst anti-TNF use in AYP is well established, little is reported on the efficacy and safety of vedolizumab. We describe our multicentre experience.

Methods Data was retrospectively collected on 14–23yr olds starting vedolizumab at University College London Hospital (UCLH) and The Royal London Hospital (RLH) from June 2015–18. Endpoints were: clinical (i) response (reduction in Harvey Bradshaw Index (HBI) of ≥ 3 or sustained HBI ≤ 4 points) (ii) remission (HBI ≤ 4 points), and biological (i) response (50% reduction in CRP) and (ii) remission (CRP < 5 mg/L where baseline CRP > 5 mg/L) at weeks 14, 30 and 54.

Results Table 1 summarises the baseline characteristics of 35 AYP commenced on vedolizumab. 34 patients were included in the analysis at week 54. 28 patients who received induction treatment commenced 8 weekly maintenance infusions at week 14. Overall 28 patients had stopped treatment before week 54 (including 14 for primary non-response and 7 for loss of response). The median time to stopping vedolizumab was 7 months (IQR 4–29, 95%CI 5–10).

Analysing paired data only, mean (sd) HBI showed a downward trend from baseline to week 14, and was significantly decreased from baseline (4.5(4.3)) to week 22 (2.5(2.9), n=20, p=0.03), to week 30 (2.4(2.9), n=16, p=0.02), and week 54 (2.0(3.4), n=9, p=0.02). Mean (s.d.) CRP (mg/L) showed a downward trend from baseline to weeks 14 and 22, and was significantly decreased from baseline (17.8(16.9)) to week 30 (8.3(7.2), n=16, p=0.04). This trend was sustained but did not achieve significance at week 54 (7(6.0), n=9, p=0.2). Mean (sd) weight (kg) showed an upward trend from baseline to weeks 14 and 22 and was significantly increased from baseline (61.5(11.7)) to week 30 (65.6(12.4), n=13, p=0.004), and week 54 (66.3(15.5), n=9, p=0.006).

At weeks 14, 30 and 54, the rates of clinical (i) response and (ii) remission were (i) 56, 37 and 24% respectively and (ii) 47, 37, 24% respectively. At weeks, 14, 30 and 54, the rates of biological (i) response and (ii) remission were (i) 29, 25, and 11% respectively and (ii) 10, 15 and 9% respectively.

Conclusions We report on the use of vedolizumab in AYP at 2 tertiary IBD centres. Our experience suggests that whilst medium term (6 month) effectiveness in an anti-TNF experienced cohort is comparable with outcomes from adult and trial data, this is not sustained to a year. This may be reflective of a cohort of patients with early onset CD with a more aggressive phenotype and coexisting perianal disease. Further studies may help identify which adolescents would most benefit from vedolizumab. This is of growing importance in the face of an expanding therapeutic armamentarium in CD.