

Introduction Faecal immunochemical tests (FIT) are acceptable to a large part of the general population but used alone are poor at detecting adenomas. An ELISA which measures faecal M2-pyruvate kinase (M2-PK) has been shown to be useful for detecting colonic pathology.

Aims To prospectively compare M2-PK and FIT in screening for colonic polyps and cancer in the second round of our pilot FIT-based Colorectal cancer screening programme.

Methods The second round of our FIT pilot programme was conducted over a two year period. Patients were sent invites by post to return a FIT sample from each of two days. All participants were aged 50–74 and living locally to our hospital. As part of this round, over a six month period all invitations additionally included containers to collect a single M2-PK stool sample. All FIT's returned on time were measured locally. All M2-PK samples received within 48 hours of passing stool were frozen and analysed centrally by ScheBo Biotech AG (Germany).

All FIT positive (>100 ngHb/ml) or M2-PK positive (>4U/ml) patients were contacted and assessed for colonoscopy. All colonoscopies were conducted in the same way between both groups.

Results Over the six month period 1,800 combined M2-PK and FIT invites have been sent.

879 samples were returned and analysed for faecal M2-PK and FIT; of these 245 were positive for either one or both of these markers. After being contacted 34 (13%) of this group were excluded as they had a colonoscopy within 3 years and were all in polyp surveillance programmes.

Of the remaining patients: 30 (3.4% of 879) were FIT positive M2-PK negative; 160 (18.2%) were positive for M2-PK (>4U/ml) negative for FIT and 21 (2.3%) were positive for both markers.

In the FIT positive M2-PK negative group there were 10 patients with adenomas (adenoma detection rate 33%). In those who were M2-PK positive but FIT negative there were 34 people with adenomas (ADR 23%). Therefore these adenomas would not have been detected by relying on FIT alone. Of the remaining 21 positive for both, 6 (29%) had adenomas and another 4 (19%) had colitis/proctitis. There have not been any cancers in this group to date.

Interestingly sessile serrated adenomas were detected in 5 (4.4%) of people M2-PK positive but only two (less than 1%) in our entire FIT positive group.

Conclusion Studies have shown FIT has relatively low sensitivity for adenomas. The addition of another stool marker such as faecal M2-PK increases the detection of polyps in a screening population. A single M2-PK sample detects more adenomas than two day FIT alone. Also M2-PK appears to be more sensitive for serrated adenomas than FIT but further studies are needed to confirm this.

Disclosure of Interest None Declared

AYP symposium: surgery in adolescents

OC-072 THE MICROAEROPHILIC MICROBIOTA OF DE-NOVO PAEDIATRIC INFLAMMATORY BOWEL DISEASE: THE BISCUIT STUDY

doi:10.1136/gutjnl-2013-304907.071

¹R Hansen, ¹S Berry, ¹I Mukhopadhy, ¹J Thomson, ¹K Saunders, ¹C Nicholl, ²M Bisset, ³R Russell, ¹E El-Omar, ¹G Hold. ¹Division of Applied Medicine, Aberdeen University; ²Paediatric Gastroenterology, Royal Aberdeen Childrens Hospital, Aberdeen; ³Paediatric Gastroenterology, Royal Hospital for Sick Children, Glasgow, UK

Introduction Children presenting for the first time with inflammatory bowel disease (IBD) offer a unique opportunity to study etiological agents before the confounders of treatment. Microaerophilic bacteria can exploit the ecological niche of the intestinal epithelium; *Helicobacter* and *Campylobacter* are previously implicated in IBD pathogenesis. The aim of the study was to assess these and other microaerophilic bacteria in de-novo paediatric IBD.

Methods 100 children undergoing colonoscopy were recruited including 44 treatment naïve de-novo IBD patients and 42 with normal colons. Colonic biopsies were subjected to microaerophilic culture with Gram-negative isolates then identified by sequencing. Biopsies were also PCR screened for the specific microaerophilic bacterial groups: Helicobacteraceae, Campylobacteraceae and *Sutterella wadsworthensis*.

Results 129 Gram-negative microaerophilic bacterial isolates were identified from 10 genera. The most frequently cultured was *S. wadsworthensis* (32 distinct isolates). Unusual *Campylobacter* were isolated from 8 subjects (including 3 *C. concisus*, 1 *C. curvus*, 1 *C. lari*, 1 *C. rectus*, 3 *C. showae*). No *Helicobacter* were cultured. When comparing IBD vs. normal colon control by PCR the prevalence figures were not significantly different (*Helicobacter* 11% vs. 12%, $p = 1.00$; *Campylobacter* 75% vs. 76%, $p = 1.00$; *S. wadsworthensis* 82% vs. 71%, $p = 0.312$).

Conclusion This study offers a comprehensive overview of the microaerophilic microbiota of the paediatric colon including at IBD onset. *Campylobacter* appear to be surprisingly common, are not more strongly associated with IBD and can be isolated from around 8% of paediatric colonic biopsies. *S. wadsworthensis* appears to be a common commensal. *Helicobacter* species are relatively rare in the paediatric colon.

Disclosure of Interest None Declared

OC-073 RISKS OF MAJOR CONGENITAL ANOMALIES IN CHILDREN BORN TO WOMEN WITH INFLAMMATORY BOWEL DISEASE: A UNITED KINGDOM POPULATION-BASED COHORT STUDY

doi:10.1136/gutjnl-2013-304907.072

¹L Ban, ¹L J Tata, ¹T Card. ¹University of Nottingham, Nottingham, UK

Introduction Inflammatory bowel disease (IBD) affects women during the most fertile period of life. Previous studies of pregnant women with IBD on the risk of major congenital anomalies have inconsistent results due to diverse study populations and small sample sizes.

Methods We identified all singleton live births to women aged 15–45 between 1990 and 2010 from a large UK primary care database. We grouped children according to whether their mothers had IBD before childbirth or not and whether if so this was Crohn's disease (CD) or ulcerative colitis (UC). For children born to women with IBD, we also extracted records of prescriptions of 5-aminosalicylic acid, steroids and azathioprine in the first trimester of pregnancy. We calculated absolute risks of any major congenital anomaly and system-specific anomalies, and used logistic regression with a generalised estimating equation to compare risks. In women with IBD, we repeated the analyses to estimate the risks in children exposed or not exposed to medication. We adjusted the results for maternal age, year of childbirth, socioeconomic deprivation and maternal smoking.

Results Of 1,703 children born to women with IBD and 384,811 children born to women without IBD, 2.7% and 2.8% had records of any major congenital anomaly respectively. The risks of major congenital anomaly for CD and UC were 3.7% and 1.9% respectively. The adjusted odds ratio (AOR) of IBD with any major congenital anomaly was 0.98 (95% confidence interval [95%CI] 0.73–1.31). In children of women with IBD, 32.4% were exposed to 5-aminosalicylic acid in the first trimester and 12.3% and 8.7% to steroids and azathioprine respectively. There was no statistically significant increase in the risk of major congenital anomaly in children exposed to 5-aminosalicylic acid (AOR = 0.82, 95%CI 0.42–1.61), steroids (AOR = 0.48, 95%CI 0.15–1.50) or azathioprine (AOR = 1.27, 95%CI 0.48–3.39) in the first trimester compared with those unexposed. For system-specific