parallel to the muscle layer. Gastric submucosal dissection and oesophageal submucosal resections/tunnelling procedures were performed on 5 consecutive 60kg pigs. All cases were video recorded. The time taken to complete resection/tunnelling, complications encountered and power settings used were recorded. Two animals were euthanized immediately (termination study – TS) and three animals were recovered for 3 days (survival study = SS). Submucosal defects and excised flaps were measured and assessed histologically.

Results Five (3TS, 2SS) consecutive gastric submucosal dissections, 5 oesophageal resections {4 (3TS, 1SS) semi and 1 (SS) full circumferential oesophageal mucosal resections} and 2 submucosal tunnelling procedures {1 (SS) with partial myotomy and 1 (TS) with no myotomy} were performed. The median time to complete a gastric resection was 46 min range (21–83min) using RF cutting 35 W and 41 min range (12–50 min) using RF cutting 25W for the oesophageal excision/tunnelling procedure. Median gastric defect size was 55 mm, range 35–70 mm and median oesophageal defect size was 47 mm, range 35–70 mm. Microwave coagulation was applied for either minor bleeding or visible vessels on 57 occasions (mean energy 7.5 W). No endoscopic or histologic perforations were noted. All excised flaps were appropriate for histological assessment apart from one oesophageal flap that was mildly heat damaged. Gastric and oesophageal muscle layers/serosa were intact and viable. In three oesophageal cases, there was a mild muscle cell alteration but contiguity was retained. In one gastric resection, another dissection knife assisted the last ribbon cut.

Conclusion This initial evaluation of "Speedboat-RS2" in the upper GI tract suggests that it facilitates rapid and safe en-bloc mucosal resection in the oesophagus and stomach. It also appears promising for safe and rapid submucosal tunnelling in the oesophagus and has potential to be utilised for POEM.

Disclosure of Interest Z. Tsiamoulos Consultant for: Creo Medical Ltd, C. Hancock Shareholder of: Creo Medical Ltd, P. Sibbons Paid instructor for: Creo Medical Ltd, L. Bourikas: None Declared, B. Saunders: None Declared.

Colon and anorectum

PWE-001 FIELD CANCERISATION THEORY IN COLORECTAL CANCER (CRC): WHAT ROLE DO FIBROBLAST GROWTH FACTORS HAVE?

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Introduction Characterisation of the molecular field defect around colorectal cancer (CRC) could enable identification of novel biomarkers that could be used for early detection of CRC. Previous studies have suggested fibroblast growth factor 19 (FGF19) may play a role in CRC formation through interaction with the B-catenin/wnt signalling cascade. The role of fibroblast growth factor 7 (FGF7) however remains controversial. The aim of this study was to determine if there are differences in FGF19 and FGF7 gene expression in cancer tissue and the adjacent 'normal tissue' compared with normal colonic tissue.

Methods Mucosal pinch biopsies were taken from the rectum and caecum at time of colonoscopy for healthy controls. For CRC patients, tissue samples were taken from the tumour, adjacent to the tumour and at the resection margin of the colectomy specimen. Healthy controls were age and sex matched to CRC patients. Quantitative real time PCR was used to determine gene expression of FGF19, its receptor FGFR4, FGF7 and its receptor, FGFR2. Results were further validated using immunohistochemistry. Serum levels of FGF19 were measured using the Quantikine ELISA kit (RandD systems, UK).

Results 49 patients were recruited (28 M: 21 F, median age 71 years (range 48–86 years)); 18 patients with CRC and 32 healthy controls. There was no overall difference in gene expression of FGF19/FGFR4 or FGF7/FGFR2 between cancer patients and healthy controls. There was upregulation of FGFR4 in mucosa adjacent to the tumour (mean fold change 1.23 vs. 0.93, p = 0.38) and the tumour itself (mean fold change 1.49 vs. 1.04, p = 0.700) in patients whose tumour expressed FGF19 compared to those that did not. Patients with upregulation of FGF19/FGFR4 had a significantly lower fasting serum FGF19 level (119 pg/ml versus 208 pg/ml, p = 0.05).

FGF7 was upregulated in 6/19 cancers; this was associated with a significant upregulation in FGF7 in adjacent mucosa compared with cancers where FGF7 was downregulated (mean fold change 3.62 vs. 0.95, p = 0.018). There was a non-significant trend towards upregulation of the receptor (FGFR2) in mucosa adjacent to the cancer and the tumour tissue itself.

Conclusion Upregulation of FGFR4 in patients whose tumours expressed FGF19 corresponded inversely with serum FGF19 suggesting its potential as a putative biomarker. Significant upregulation of FGF7 in 'normal' mucosa adjacent to only tumours that express FGF7 lends support to the field theory of colorectal carcinogenesis.

Disclosure of Interest None Declared.

PWE-002 THE POSITIVE PREDICTIVE VALUE OF A COLONOSCOPIST LABELLING A LESION AS CANCER – WHAT SHOULD WE TELL THE PATIENT?

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Introduction Colonoscopy is the modality of choice for bowel cancer screening and investigation of iron deficiency anaemia. Hence colonoscopists are most likely to diagnose colorectal cancer (CRC). It is desirable to inform a patient post endoscopy they have CRC but a colonoscopist may fear giving an incorrect diagnosis.

All patients with CRC are discussed at the weekly multi-disciplinary team meeting. A delay in treatment is often caused by the patient not being aware of a CRC diagnosis. This may require an additional appointment to inform the patient before the appointment with a Surgeon or Oncologist to discuss treatment.

This delay can increase the risk of progression of CRC and reduces the time the patient and family have to adjust to a CRC diagnosis and its consequences. We aim to test the positive predictive value (PPV) of colonoscopists diagnosing CRC and audit if patients were informed.

Methods 8561 colonoscopies undertaken at Kettering General Hospital (KGH), if "tumour/cancer" was recorded this was correlated to outcome. The reporting software gives an option to record if patient "informed of cancer" or "informed of lesion".

Results "Tumour/cancer" recorded 350 times (4.09% of colonoscopies)

Confirmed CRC = 333, **PPV = 95.14%**

Adenomas = 12 (3.43%): 7 required surgery, 1 EMR

Benign lesions = 5 (1.43%): 2 required surgery

223 of 350 (**63.71%**) informed of CRC: 219 had CRC, 4 had adenomas

102 (29.14%) informed of "lesion": 90 had CRC, 12 had benign disease

25 (7.14%) no record (of discussion with patient): 24 had CRC, 1 had adenoma

Consultant colonoscopists (241 records) PPV 95.44%

166 out of 241 (68.18%) informed of CRC: 163 had CRC, 3 had adenoma

58 (24.07%) informed of "lesion": 50 had CRC, 3 had adenoma, 5 had benign disease

17 (7.05%) no record: 17 had CRC

Trainee colonoscopists (81 records) PPV 92.59%

47 out of 81 (58.02%) informed of CRC: 46 had CRC, 1 had adenoma

26 (32.10%) informed of "lesion": 22 had cancer, 4 had adenoma

8 (9.88%) no record: 7 had CRC, 1 had adenoma

Nurse colonoscopists (28 records) PPV 100%

10 out of 28 (35.71%) informed of CRC, 18 out of 28 (64.29%) informed of "lesion"

Conclusion This data shows that colonoscopists are proficient at diagnosing CRC (PPV 95.14%). Those cases not confirmed with CRC usually have serious pathology which often requires surgery (9 out of 17). Yet only 63.71% of patients were informed of CRC. Consultants informed 68.18%, trainees informed 58.02% and nurses informed only 35.71%.

To reduce delay in CRC treatment and to give patients more time to deal with CRC diagnosis, colonoscopists should inform patients of a suspicion of CRC (and not a "lesion") and record this on reports.

Disclosure of Interest None Declared.

PWE-003 | **VARIATIONS IN ADENOMA DETECTION RATE AND CANCER DETECTION RATE IN INDIVIDUALS FROM DIFFERENT ETHNIC GROUPS UNDERGOING BOWEL CANCER SCREENING COLONOSCOPY**

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Introduction The prevalent round of the Bowel Cancer Screening Programme (BCSP) in England commenced in August 2006. Analysis of the first three years of the BCSP reveals a mean adenoma detection rate (ADR) of 46.5% (range 21.9-59.8%), and a mean polyp detection rate (PDR) of 59.7% (range 39.8–76.3%).[1]

Anecdotally, BCSP colonoscopists have suggested that the PDR, ADR and cancer detection rates in screened individuals of South Asian descent may be lower than those of Caucasian (white) descent. This has never been proven as the BCSP does not record ethnic origin of screened individuals.

Methods Between May 1st and December 31st 2013, every screened individual in Leicester and Kettering had their self-selected ethnic origin recorded in a database. The endoscopic findings and histology results noted in the Exeter online database was correlated to the database containing ethnic origin data and analysed.

Abstract PWE-003 Table 1

	"White"	"Asian" or "Asian British"	P value
Cancer detection	6.13%	0.99%	<0.08
PDR	57.36%	48.09%	<0.002
ADR	35.64%	31.68%	<0.02

Results 851 screened individuals (colonoscopy), 466 individuals had polyps (394 adenomas), PDR = 54.76%, ADR = 46.30%, cancer detection rate = 5.41%.

734 "White" individuals (86.25%)

45 individuals had cancer (cancer detection rate = 6.13%)

421 individuals had polyps, PDR = 57.36% (95% CI: 53.75–60.89%)

353 individuals had polyps, ADR = 48.09% (95% CI: 44.50–51.71%)

101 "Asian or Asian British" (11.87%)

1 individual had cancer (cancer detection rate = 0.99%)

36 individuals had polyps, PDR = 35.64% (95% CI: 26.99–45.35%)

32 individuals had polyps, ADR = 31.68% (95% CI: 23.42–41.29%)

16 "Mixed", "Black or Black British" or "Other Ethnic Groups" (1.88%)

0 cancers, 8 individuals with polyps/adenomas (PDR/ADR = 50%)

Too few to meaningfully analyse

Conclusion This analysis reveals a statistically significant lower ADR and PDR for South Asian screened individuals when compared to Caucasian (White) individuals. There is also a strong trend showing a lower cancer detection rate. This is important for clinicians to be aware of so that they can fully inform individuals undergoing colonoscopic screening.

For regions with large South Asian populations, this observation can be used to appropriately plan services. ADR and cancer detection rates in these regions may be lower and may be a factor in the regional variations of ADR and cancer detection across the BCSP.

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Disclosure of Interest None Declared.

PWE-004 | **EXTRACOLONIC FINDINGS ON CT COLONOGRAPHY**

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Introduction Colonoscopy is often the first line investigation for detection of lesions within the large bowel and remains the gold standard in investigating for suspected colon cancer. However if endoscopy is either incomplete, determined too hazardous or declined computed tomographic colongraphy is the next investigation of choice.[1] One of the additional and potentially beneficial features of CT is in the detection of extracolonic lesions, with studies suggesting approximately 40% of scans reveal one or more extracolonic abnormality including 14% detecting 'significant findings' requiring further investigation.[2]