(AMCO) and are increasingly used either palliatively or as a bridge to surgery (BTS) in patients in whom a definitive surgical approach is unsuitable. We evaluated short-term outcomes of malignant colorectal obstructive patients treated with SEMS in our institution over a 3-year period.

Methods A prospectively maintained database was reviewed to identify all patients who presented to our institution with AMCO between August 2010 and 2013 and who were treated with a SEMS either temporarily or permanently. Additional data was retrieved from chart and pathology reviews. A single colorectal surgeon inserted all stents under both endoscopic and fluoroscopic guidance. Data was analysed using SPSSv21 (SPSS Inc., Chicago, IL, USA) and presented as median (interquartile range). Continuous variables were assessed using analysis of variance. A p value <0.05 was considered statistically significant.

Results Sixteen patients each had a single stent inserted during the study period, either palliatively (n = 11) or as a BTS (n = 5). Their median (IQR) age was 75 (21) years and 12 (75%) patients were males. Most tumours were located in the sigmoid colon (6/16, 37%). The technical and clinical success rates were both 87.5% (14/16) and there were no SEMS-related perforations. The two unsuccessful stenting cases both had metastatic disease and required emergency surgery while five patients with potentially curable disease proceeded to elective resections. There was no procedure-related mortality. There was no difference in the median length of stay (LOS) post SEMS insertion in the palliative group compared to the BTS group [4 (4) vs. 5 (3), p = 0.2]. However, the median (IQR) LOS post acute surgery was longer than elective surgery [45 (30) vs. 14 (8) days, p = 0.018]. All patients in the BTS group were stoma-free post-operatively, while both patients who had emergency surgery ended up with permanent stomas. Finally, the stent complication rate was 6.2% (1/16), secondary to migration in a patient who was stented palliatively. The latter patient did not undergo further attempted stenting as his obstructive symptoms had been alleviated.

Conclusion AMCO poses significant challenges in management due to the frailty of the presenting patients and the high morbidity/mortality rates associated with emergency surgery. Although limited by a small sample size, our study shows that SEMS are a favourable alternative to emergency surgery for the management of AMCO. Further larger scale studies looking at long-term survival and oncological outcomes are awaited.

Disclosure of Interest None Declared.

PWE-018 HSPC1 INHIBITORS POTENTIATE THE EFFECT OF 5-FU IN PRIMARY COLORECTAL CANCER CELL MODEL

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Introduction Colorectal cancer (CRC) is the fourth most common cancer in the UK and was responsible for more than 15,000 deaths in 2011.[1] Less than 50% of patients with Dukes stage C and D survive more than 5 years.[2]

Molecular chaperone Heat shock protein (HSP) C1 is elevated in CRC.[3] HSPC1's client proteins (e.g., HER2, pNF-B, Akt etc.) are involved in key cellular pathways and apoptosis. HSPC1 inhibitors recently showed positive clinical results in breast cancer[4] and non-small cell lung carcinoma.[5] This study aims to explore the effect of combining HSPC1 inhibitors with 5-fluorouracil (5-FU), the mainstay chemotherapy, in CRC.

Methods CRC cell line HT29 were treated with HSPC1 inhibitors 17-DMAG and NVP-AUY922 as single agent and in combination with 5-FU.

Six primary CRC samples were obtained immediately following surgical resection with consent and treated with HSPC1 inhibitors. Four subsequent samples were treated with a combination of HSPC1 inhibitors and 5-FU.

Following treatment, cell metabolism rate and apoptosis were assessed using MTS and caspase-3 assay.

Results In HT29, 17-DMAG was effective in inducing apoptosis and reducing cell proliferation whereas NVP-AUY922 did not. When combined with 5-FU, 17-DMAG showed additive effect.

In primary CRC cells, a 50% reduction in cell metabolism rate was observed in 2/6 samples for 17-DMAG and 1/5 samples for NVP-AUY922. When subsequent primary samples were treated with 5-FU and HSPC1 inhibitors, significant decrease in cell metabolism rate and increase in apoptosis were observed in 1/4 samples.

Conclusion HSPC1 inhibitors are able to potentiate the chemotherapeutic effect of 5-FU in CRC cell line and this result may be replicated in primary colorectal cancer cells obtained from surgical specimen. HSPC1 inhibitors have different mode of actions which is evident in the different response observed in both HT29 and primary cells. In addition, CRC cells have individual response to HSPC1 inhibitors and some were not responsive.

Although a small sample size, this study encouraged our next phase of research combining HSPC1 inhibitors with current chemotherapeutic agents including oxaliplatin and irinotecan. Further studies will also focus on identifying potential biomarkers to select susceptible patients.

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Disclosure of Interest None Declared.

PWE-019 AN EVALUATION OF QUANTITATIVE FAECAL IMMUNOCHEMICAL TESTS FOR HAEMOGLOBIN

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Introduction The NHS Bowel Cancer Screening Programme (BCSP) in England provides biennial screening using a guaiac-based faecal occult blood test (gFOBT) for people aged 60–74 years. The European guidelines[1] recommend use of a quantitative faecal immunochemical test for haemoglobin (FIT) in population screening and the BCSP will replace gFOBT with FIT from 2016. The BCSP Southern Programme Hub (allied with the Guildford Medical Device Evaluation Centre) has evaluated FIT systems to guide future BCSP procurement. Four quantitative FIT systems suitable for population screening were evaluated: HM-JACKarc (Kyowa Medex Co. Ltd., Japan), NS-PLUS C15 Hb (Alfresa Pharma Corp., Japan), OC-SENSOR DIANA (Eiken Chemical Co. Ltd., Japan) and FOB Gold NG (Sentinel CH. SpA, Italy; analysed on a general chemistry analyser, Bio-Majesty, Jeol, Japan).

Methods The operation and technical performance of each system was assessed and compared with manufacturers' claims using the manufacturers' recommended sample collection tube loaded with haemoglobin (Hb)-spiked faecal samples or Hb in buffer.
Results All collection tubes and analysers were considered useable, although the BioMajesty was unnecessarily complex for a single analyte. The use of re-usable cuvettes by NS-PLUS, OC--SENSOR DIANA and BioMajesty increases the volume of water waste, but reduces plastic clinical waste. HM-JACKarc and NS--PLUS were the most analytically sensitive (accurately measures to the lowest concentration). Imprecision with NS-PLUS was inconsistent with manufacturers' claims; imprecision for OC-SENSOR DIANA and BioMajesty could not be compared directly with manufacturers' claims due to differences between mean concentrations of the samples. All analysers except BioMajesty demonstrated good linearity. Precision (variation of measurement) was good for HM-JACKarc and for OC-SENSOR DIANA within the manufacturers' recommended range. Automated or semi-automated dilution of highly concentrated samples was available with all analysers, except HM-JACKarc, which has a limited measurement range. The NS-PLUS and BioMajesty did not alert the user to a hook/prozone effect (erroneously low values at exceptionally high concentrations). Sample stability over a range of temperatures was similar to manufacturers' claims for all analysers and much improved from previous studies. Whilst fewer staff may be required for screening, they will need further laboratory training to process FIT samples.
Conclusion This evaluation provides essential information to guide the BCSP through the usual tendering procedure.

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Disclosure of Interest None Declared.

PWE-020 DIAGNOSING MICROSCOPIC COLITIS – IS COLONOSCOPY NECESSARY?

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Introduction Microscopic colitis is a common cause of chronic diarrhoea, particularly in older people, and the incidence is increasing. As the endoscopic appearance is typically normal, diagnosis of the two subtypes, collagenous and lymphocytic colitis, relies upon specific histology findings. When suspected, guidelines advise colonoscopy with full biopsy series due to reports of a patchy disease distribution, with false negative rates of up to 40% reported with flexible sigmoidoscopy.[1] However, more recent data has challenged this assumption, leaving considerable uncertainty.[2] We report one of the largest consecutive case series to date, examining whether flexible sigmoidoscopy alone is sufficient.
Methods A retrospective review of all cases of microscopic colitis diagnosed at colonoscopy over a 12-year period (2001–2013) at our hospital was performed. Only colonoscopies with both right (proximal to splenic flexure) and left sided colonic biopsies were included. The diagnostic criteria for microscopic colitis were lymphocytic infiltration in the lamina propria and either >20 intraepithelial lymphocytes per 100 epithelial cells (lymphocytic colitis) or a collagenous layer >10 mm (collagenous colitis). The primary aim was to assess the proportion of patients in which microscopic colitis could be diagnosed on left sided biopsies alone.
Results 84 patients were included in the study. 58 (69.0%) were female with a median age of 62 years. 44 (52.4%) had collagenous colitis and 40 (47.6%) lymphocytic colitis. 76 (90.5%) had features of microscopic colitis on both right and left sided biopsies, 7 (8.3%) right side only and 1 (1.2%) left side only. Hence a diagnosis of microscopic colitis could be made in 77 (91.7%) on left sided biopsies alone. Age, sex and histopathological subtype did not significantly alter the sensitivity of left sided biopsies.
Conclusion Flexible sigmoidoscopy would have correctly diagnosed microscopic colitis in a very high proportion of patients (92%). Given that flexible sigmoidoscopy is less expensive, better tolerated, and can be combined with CT scanning to exclude a proximal malignancy, this may have important implications for the investigation of non-bloody diarrhoea.

Abstract PWE-020 Table 1 Patient demographics and histopathological findings

	Collagenous colitis	Lymphocytic colitis
n	44	40
Median age (yrs)	61	62.5
Female	36 (81.8%)	22 (55.0%)
Left sided biopsies diagnostic	41 (93.2%)	36 (90.0%)

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Disclosure of Interest None Declared.

PWE-021 MTORC1 MEDIATED TRANSLATIONAL ELONGATION IS LIMITING FOR INTESTINAL TUMOUR INITIATION AND GROWTH

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Introduction The loss of Apc, causing Wnt-mediated epithelial proliferation, is an early event in colorectal cancer (CRC) development. This hyperproliferative state requires signalling though the mTOR pathway, with the current paradigm suggesting that upregulation of translation initiation via phosphorylation of 4EBP1 is crucial. This model predicts that the mTOR inhibitor rapamycin, which does not efficiently inhibit 4EBP1 function, would be ineffective in limiting development and progression of intestinal adenomas.
Methods The inducible *in vivo* mouse models Lgr5Cre^{ER} and VillinCre^{ER} were used to selectively flox genes from intestinal stem cells and crypts respectively. mTOR complex 1 signalling was inhibited in Apc$^{fl/fl}$ mice either by rapamycin treatment or