

co-floxing the mTORC1 essential component Raptor. Translational status was assessed by sucrose gradient ultracentrifugation of intestinal epithelial extract from these mice and ^{35}S methionine incorporation and harringtonine chase assays on organoid cultures. The role of downstream mTORC1 effectors was established by assessing the intestinal regeneration following IR irradiation of 4EBP1/2^{DKO}, S6K1/2^{DKO}, rpS6^{mut} and eEF2k^{-/-} mice. Survival studies for Apc^{fl/fl} mice treated with rapamycin were performed both prior to, and on development of, symptoms

Results mTORC1 activity is absolutely required for the proliferation of Apc deficient, but not wild type, intestinal crypts. Surprisingly, although protein synthesis is increased in Apc^{fl/fl} crypts, it is translation elongation and not initiation that is the rate limiting step. Mechanistically, the inhibition of eukaryotic elongation factor (eEF2) kinase, to increase eEF2 activity downstream of mTORC1 and S6K is required for Wnt-mediated proliferation after IR irradiation. Treatment of established Apc^{fl/fl} adenomas with rapamycin (which inhibits the mTORC1-S6K-eEF2k-eEF2 axis) arrests tumour growth and prolongs life. Furthermore, rapamycin treatment of mice immediately following homozygous Apc loss prevents the onset of symptoms.

Conclusion These data show that intestinal adenoma formation and growth requires an mTOR mediated increase in translation elongation. Treatment of patients at high risk of developing CRC, such as those with Familial Adenomatous Polyposis, with Rapalogs may therefore be of therapeutic value.

Disclosure of Interest None Declared.

PWE-022 PATIENT ACCEPTABILITY OF A NOVEL, NON-INVASIVE METHOD OF COLONIC SAMPLING FOR BIOMARKER ANALYSIS

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Introduction Biomarker analysis is commonly used for the diagnosis of those presenting with colorectal symptoms and monitoring of inflammatory bowel disease (IBD), but the acceptability of stool sampling is poor. It is proposed that material rich in the colonic mucocellular layer is deposited on the anal surface post-defaecation and can be sampled for biomarker analysis. Our aim was to develop a novel, non-invasive method of material collection post-defaecation and assess patient acceptability.

Methods Patients with IBD (active cases and those in remission), irritable bowel syndrome (IBS) and a group of healthy volunteers were recruited. Participants were instructed to collect material from the surface of the anus immediately post-defaecation using a specially designed swab covered with flocked nylon (designed by DiagNodus Ltd). The collection process and preparation of samples was performed by patients at home using a specially designed kit. Samples were mailed back, ready for cytological and immunochemical analysis. Patients were provided with kits

Abstract PWE-022 Table 1

	Mean	SD
Convenience/Acceptability	4.57	0.497
Sampling ease	4.54	0.595
Adequacy of time required for sampling	4.53	0.575
Overall impression	4.57	0.553

and asked to collect and return samples at predefined time-points. Patients completed a simple questionnaire to evaluate: (a) procedure convenience/acceptability, (b) ease of sample collection, (c) adequacy of time required for sampling and (d) overall impression each using a 5-point rating scale (1=poor to 5=good).

Results 112 patients were recruited comprising of 60 patients with active IBD, 14 patients with IBD in remission, 31 patients with IBS and 7 healthy volunteers. Collected samples were returned by 97 (86.6%) study participants (88.3% of patients with active IBD, 78.6% of patients with IBD in remission, 87.1% of patients with IBS and 100% of healthy volunteers). Completed questionnaires were returned by 92 trial participants (94.8% of those providing samples). The mean and standard deviation (SD) of participant responses is provided in the table below.

Sampling was not associated with discomfort or harm. The material obtained proved suitable for both cytological assessment and protein biomarker estimation.

Conclusion Material from the colonic mucocellular layer deposited in the anal area following defaecation is readily collectable using our specially designed kit and can provide material for both cytological assessment and biomarker quantification. This simple, reliable process is well tolerated and convenient as patients can provide samples from the comfort of their own home. This new technique warrants further study in different patient groups.

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PWE-023 IS IT WORTH CHASING INCIDENTAL COLONIC HOT SPOTS ON ROUTINE PET CT SCANS?

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Introduction Positron emission tomography (PET) measures metabolic changes at a cellular level enabling detection of early stage disease. Incidental 2-deoxy-[^{18}F]fluoro-2-D-glucose (FDG) colonic uptake is detected in 1.3–3% of patients with up to a third resulting in false positive results.¹ Follow-up endoscopy is recommended to further distinguish these FDG avid lesions.² Cancer detection rates of 7.8–18.9% have been quoted in various studies.^{1,3} Our aim was to evaluate colonic FDG avid lesions on PET by endoscopy.

Methods An analysis of prospectively collected database of all patients (n = 1564) who had PET for various malignancy between January 2011 to September 2013 was performed.

Results Fifty-nine (3.77%) patients had focal colonic FDG uptake and 45 (2.87%) patients went on to have colonoscopy.

Indications for PET CT for those undergoing endoscopy was lung carcinoma (22), gastrointestinal carcinoma (10), laryngeal carcinoma (7) and lymphoma (6).

Median age was 64 with a male preponderance (2.5:1)

Location on PET CT was categorised to sigmoid (23), rectal (9), anorectal (4), caecal (3), hepatic flexure (2), transverse (1), splenic flexure (1), ascending (1) and descending (1).

Findings on endoscopy ranged from polyps (22), normal (9), diverticulosis (8), sigmoid cancer (4), caecal cancer (1) and colitis (1).

In total, out of the all patients who had endoscopy, 20 (44.4%) were found to have low grade tubulovillous adenomas, 5 (11.1%) had cancer, whilst 2 (4.4%) had hyperplastic polyps on histology.

Conclusion These findings are in keeping with other series and suggest that it makes sense only to carry on with current practice of following up these hot spots with endoscopy.

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Disclosure of Interest None Declared.

PWE-024 CLINICAL AND ECONOMIC BURDEN ASSOCIATED WITH ANASTOMOTIC LEAK AFTER COLORECTAL SURGERIES IN THE UNITED KINGDOM

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Introduction In the UK, anastomotic leak rate after colorectal surgeries has been reported up to 19%. Yet, clinical and economic consequences of anastomotic leak have not been clearly articulated. Our study aims to estimate the clinical/economic burden of anastomotic leak following colorectal surgeries in the UK. **Methods** The Hospital Episode Statistics database was used to identify English National Health Service Trust adult patients undergoing colorectal surgeries between January 2007 and December 2011. Anastomotic leak was identified by re-intervention/diagnosis codes within a 30-day window following colorectal surgery, including re-operation, re-anastomosis, stent, colostomy, image guided drainage, washout procedure, abscess/drainage and diagnosis of generalised (acute) peritonitis. Hospital costs were calculated using Healthcare Resource Group and Department of Health reference index costs. Differences in outcomes between groups were compared using a propensity score matching approach, adjusting for age, gender, admission method, surgery type, comorbidity and medical stabilisation. Generalised linear models (GLM) were performed to estimate the impact of leak on costs/LOS, adjusting for covariates.

Results A total of 131,689 patients received colorectal surgeries (mean age: 65.2 ± 15.4, male: 50.4%). The rate of anastomotic leak following colorectal surgery was 6.4% (8,404 out of 131,689). After propensity score matching by key covariates, Patients with leak (vs. without leak) had higher in-hospital mortality (15.9% (95% CI: 15.2%, 16.7%) vs. 6.2% (95% CI: 5.7%, 6.7%), $p < 0.001$), 30-day readmission rate (19.7% vs. 11.6%, $p < 0.001$), and post-operative infection rate (19.3% vs. 4.5%, $p < 0.001$). The hospitalisations for patients with leak (vs. without leak) were more costly (£9,071 ± £4,588 vs. £6,420 ± £2,895, $p < 0.001$) and longer (20 ± 23 vs. 11 ± 13 days, $p < 0.001$). Anastomotic leak resulted in an additional cost of £2651 and an extra LOS of 9 days per patient. GLM analyses revealed comparable results.

Conclusion Our study findings underscore the clinical/economic burden of anastomotic leak after colorectal surgeries in the UK. The presence of anastomotic leak was associated with greater

mortality, LOS, and costs, highlighting the importance of providing prompt medical attention to minimise the impact of anastomotic leak.

Disclosure of Interest Y. Wan Consultant for: Yin Wan is an employee of Pharmerit International. Pharmerit International were paid by Ethicon Inc. in connexion with this study., S. Lim Employee of: S Lim is an employee of Ethicon, Inc., J. Riebman Employee of: J Riebman is an employee of Ethicon, Inc., N. Jamous Employee of: N Jamous is an employee of Ethicon, Inc., X. Gao Consultant for: X Gao is an employee of Pharmerit International. Pharmerit International were paid by Ethicon Inc. in connexion with this study.

Endoscopy II

PWE-025 INCREASED ADENOMA DETECTION IN THE RIGHT COLON AT SURVEILLANCE COLONOSCOPY COMPARED TO INDEX COLONOSCOPY WITHIN THE BCSP

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Introduction Colonoscopy has been shown to be effective in reducing the incidence of colorectal cancer (CRC), presumably resulting from the removal of premalignant adenomas. There are data, however, to suggest that colonoscopy is less effective at preventing malignancy in the right colon, when compared to the left colon. A proposed explanation for this observation is that right-sided adenomas may be missed at colonoscopy, either due to inadequate bowel preparation or, alternatively, due to the presence of serrated adenomas that are more difficult to visualise. Within the Bowel Cancer Screening Programme (BCSP) patients found to have adenomas are entered into a surveillance programme, based on predefined guidelines. This study compares the findings at surveillance colonoscopy with the index colonoscopy in these individuals.

Methods All patients having surveillance colonoscopies at the West London Bowel Cancer Screening Centre between 1st January 2009 and 28th February 2013 were included in the study. The results of the initial index procedure and subsequent surveillance procedures were retrieved from the endoscopy reporting system (Scorpio) and the histology of all polyps resected and retrieved was obtained from the hospital pathology system. The site of all adenomas removed for all procedures was recorded and the distribution of the adenomas found in the left and right colon were compared for the index and surveillance procedures (Chi squared).

Results 242 patients were included in the study. In total 848 adenomas were found during the index colonoscopies and 379 adenomas were found during the surveillance procedures. 143 (59.1%) surveillance colonoscopies were performed at 1 year and 99 (40.9%) were performed at 3 years. The table below

Abstract PWE-025 Table 1

Site	Adenomas detected no. (%)	
	Index colonoscopy	Surveillance colonoscopy
Left colon	465 (54.8)	123 (32.5)
Right colon	383 (45.2)	256 (67.5)
Total	848 (100)	379 (100)