

advanced adenomas and two (2.4%) had cancer. 9/115 (7.8%) declined an early colonoscopy.

A total of 2445 participants had negative FIT tests in Rounds 1 and 2 and will be invited to complete a final FIT, prior to their surveillance colonoscopy.

Satisfaction with the study was high among those who completed a questionnaire, with 95.4% (4177/4378) of FIT-negative and 91% (203/223) of FIT-positive participants in Round 1 stating that they would complete another kit in future.

Conclusion Compliance with the study was high, and the majority of participants reported that they would use FIT again. Almost a quarter (23.4%) of patients in Round 1 who had an early colonoscopy had advanced adenomas, falling to 15.3% in Round 2. Round 2 is ongoing, with Round 3 starting in January 2014.

Disclosure of Interest None Declared.

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OC-043 HOW COMMONLY IS COLORECTAL CANCER LATER DIAGNOSED FOLLOWING A COLONOSCOPY THAT DOES NOT REPORT COLORECTAL CANCER (AN ANALYSIS OF 11 YEARS OF NATIONAL DATA IN ENGLAND)?

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Introduction Colonoscopy is the standard of care for diagnosing colorectal cancer (CRC). However, 3.4%–7.9% of subjects with CRC are reportedly diagnosed within 3yrs of a colonoscopy that did not detect the cancer (post-colonoscopy colorectal cancer, PCCRC). We have investigated risk factors for these events in a national data set in England.

Methods Hospital Episode Statistics (HES) collates information on all NHS hospital attendances in England. Subjects undergoing colonoscopy without a CRC diagnosis 6–36 months before subsequent CRC diagnosis were identified as PCCRC cases (definitely missed – colonoscopy without CRC diagnosis 6–12 months before CRC diagnosis; probably missed – colonoscopy without CRC diagnosis 12–36 months before CRC diagnosis) and those with no colonoscopy 6–36 months before diagnosis served as controls. The influence of personal and institutional variables on missed PCCRC were examined by multivariate logistic regression.

Results HES records from 2001–12 were analysed including 2874641 colonoscopies in 2263905 subjects. 136237 subjects were diagnosed with CRC. 4219 (3.1%) definitely missed PCCRC cases and 8266 (6.1%) probably missed PCCRC cases occurred. Colonic polyps were the most common coded finding in PCCRC subjects (1553 subjects (12.4%)). Emergency colonoscopies were less likely to fail to diagnose CRC than elective procedures (OR 0.58 (95% CI: 0.5–0.6), $p < 0.001$). Subjects over age 70 (1.16 (1.1–1.2), $p < 0.001$), female gender (1.05 (1.0–1.1), $p = 0.018$) and comorbidities (liver disease (2.18 (1.4–3.5), $p = 0.002$), peptic ulcer (1.29 (1.1–1.6), $p = 0.01$), myocardial infarction (1.14 (1.0–1.3), $p = 0.046$), pulmonary disease (1.11 (1.0–1.2), $p = 0.025$)) were associated with PCCRC. Ethnicity was not associated with PCCRC. Right sided CRC was more likely to be missed (1.30 (1.25–1.37), $p = 0.015$). Subjects

with PCCRC were less likely to undergo surgery (0.27 (0.26–0.28), $p = <0.001$) or chemotherapy (0.62 (0.59–0.65), $p = <0.001$). Overall survival was worse in PCCRC subjects than controls. There was a fourfold variation in PCCRC rates between units. Unit volume was inversely related to PCCRC rate (lowest tertile volume versus highest tertile 1.72 (1.6–1.8), $p = <0.001$). The annual rate of PCCRC has improved over the study period with a fall in PCCRC rate from 15.9 to 5.1% per annum.

Conclusion The rate of PCCRC up to 3 yrs prior to CRC diagnosis was 9.1% in England between 2001–12. PCCRC was associated with increasing age, female gender, comorbidities, site in right colon and colonoscopy unit volume. PCCRC subjects were less likely to have surgery or chemotherapy and had worse survival rates. Encouragingly, annual rates of PCCRC have fallen over the study period.

Disclosure of Interest None Declared.

OC-044 PREDICTORS OF ADVANCED NEOPLASIA AT SURVEILLANCE IN SCREENING POPULATION- A STUDY OF ALL HIGH AND INTERMEDIATE RISK GORUP SUBJECTS IN FIRST SIX YEAR OF NHS BSCP

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Introduction In NHS BSCP, high and intermediate risk subjects with colorectal adenomas undergo surveillance colonoscopies. This guideline evidence was derived mostly from general population based studies. This study aims to evaluate the individual and adenoma specific characteristics detected at the index colonoscopy which can predict occurrence of advanced neoplasia during surveillance in a well-defined FOB screening population.

Methods The national BSCP database was interrogated to identify all subjects who participated during the period of June 2006 to July 2012 and completed their first surveillance. The subjects where all the adenomas were retrieved during screening colonoscopy were included. Multivariate analysis was performed to identify the factors which determine occurrence of CRC and advanced adenoma (AA= adenoma with size ≥ 10 mm/ $>25\%$ villous histology/ high grade dysplasia) at surveillance.

Results A total of 17694 high and intermediate risk subjects participated, and 7015 of them completed their first surveillance and were included for analysis. The adenoma specific factors evaluated were high grade dysplasia, villous histology $\geq 25\%$, and size ≥ 10 mm, number of adenomas and any proximal location of adenoma at screening. The individual characteristic

Abstract OC-044 Table 1

Predictor factor	AA OR (95% CI)	p-AA
Male gender	1.39 (1.07–1.8)	0.01
Proximal Location	1.8 (1.3–2.6)	<0.001
Adenoma size ≥ 10 mm	1.01 (0.7–1.36)	0.93
5 / > adenomas	2.4 (1.6–3.4)	<0.001
4 adenomas	1.4 (0.98–2.2)	0.06
3 adenomas	1.6 (1.12–2.4)	0.01
2 adenomas	1.4 (0.96–2.09)	0.07

evaluated was gender. The outcomes measured at surveillance were detection of CRC, AA, non-advanced adenoma (NAA) and normal finding. Any location proximal to splenic flexure was considered as proximal location for this study.

There were 43 (0.6%) subjects with CRC, 786 (11.2%) with AA, 5566 (79.3%) with NAA and 620 (8.8%) subjects with normal findings during first surveillance. The result of the multivariate analysis was summarised in the table below.

Table 1 showing significant result of multivariate analysis:

Conclusion In contrast with current guidelines, the size of adenomas failed to achieve statistical significance. The number of adenomas, male gender and any proximal location at screening were the important predictors of advanced adenoma during surveillance (table). Future adjustments in the risk stratification strategy for screening population could incorporate these predictors to identify high and low risk cohorts more accurately at screening.

REFERENCE

- Guidelines for colorectal cancer screening and surveillance in moderate and high risk groups (update from 2002), *Gut* 2010;59:666–690

Disclosure of Interest None Declared.

OC-045

REDUCED RISK OF EMERGENCY ADMISSION FOR COLORECTAL CANCER ASSOCIATED WITH INTRODUCTION OF BOWEL CANCER SCREENING ACROSS ENGLAND: RETROSPECTIVE NATIONAL COHORT STUDY

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Introduction We examined whether roll out of the bowel cancer screening programme (BCSP) across England was associated with a reduced risk of emergency hospital admission for people presenting with colorectal cancer (CRC) during this period.

Methods Design: Retrospective cohort study of 27,763 incident cases of CRC over a 1-year period during the roll-out of screening across parts of England. Primary outcome: Emergency (unplanned) hospital admission during diagnostic pathway. Primary exposure: Living in an area where BCSP was active at the time of diagnosis. Patients were categorised into three exposure groups: BCSP not active (reference group), active <6 months or active ≥6 months. To explore confounding we studied risk of emergency admission for cases of oesophagogastric cancer using the same design.

Results Risk of emergency admission for CRC in England was associated with increasing age, female gender, co-morbidity and social deprivation. After adjusting for these factors in logistic regression, the odds ratio for emergency admission in patients diagnosed ≥6 months after start-up of local screening was 0.83 (CI: 0.76–0.90). The magnitude of risk reduction was greatest for cases of screening age (OR 0.75; CI: 0.63–0.90) but this effect was apparent also for cases outside the 60–69 year age-group (OR 0.85; CI: 0.77–0.94). Living in an area with active BCSP conferred no reduction in risk of emergency admission for people diagnosed with oesophagogastric cancer during the same period.

Conclusion The start-up of bowel cancer screening in England was associated with a substantial reduction in risk of

emergency admission for CRC in people of all ages. This suggests that the roll-out of the programme had early and indirect benefits beyond those related directly to participation in screening.

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OC-046

DO PATIENTS WITH A PREVIOUS NORMAL COLONOSCOPY WITHIN THE UNITED KINGDOM BOWEL CANCER SCREENING PROGRAM WHO SUBSEQUENTLY HAVE A POSITIVE FOBT REQUIRE REPEAT COLONOSCOPY?

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Introduction Patients within the UK Bowel Cancer Screening Programme (BCSP) who have a normal colonoscopy are re-invited for Faecal Occult Blood test (FOBT) on a 2-yearly interval. If FOBT is positive, they are invited to have a repeat colonoscopy.

The general polyp ‘miss rate’ is up to 22% in colonoscopy. Factors contributing to this include poor bowel preparation, rapid withdrawal time and endoscopist inexperience. However, endoscopists within the BCSP are highly skilled and selected following a rigid assessment process and poor bowel preparation is rare. Therefore, we hypothesised that patients who have previously had a normal colonoscopy within the BCSP who subsequently have a positive FOBT are unlikely to have a high-risk polyp or bowel cancer. Excluding these patients may avoid unnecessary invasive investigations and reduce the burden on an ever-stretching BCSP waiting list.

We aimed to assess the detection of pathology in patients who have had a previous normal colonoscopy within the BCSP who subsequently have a positive FOBT and attend for repeat colonoscopy.

Methods Patients with a previous normal colonoscopy between 2007–2010 who re-attended within the BCSP for colonoscopy after repeat positive FOBT were identified from the UCLH ‘in-house’ BCSP database. The results of the colonoscopy and outcomes were then scrutinised.

Results A total of 1137 patients have had a normal colonoscopy to date within the BCSP and have subsequently been invited to have a repeat FOBT in 2 years time. From the patients who decided to participate in the second round of recruitment, 77 (6.7%) tested positive on FOBT and were invited for repeat colonoscopy. 8 declined another procedure. 6 patients (8%) had low risk adenomas (range 3–6 mm in size, 4 in right colon, 1 in sigmoid and 1 in left colon), all of who were discharged back to 2-yearly FOBT. 3 patients (4%) had hyperplastic polyps, 2 (3%) had inflammatory bowel disease and 58 (85%) had normal examinations. No patients had bowel cancer identified on repeat colonoscopy.

Conclusion No cases of bowel cancer were detected in FOBT positive patients who have previously undergone a normal colonoscopy within the BCSP. Only 8% of patients undergoing repeat colonoscopy had a low-risk adenoma detected mainly from the right colon. Discharging patients with a normal colonoscopy in the BCSP from further screening would reduce pressure on endoscopy screening units and any potential morbidity