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### IMPACT OF ADENOMA DETECTION RATES AT FLEXIBLE SIGMOIDOSCOPY ON LONG-TERM COLORECTAL CANCER INCIDENCE AND MORTALITY

<sup>1</sup>Emma C Robbins\*, <sup>1</sup>Kate Wooldrage, <sup>2</sup>Brian P Saunders, <sup>3</sup>Stephen W Duffy, <sup>1</sup>Amanda J Cross. <sup>1</sup>Cancer Screening and Prevention Research Group (CSPRG), Department of Surgery and Cancer, Imperial College London, London, UK; <sup>2</sup>Wolfson Unit for Endoscopy, St Mark's Hospital, London, UK; <sup>3</sup>Centre for Cancer Prevention, Wolfson Institute of Preventive Medicine, Queen Mary University, London, UK

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**Introduction** Detection and removal of adenomas reduces colorectal cancer (CRC) risk. However, the effects of variable adenoma detection rates (ADRs) on long-term CRC incidence and mortality are not known. We investigated this using data from the UK Flexible Sigmoidoscopy Screening Trial (UKFSST).

**Methods** We analysed data from 167,882 UKFSST participants, of whom 111,503 were in the control arm and 56,379 in the intervention arm. The control arm was not contacted while the intervention arm was offered a single flexible sigmoidoscopy screen. In total, 40,085 participants underwent flexible sigmoidoscopy screening at 13 trial centres. Median follow-up was 17 years. At each centre, a single endoscopist performed nearly all flexible sigmoidoscopies. We used multivariable logistic regression to classify centres into high-, intermediate-, and low-detector ranking groups based on the ADR of their main endoscopist. We calculated CRC incidence and mortality rates, and estimated hazard ratios (HRs) with 95% confidence intervals (CIs) using Cox regression.

**Results** Five centres were classified into the high-detector group, four into the intermediate-detector group, and four into the low-detector group. Average ADRs in the high-, intermediate-, and low-detector groups were 15%, 12%, and 9%, respectively. In all three groups, all-site CRC incidence and mortality were reduced among screened participants, compared to the control arm, and although the heterogeneity was not statistically significant, a larger effect was seen in the high-detector group (incidence: HR=0.58, 95%CI 0.50–0.67; mortality: HR=0.52, 0.39–0.69) than in the low-detector group (incidence: HR=0.72, 0.61–0.85; mortality: HR=0.68, 0.51–0.92). For distal CRC, incidence and mortality were reduced among screened participants, compared to the control arm, in all three groups and there was significant heterogeneity by detector ranking, with a substantially larger effect in the high-detector group (incidence: HR=0.34, 0.27–0.42; mortality: HR=0.22, 0.13–0.37) than in the low-detector group (incidence: HR=0.55, 0.44–0.68; mortality: HR=0.54, 0.34–0.86).

**Conclusions** Higher ADRs at screening flexible sigmoidoscopy result in greater long-term protection against CRC incidence and mortality.

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### ABLATION AND COLD AVULSION (ACA) FOR THE MANAGEMENT OF NON-LIFTING, SCARRED COLORECTAL LESIONS

<sup>1</sup>Angad Dhillon\*, <sup>1</sup>Ahmir Ahmad, <sup>1</sup>Rajaratnam Rameshshanker, <sup>1</sup>Ioannis Stasinou, <sup>2</sup>Zacharias Tsiomoulos, <sup>2</sup>Aristeidis Oikonomakis, <sup>1</sup>Brian Saunders. <sup>1</sup>Wolfson Unit for Endoscopy, St Mark's Hospital, UK; <sup>2</sup>East Kent Hospitals University NHS Foundation Trust, UK

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**Introduction** A scarred submucosa limits the effectiveness of lifting during endoscopic mucosal resection (EMR) and may necessitate surgery. Endoscopic submucosal dissection (ESD) of scarred lesions is technically difficult and carries a significant risk of perforation. We report our experience of a salvage approach using ablation and cold avulsion (ACA) as an adjunct to EMR.

**Methods** Lesions treated with ACA between January 2015 – October 2019 were identified from a retrospective database. Following EMR, residual areas of non-lifting scarred tissue were ablated using high power argon plasma coagulation (APC). The cauterised polyp tissue was then avulsed using non-spiked biopsy forceps. Surveillance endoscopies and histology reports were reviewed and evidence of polyp recurrence documented. Recurrence was treated with repeat ACA.

**Results** Eighty-six patients (male n=47, mean age 69 years, range 49–86) with 88 polyps (median size 36.6 mm, range 10–120 mm) underwent ACA. Thirty-eight (43%) lesions were located proximal to the transverse colon. Forty-two lesions (47.7%) were recurrent lesions. The remaining 46 (52.3%) were partially non-lifting, de novo lesions.

Intraprocedural bleeding requiring treatment with haemostatic forceps occurred in 12 cases (13.6%) during snare resection, although areas treated with ACA never required treatment with haemostatic forceps or clips. Intraprocedural perforation occurred in one case (target sign) during snare resection and was successfully closed with endoscopic clips prior to ACA. No perforation was reported during ACA.

Following the index ACA procedure, histology showed: adenoma with low grade dysplasia in 63.6% (n= 56); high grade dysplasia in 30.7% (n= 27); serrated lesions without dysplasia in 4.5% (n=4). One patient had a moderately differentiated adenocarcinoma and subsequently declined surgery with no endoscopic evidence of recurrence at 24 months.

Endoscopic follow-up was available for 78 lesions (mean 13.4 months, range 3–60). Recurrence at first follow-up was 30.7% (24/78). Follow-up for the second and third procedure was available for 17 patients with clearance rates of 58.8% (10/17) and 42.8% (3/7) respectively. Of the remaining 4 patients with recurrence, 3 underwent surgery (adenoma with low grade dysplasia n= 2, progression from high grade dysplasia to T1 adenocarcinoma n= 1). One was lost to follow-up following the development of significant co-morbidity.

**Conclusions** The endoscopic clearance rate using ACA was 95.7%. ACA appears to be a safe, effective, and surgery-sparing therapy in this difficult cohort of, scarred, partially non-lifting lesions.

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### CLIP MUSCLE PROTECTION (CLIMP) METHOD IN MUSCLE-RETRACTING SIGN DURING COLONIC ENDOSCOPIC SUBMUCOSAL DISSECTION

<sup>1</sup>Noriko Suzuki\*, <sup>1</sup>Angad Dhillon, <sup>2</sup>Edward Seward, <sup>1</sup>Adam Humphries. <sup>1</sup>Wolfson Unit for Endoscopy, St Mark's Hospital, UK; <sup>2</sup>Endoscopy Unit, University College Hospital, UK

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**Introduction** Muscle retracting (MR) sign is a feature occasionally observed during Endoscopic Submucosal Dissection (ESD).<sup>1</sup> The muscle layer can be pulled towards a neoplastic lesion due to the desmoplastic reaction associated with cancer invasion, or it may be due to fibrosis caused by mechanical forces of intestinal peristalsis pulling on the body of the polyp