Abstract HTU-1 Table 1

	Training Dataset	Validation Dataset	Testing Dataset	Total (frames)
Number of patients	107	14	78	199
Adenomatous polyp	122	19	94	235 (21,831)
Hyperplastic polyps	21	2	35	58 (3,262)
Sessile serrated lesions	43	11	23	77 (6,017)
Traditional serrated adenomatous polyps	1	0	0	1 (42)
Total number of polyps (frames)	187 (14,936)	32 (1,896)	152 (14,320)	371 (31,086)

diagnose adenomas and a specificity of 90%. The CNN achieved an area under the curve (AUC) of 97%. On a per polyp analysis, the accuracy of the CNN characterisation was 92%, with a sensitivity of 92% and a specificity of 93%.

Conclusion The largest annotated dataset of NBI polyp images has been collated for the training and evaluation of artificial intelligence to support optical diagnosis. This work demonstrated the capability of AI to differentiate adenomatous from non-adenomatous polyps in-vitro, with a high level of accuracy.

HTU-2 EUS GUIDED GASTROJEJUNOSTOMY FOR THE MANAGEMENT OF GASTRIC OUTLET OBSTRUCTION: A SINGLE CENTRE EXPERIENCE

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10.1136/gutjnl-2021-BSG.49

Introduction There are various modalities of management of gastric outlet obstruction (GOO) namely endoscopic enteral stenting, surgical bypass or placement of a venting gastrostomy tube. Endoscopic ultrasound guided gastrojejunostomy (EUS-GJ) via placement of a lumen apposing metal stent has recently emerged as a viable and effective method of managing GOO. We aimed to describe the procedural characteristics, technical and clinical outcomes in patients who underwent EUS-GJ at our institution.

Methods A prospectively collected database of consecutive EUS-GJ procedures from August 2018 to October 2020 at our institution was reviewed retrospectively. All procedures were performed by two expert pancreatobiliary endoscopists. Recorded variables included patient demographics, technical success, clinical success, adverse events, 30-day all cause mortality and follow-up duration.

Results Sixteen patients (9 males) with a mean age of 64.5 years old (range 48 – 80 years old) were identified. Malignancy was the predominant aetiology of GOO in our patient cohort (81.3%, n=13). The technical success rate (defined as fluoroscopic and endoscopic confirmation of adequate stent deployment and positioning) was 93.8% (n=15), in whom the clinical success rate (defined as toleration of at least liquid diet without vomiting before discharge) was 100%. In the solitary case of technical failure, dislodgement occurred during balloon dilatation of the stent, the defect was endoscopically closed with clips and a duodenal stent was placed. The patient did not experience any adverse consequences post-procedure. Nine patients who required intravenous parenteral nutrition pre-procedure were successfully weaned off following EUS-GJ.

The median follow-up was 109 days (range 5 – 383 days). No adverse events were encountered. One patient required re-intervention at day 70. 30-day all cause mortality was 6.3% (n=1) and the death was due to malignant disease progression.

Conclusions EUS-GJ is an effective and safe procedure for the management of GOO. It should be considered in appropriately selected patients if there is available expertise.

HTU-3 OPTICAL DIAGNOSIS OF SMALL POLYPS AT COLONOSCOPY VERSUS HISTOPATHOLOGY: MOVING TOWARDS A NEW GOLD STANDARD?

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10.1136/gutjnl-2021-BSG.50

Introduction Histopathology is regarded as the gold standard for diagnosis of small colonic polyps. However, there is growing interest in optical diagnosis and implementation of a 'resect and discard' strategy. Our aim is to evaluate accuracy of histopathology reporting where a high confidence diminutive polyp optical diagnosis was made and to assess the impact of performing additional tissue section re-cuts, where there is a discrepancy.

Methods Eight bowel cancer screening colonoscopists optically diagnosed 639 diminutive polyps during the period Feb-Nov 2020 in the early phase of a prospective feasibility study of optical diagnosis (DISCARD3). Each polyp diagnosis was evaluated by the colonoscopist as high or low confidence. All retrieved polyps were sent for histopathology.

Discrepancy between high confidence optical diagnoses and histopathology were re-reported by a second pathologist blinded to the original optical and histological call. If discrepancy remained after re-review, the polyp was re-cut into deeper levels and a third blinded histopathology review performed.

Results Of 639 diminutive polyps, 468 (73.2%) were high confidence optical calls and 171 (26.8%) were low confidence (see figure 1).

Abstract HTU-3 Figure 1 Overview of study

High confidence optical diagnosis agreed with histopathology in 78.2% (366/468) of cases and disagreed in 21.8% (102/468). In cases of disagreement, the initial histopathology was reviewed and 7.8% (8/102) were due to histopathology error of which 3.9% (4/102) corrected on second review and 3.9% (4/102) corrected with deeper levels.

There were no polyp cancers and 1 case of high grade dysplasia.

Conclusions Although the majority of errors in optical diagnosis were related to incorrect high confidence calls a significant number were due to histopathology error. Change in practice to routinely perform additional deeper levels (ie 6 levels instead of 3) for small polyps appears to reduce this error rate by ~50%. Optical diagnosis errors may be reduced by increasing the threshold for assignment of high confidence.

HTU-4 COMPARISON OF POST COLONOSCOPY CANCER RATES IN SCREENING & SYMPTOMATIC SERVICES IN NHS GREATER GLASGOW

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10.1136/gutjnl-2021-BSG.51

Introduction The Post-Colonoscopy Cancer Rate at 3 years (PCCR-3yr) is a key indicator of quality of a service. The bowel screening programme (BCSP) in NHS England has reported PCCR-3 of 3.6%.¹ The bowel screening programme in Scotland has key differences to the English BCSP and does not rely on a specific accreditation programme with examination for screeners, although has concentrated investment in access by offering screening to age 50-74 years at outset. Our aim was to ascertain the PCCR in the bowel screening service in NHS Greater Glasgow and Clyde (the largest Scottish Health Board – population 1.14 million) during the period 2011-15, and compare with the rate in the symptomatic service for a similar age range (50-77yrs).

Method For each year within the study period, the total number of known cancer diagnoses was ascertained from cancer audit data submissions, identifying the 'true positive' colonoscopies. Cancer audit data was then linked to identify cases where a cancer was detected between 6 and 36 months after the index colonoscopy, giving the number of 'false negative' colonoscopies. Post colonoscopy cancer rate was then determined by expressing the number of 'false negative' colonoscopies as a percentage of the sum of 'true positive' and 'false negative' colonoscopies. The rates of post colonoscopy cancers between the screening and non-screening pathways were compared using the chi squared test.

Results There were 1909 true positive colonoscopies in the investigation period for the entire population. We found 102 cases of PCCR-3y, giving a rate of 5.2% (95% CI 4.6-5.6%). 678/2011 (34%) of all bowel cancers were screen detected. PCCR-3yr for the screening service was 4.4% (95% CI 3.6-5.2%), which was lower than 5.5% (95% CI 4.8-6.1%) for the symptomatic service but not statistically different.

Conclusion The overall PCCR-3yr for NHS GGC between 2011 and 2015 of 5.2% is similar to rates reported for England between 2015 and 2013. Post colonoscopy cancer rates for screening colonoscopy in NHS GGC were slightly lower than for the symptomatic service but not statistically different. Our rates were higher than rates reported for the English BCSP, but within the threshold of 5.5%¹ that has been

proposed by some investigators. This is the first report of PCCR-3yr in NHS Scotland and we believe that regular continuous audit of this important quality indicator should be replicated all Scottish boards. In our service, PCCR-3yr rates appear acceptable within NHS GGC and are slightly better for bowel screening compared with non-screening colonoscopy.

REFERENCE

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HTU-5 NATIONAL SERVICE EVALUATION OF THE TWO WEEK WAIT UPPER GI CANCER REFERRAL PATHWAY

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10.1136/gutjnl-2021-BSG.52

Introduction British Society of Gastroenterology (BSG) guidance on endoscopy during recovery from the COVID pandemic (April 2020) recommended that two week wait (2WW) referrals are triaged, with patients risk stratified for endoscopy or other investigation. We have prospectively evaluated the 2WW upper gastrointestinal (UGI) cancer pathway and its outcomes following this guidance.

Methods Data were collected at telephone triage by consultants and nurse endoscopists between May 2020 and February 2021 in 19 centres across the UK and recorded on a standardised data collection tool, which included recommendations on the timing of endoscopy based on the BSG recovery document. This project was supported by the BSG Clinical Services and Standards Committee.

Results Data for 1793 UGI 2WW referrals were received: median age 63 (IQR 51-74), 58% female. Dysphagia and odynophagia were the commonest reasons (83%) for referral. Other symptoms included dyspepsia (55%), weight loss (32%), globus (3%), and anaemia (3%). 15.8% of 2WW referrals were downgraded at triage to routine endoscopy (6.6%) or no investigation at all (9.2%). 56% were triaged to 2WW endoscopy; 19.6% to urgent (non-2WW) endoscopy; 4.7% to urgent CT scan; and 3.8% to barium swallow.

6.3% had UGI cancer (5.2% oesophageal, 1.1% gastric) and 0.9% had cancer at other sites (6 colorectal, 2 lung, 2 breast, 2 hypopharyngeal, 1 pancreatic and 2 unknown primary). Endoscopy results were available for 1387 patients (97.5% of all endoscopy pathways). The prevalence of UGI

Abstract HTU-5 Figure 1 The median interval from triage to endoscopy was: 12 days (IQR 8-18) for 2WW; 14 days (10-26) for urgent (non-2WW); and 17 days (9-38) for routine endoscopy