

**Results** A total of 135 lesions were identified, with 12 month recurrence identified in 8.1% of cases. Caecal location demonstrated a strongly significant association with recurrence compared with non-caecal location (27.8% vs 5.1%,  $p = 0.007$ )

Abstract PTU-022 Table 1

		12 month recurrence (%)		Total (n)
		no	yes	
Caecal location?	no	94.9	5.1	117
	yes	72.2	27.8	18
<b>Total</b>		<b>91.9%</b>	<b>8.1%</b>	<b>135</b>

**Conclusion** Caecal location was associated with over a 5-fold increase (28.7% vs 5.1%) in the incidence of 12 month recurrence. The results from this series confirm the increased technical demands associated with the endoscopic resection of caecal LNPCPs, especially considering our study involved experienced BCSP endoscopists. In view of the increased risk of endoscopic treatment failure, in addition to the established increased risk of adverse endoscopic events, we feel that caecal LNPCPs may benefit from multidisciplinary discussion and should only be managed by experienced clinicians.

**Disclosure of interest** None Declared.

## REFERENCES

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## PTU-023 THE USE OF ARGON PLASMA COAGULATION TO PREVENT COLORECTAL POLYP RECURRENCE FOLLOWING PIECEMEAL ENDOSCOPIC MUCOSAL RESECTION

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**Introduction** High levels of recurrence and residual tissue have been reported following piecemeal endoscopic resection (pEMR) of large colorectal polyps with figures approaching 30% described.<sup>1</sup> The application of argon plasma coagulation (APC) has been advocated to reduce recurrence following pEMR, with early data appearing to support the use of APC to treat tiny polyp fragments not amenable to endoscopic snare resection.<sup>2</sup> More recent data however, appears to oppose this view, suggesting no change in or even increased recurrence following adjunctive APC use.<sup>1</sup> With a lack of standardised APC application in relevant international case series, many of which include only small sample sizes, the position regarding its benefit remains controversial.

**Method** Retrospective analysis was conducted on 153 pEMR procedures undertaken in the Bowel Cancer Screening Programme (BCSP) between 2011–12. Recurrence rates on first endoscopic follow-up were compared between 2 groups (APC use vs no APC use). Statistical analysis was performed using the chi-squared test.

**Results** Recurrence was detected on first endoscopic follow-up in 25.5% of cases. A lower level of recurrence was seen in the APC group compared with the non APC group (17.9% vs 31.4%), with statistical significance seen on 1-sided but not 2-sided chi square analysis ( $p = 0.042$  (1-sided),  $p = 0.064$  (2-sided))

Abstract PTU-023 Table 1

		Piecemeal recurrence on first f/up (%)		Total (n)
		no	yes	
APC use?	no	68.6	31.4	86
	yes	82.1	17.9	67
<b>Total</b>		<b>74.5</b>	<b>25.5</b>	<b>153</b>

**Conclusion** While statistical significance was only seen on 1-sided chi-square analysis, the level of recurrence was over 40% lower in the APC group (17.9% vs 31.4%). It can be argued that our study may be underpowered and that the result indicates likely clinical significance. Our data does not support the data from other studies indicating a possible detrimental effect of APC. Whilst the use of APC is likely to be more standardised within the BCSP, the exact circumstances of its use, such as the amount of residual tissue post snare resection remaining prior to APC use in other studies, is unclear. We believe APC is appropriate therapy for tiny residual polyp fragments post snare resection, but should not be used on larger tissue areas. A large randomised controlled trial with a standardised protocol for APC application would add further evidence.

**Disclosure of interest** None Declared.

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## PTU-024 PHOTOMETRIC STEREO RECONSTRUCTION FOR SURFACE ANALYSIS OF MUCOSAL TISSUE

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**Introduction** The American Society of Gastroenterology endoscopy led Preservation and Incorporation of Valuable endoscopic Innovations initiative has identified real time polyp detection diagnosis as one of the next major technology-driven changes in endoscopy.<sup>1</sup> We have recently described a novel photometric stereo (PS) imaging sensor for endoscopy imaging in a porcine model.<sup>2</sup> Following image acquisition, reconstruction of the surface data is necessary to calculate the shape index (SI) to identify regions that are locally spherical, suggestive of polyps to aid polyp detection.

**Method** Using a porcine gut model, photometric images were captured using a six-light source PS setup as previously described.<sup>2</sup> Surface analysis of the obtained surface data was performed: Derivatives of the height fields arranged on a square lattice were calculated using finite differences, and used to characterise the differential geometry using the principal

curvatures.<sup>3</sup> Surface measures analysis: for each point on the surface, the shape index (SI) was computed and used to measure the local shape:

$$SI = 1/2 - 1/\pi \tan^{-1} ((K1+K2)/(K1-K2))$$

#### Results



**Abstract PTU-024 Figure 1** Porcine colonic data captured using the photometric stereo system. Left to right: Colour image, Normal map, Reconstructed height map, SI image top view, SI image side view

**Conclusion** Using a novel PS image acquisition 3D reconstruction was obtained on colonic mucosa. We observe that the recovered 3D surface retains the surface geometry in the captured areas and important structural information at a fine level of detail, even in the presence of numerous specular reflections. This is highly significant for automated processing and analysis of surface abnormalities.

**Disclosure of interest** None Declared.

#### REFERENCES

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#### PTU-025 HOW ACCURATELY IS ROCKALL SCORE CALCULATED FOR PATIENTS WITH ACUTE UPPER GASTROINTESTINAL BLEEDING (AUGIB)?

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**Introduction** Documentation of Rockall score (RS) in patients with AUGIB should be accurate in order to prioritise patients for gastroscopy. We conducted a pilot study in 2012 which showed that RS was calculated incorrectly in 46% patients. We investigated this further with a larger cohort of patients.

**Method** Information was collected retrospectively on patients who presented with AUGIB from February 2012 to February 2013. Patients who had out-of-hours gastroscopy excluded. Demographics, time to perform gastroscopy, RS documented by the doctor requesting the gastroscopy, RS calculated by analysing patient records (including A&E, paramedic records) were collected. We analysed patients whose RS was either underscored or overscored by the requesting doctor (this was compared to the actual score calculated by us) and correlated the calculated RS with the need for endoscopic intervention.

**Results** There were 248 patients with 149 (60%) males, age 16 to 98 years (mean 69). Presenting symptoms were melaena in 129 (51%), haemetemesis 35 (14%), coffee ground vomiting 64 (25%), rectal bleed 17 (7%), melaena and haemetemesis 4.

RS was calculated incorrectly in 194 (78%) patients with 110 (44%) over scored (Group A), 84 (34%) underscored (Group B). Mean RS on request form for Group A patients was  $3.64 \pm 1.97$  while the calculated RS was  $1.85 \pm 1.61$ . In Group B, mean RS documented was  $1.8 \pm 0.96$  while the calculated RS was  $3.9 \pm 1.04$ . Mean time from electronic booking to gastroscopy was 2.02 days – 1.67 days for Group A and 2.04 days in Group B.

FY1s calculated incorrect scores in 83 (43%) patients, FY2s in 20 (10%), SHOs in 81 (42%), registrars in 7 (4%) and consultants 3 (2%). Of the 111 FY1s (45%) who calculated the RS, 46 (41%) overscored, 37 (33%) underscored and 28 (25%) calculated RS correctly. The numbers for 27 FY2 (11%) were 11 (41%), 9 (33%) and 7 (26%) respectively. Of the 95 (38%) SHOs, 47 (50%) overscored, 34 (36%) underscored and 14 (15%) calculated RS correctly. There were 11 specialist registrars (4 correct, 4 overscored and 3 underscored) and 4 Consultant request forms (3 incorrect).

Of the 248 patients, 37 (15%) required endoscopic intervention. In Group A, 16 (15%) needed endoscopic intervention, compared to 11 (13%) in Group B. Ten (19%) of the 54 patients scored correctly required endoscopic therapy.

**Conclusion** This study shows that it is important to document the RS at the time of first presentation of AUGIB rather than at the time when the patient is seen by the admitting doctor. This study however does not show a direct correlation between the RS and endoscopic intervention. It emphasises the fact that all doctors should be educated about the importance of documenting the correct RS as more than three quarter of the RS on request forms were found to be inaccurate.

**Disclosure of interest** None Declared.

#### PTU-026 CYTOLOGICAL YIELD OF BILIARY BRUSHINGS OBTAINED DURING ENDOSCOPIC RETROGRADE CHOLANGIO PANCREATOGRAPHY (ERCP): A SINGLE CENTRE EXPERIENCE

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**Introduction** British Society of Gastroenterology (BSG) guidelines recommend cytological analysis of brushings taken from biliary strictures to support diagnosis of malignancy in suspected individuals. There is wide variation reported in literature on test sensitivities ranging between 16% and 65%. We set out to report a single centre experience on the diagnostic yield of cytology specimens of biliary strictures obtained from ERCP.

**Method** Retrospective analysis on all biliary brushings taken between 2008 and 2011 was performed. All ERCPs were performed by two experienced endoscopists. Routinely, the cytology brush is sent to the lab immediately after the procedure, analysis undertaken by liquid-based methodology and results verified by a histopathologist with special interest in pancreato-biliary disorders. The brushing result was then correlated with the final diagnosis ('suspicious' and 'atypical cells' in cytology report were considered malignant for audit purposes).

**Results** Cytological specimens taken from 89 patients supported diagnosis of benign or malignant pathology in 67 showing an overall sensitivity of 75.3%.

**Abstract PTU-026 Table 1**

Cytology result	Final diagnosis cancer	Final diagnosis benign
Positive	54	0
Negative	22	13
Total	76	13