Abstracts

O5 BOUGIECAP DILATATION DEVICE: NOVEL ENDOSCOPIC METHOD FOR TREATMENT OF OESOPHAGEAL STRICTURES—RESULTS FROM A MULTICENTRE STUDY

Methods Patients with UC were prospectively recruited from 11 international centres. Participating endoscopists experienced in IBD received training on PICaSSO before starting the study. The rectum and sigmoid were examined using iScan 1,2&3 (Pentax, Japan) and inflammatory activity was assessed using Mayo, UCEIS and PICaSSO. Biopsies were taken for histological assessment using Robarts Histological Index (RHI), Nancy, ECAP, Geboes and Villanacci. Follow up data was obtained at 12 months.

Results A total of 307 patients were recruited. The interobserver agreement for the PICaSSO score was 0.879 (95% CI 0.826–0.924). The PICaSSO total and PICaSSO mucosal scores strongly correlated with histology scores and was statistically better than MES and UCEIS as shown in figure 1. When using a PICaSSO total score of ≤3 the AUROC to predict MH by RHI (≤3 + absence of neutrophils) was 0.90 (95% CI 0.86–0.94) and when we compare the AUROC of Picasso vs Mayo p was =0.06. When using the Nancy score (≤1) the AUROC was 0.816 (95% CI 0.77–0.87). A Kaplan-Meier curve shows a significant favourable survival probability without relapse with a PICASSO score of ≤3 Likelihood ratio test=26.41, p<0.0000.

Conclusions This real-life validation study show’s the electronic chromoendoscopy score, PICaSSO, can predict accurately histological healing and long-term remission and can be a useful tool in the management of UC.

O6 ARTIFICIAL INTELLIGENCE USING CONVOLUTIONAL NEURAL NETWORKS FOR DETECTION OF EARLY BARRETT’S NEOPLASIA

Introduction Endoscopic detection of early Barrett’s neoplasia remains very challenging, with significant inter-observer variation in identifying and assessing these lesions. Artificial intelligence is proposed to help with computer aided detection in this field and could have significant clinical and cost implications. We aim to develop and validate a deep learning (DL) algorithm using Convolutional Neural Networks (CNN) for detection of Barrett’s neoplasia.

Methods We collected 132 high definition white light endoscopy images from 46 lesions of histologically confirmed Barrett’s neoplasia. These images were marked and annotated using specially designed software, and reviewed by two experts on advanced assessment and management of Barrett’s neoplasia. Another 119 images of non dysplastic Barrett’s were collected from 20 patients and used as control. Both dysplastic and non dysplastic images were divided into three datasets and used for training, validation and testing of CNN algorithm. We used SegNet segmentation architecture. Graphic processing unit used was a GeForce RTX 2080 Ti. We collected metrics on processing speed,

Abstract O6 Figure 1 Two examples of the algorithm prediction in (A) a raised adenocarcinoma lesion, and (B) a flat subtle HGD lesion. The red line is expert marking of the lesion (ground truth), while the blue coloured patch is the algorithm delineation of the lesion.
Abstracts

07 OUTCOMES FROM THE UK ENDOSCOPIC SUBMUCOSAL DISSECTION (UK ESD) REGISTRY: WHAT HAVE WE LEARNT?

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Introduction The practice of endoscopic submucosal dissection (ESD) for treatment of early gastrointestinal neoplasia has been increasing in the West, however, the uptake has been slow due to a long learning curve and higher complication rate. We aim to analyse UK ESD practice through the development of the first UK national ESD registry.

Methods The UK ESD registry was established in 2016 with 4 major tertiary referral centres which was extended to 6 centres by 2019. Data on different parameters ranging from patient demographics to procedural details were collected on a national web based electronic platform and analysed.

Results A total of 309 ESDs were performed with a completion rate of 99.2%. Standard ESD was performed in 73.5% whereas hybrid ESD was performed in 26.5% cases. The mean lesion size was 38 mm (range 10 – 130 mm).

The overall en bloc resection rate was 86.5%, whereas the R0 resection rate was 72.5%

There were 12 (3.8%) cases with complications (7 significant bleeds and 5 perforations).

Majority of the colorectal lesions showed a resection histology of LGD (71%) with cancer demonstrated in roughly 10% of the lesions, whereas upper GI lesions showed a higher percentage of atleast SM1 invasive cancer (stomach -61% and oesophagus- 67%).

The mean duration between procedure and first follow up endoscopy was 212 days, with visible recurrence occurring in 23 cases (7.4%).

Further details comparing standard ESD technique and hybrid ESD have been outlined in table 1.

Conclusions We therefore conclude that En bloc resection rates were higher in standard ESD, than in hybrid ESD, however, the latter was involved with fewer complications. Recurrence rates were higher in hybrid ESD compared with standard ESD, however, still lower than for EMR with similar complication rates (specally for colorectal lesions). Although associated with a lower en bloc resection rate and greater recurrence than ESD, hybrid ESD could be an attractive learning step for western endoscopists to be fully competent in standard ESD.

Inflammatory bowel disease

08 RANDOMISED CONTROLLED TRIAL OF ANTIBIOTIC/HYDROXYCHLOROQUINE COMBINATION VERSUS STANDARD BUDESONIDE IN ACTIVE CROHN’S DISEASE (APRICOT)

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Introduction Mucosal E. coli are increased in Crohn’s disease (CD). They replicate within macrophages and are then inaccessible to penicillins and gentamicin. Hydroxychloroquine is used with doxycycline to treat Whipple’s disease. It raises macrophage intra-vesicular pH and inhibits replication of bacteria that require acidic pH. Ciprofloxacin and doxycycline are also effective against E. coli within macrophages.

Methods Adult patients with active CD (CDAI>220 plus CRP>2.5 mg/l and/or faecal calprotectin >250 ugram/g) were randomised to receive (open label) either oral budesonide (CD) with antibiotics (6.9%) whereas upper GI showed a higher percentage of atleast SM1 invasive cancer (stomach -61% and oesophagus- 67%).

The mean duration between procedure and first follow up endoscopy was 212 days, with visible recurrence occurring in 23 cases (7.4%).

Further details comparing standard ESD technique and hybrid ESD have been outlined in table 1.

Conclusions We therefore conclude that En bloc resection rates were higher in standard ESD, than in hybrid ESD, however, the latter was involved with fewer complications. Recurrence rates were higher in hybrid ESD compared with standard ESD, however, still lower than for EMR with similar complication rates (specally for colorectal lesions). Although associated with a lower en bloc resection rate and greater recurrence than ESD, hybrid ESD could be an attractive learning step for western endoscopists to be fully competent in standard ESD.

Abstract 07 Table 1

<table>
<thead>
<tr>
<th></th>
<th>Standard ESD</th>
<th>Hybrid ESD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>En bloc</td>
<td>Complication</td>
</tr>
<tr>
<td>Oesophageal (N=88)</td>
<td>76/78=97.4%</td>
<td>Bled: 2/78 (2.6%)</td>
</tr>
<tr>
<td>Gastric (N=87)</td>
<td>76/77=98.7%</td>
<td>Bled: 1/77 (1.3%)</td>
</tr>
<tr>
<td>Duodenal (N=6)</td>
<td>1/1=100%</td>
<td>Bled: 0</td>
</tr>
<tr>
<td>Colorectal (N=128)</td>
<td>68/70=97.1%</td>
<td>Bled: 3/70 (4.3%)</td>
</tr>
</tbody>
</table>

|                |                | Perforation: 0 | 0          | 0.5=80% | Perforation: 1/5 (20%) | 4/58=6.9% |

|                |                | Perforation: 0 | 0          | 0.5=80% | Perforation: 1/5 (20%) | 4/58=6.9% |

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