idiopathic CP. 283 (55.8%) patients underwent ductal clearance (ESWL/ERCP 232, drainage surgery 27, surgery following ESWL 24). 190 (37.5%) patients developed diabetes. Mean(SD) duration between onset of CP symptoms and ductal clearance was 3.4 (3.2) yrs.

Alcohol intake and pancreatic ductal calculi were independently associated with the development of diabetes (OR [95% CI] of 2.01 [1.16–3.47], p=0.03 and 2.04 [1.38–3.01], p<0.0001 respectively). Kaplan-Meier estimate for diabetes free patients was significantly higher in the patients who underwent ductal clearance in patients with idiopathic CP (p=0.001 by Log-rank test), with a Hazard ratio (HR [95% CI]) of 2.01 (1.3–3.0), p=0.002 (figure 1). This was not significantly different for patients with non-idiopathic (alcohol ±smoking) CP.

Conclusions Pancreatic ductal calculi increase the risk of diabetes in CP. Early ductal clearance of stones could prolong the diabetes-free interval in patients with idiopathic CP.

Conclusions According to the results, CA, as traditional Indian remedy, was more effective than pantoprazole and placebo in reducing the symptoms in FD patients.

IDDF2018-ABS-0252 A DEEP LEARNING METHOD FOR INTESTINAL POSITION LOCATING IN WCE

1Liansheng Wang*, 2Qi Qiu. 1Xiamen University, China; 2Xiamen Innovation Medical Technology Company, China

Background In a wireless capsule endoscopy (WCE) abnormal automatic detection system, the same image content may have different meanings in different locations. For example, visible blood vessels are usual in ileum but abnormal in the duodenum and upper jejunum, and bile is normal in the duodenum but indicating bile reflux in the stomach, as shown in figure 1. Therefore, the essential first step of building this system is to locate the intestinal position of the image.

Methods To tackle this problem, a dense, connected convolution neural network (CNN) was adopted. The data were collected from several hospitals, consist of complete WCE videos of 16 patients, which has an average of 60 000 images per video. Those images were classified into four classes: oesophagus, stomach, small intestine and others by a gastroenterologist. The images before oesophagus part and after small intestine part were excluded because the large intestine disease is not the goal of the WCE.

Results We used images of 10 videos (60%) for training and the rest 6 videos (40%) for testing. The performances are shown in table 1.

Table 1 Performances of three classification task

<table>
<thead>
<tr>
<th></th>
<th>ESO/STO</th>
<th>STO/Small intest</th>
<th>ESO/STO/Small intest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>98.91%</td>
<td>99.22%</td>
<td>98.8%</td>
</tr>
<tr>
<td>Specific</td>
<td>99.78%</td>
<td>99.17%</td>
<td>-</td>
</tr>
<tr>
<td>Sensitive</td>
<td>98.47%</td>
<td>99.23%</td>
<td>-</td>
</tr>
</tbody>
</table>

We do not classify oesophagus vs. small intestine because of the order of WCE passing through the human gut. Due to the intestinal of patients are not clean enough, some images were fulfilled with food residue or faecal residue, which leads to the inability to determine its location. Rest of the misclassified samples are almost located at the junction of two parts because the intestinal wall of these places contains the characteristics of the front and back parts.

Conclusions The CNNs show the great ability to distinguish the WCE images belongs to the oesophagus, stomach or small intestine. Some misclassified results were corrected based on the continuity of intestine for more robust performance, which will benefit the WCE abnormal automatic detection system behind.