CVC-Colon	380	300	40	40
CVC-Clinic	612	492	60	60

Conclusions WCE plays an essential role in diagnosis and prevention of colorectal cancer. However, distinguishing abnormal WCE images with polyps is a significant challenge because it needs high time cost. The results show that our method can help physicians analyse the WCE images and reduce their pressure. This method could be further utilised in the clinical trials to help physicians from the tedious image analysing work.

IDDF2018-ABS-0258 A CASE REPORT OF WARFARIN INDUCED SPONTANEOUS SUB-MUCOSAL AND MESENTERIC HEMATOMA IN THE GASTROINTESTINAL TRACT (SMALL BOWEL) CAUSING BOWEL OBSTRUCTION

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Background To present a rare case of Warfarin-induced spontaneous sub-mucosal and Mesenteric hematoma in the Gastrointestinal Tract (Small Bowel) causing bowel obstruction.

Methods Case Report.

Literature Review.

Results A case of a 67-year-old male is presented with a chief complaint of abdominal pain for three days and difficulty passing stool. He has a known case of Hypertensive atherosclerotic cardiovascular disease, Rheumatic Heart disease, Coronary Artery Disease s/p Coronary Angiography, Chronic Atrial Fibrillation, and Diabetes Mellitus Type II. Maintained on several medications including ASA 80 mg 1 tab OD and

Coumadin 5 mg 1 1/2 tab OD. He was lost to follow-up for one year. On his admission, his PT and INR were reportedly undetectable. He was admitted and treated as a case of Small Bowel Ischemia secondary to spontaneous sub-mucosal and Mesenteric haemorrhage and Non-ST Elevation Myocardial Infarction. The entire duration of the hospitalisation took 11 days to include ICU stay, and surgical procedure and recovery.

Conclusions This case highlights the risk of haemorrhage in a high-risk patient taking warfarin and the need for close monitoring and follow-up. An intramural hematoma should be entertained in patients on warfarin treatment presenting with clinical signs and symptoms of bowel obstruction. Non-operative treatment of spontaneous small bowel hematoma has a good outcome in most patients. This also stresses the importance of diligent follow-up with the attending physician to ensure a proper balance of anticoagulation and risk of bleeding. On the other hand, this case emphasises that over-anticoagulation leading to bleeding creates negative feedback to the heart, by increasing metabolic demands, which can lead to a paradoxical thromboembolic phenomenon such as Myocardial

IDDF2018-ABS-0259 SEGMENTATION OF INTESTINAL POLYPS VIA A DEEP LEARNING ALGORITHM

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Background Colorectal is the third most commonly occurring cancer in men and the second most commonly occurring cancer in women. At least 80%–95% of colorectal cancers are evolved from intestinal polyps. Therefore early screening of intestinal polyps is one of the crucial ways to prevent colorectal cancer. WCE is widely used in the examination of the internal environment of the digestive tract. However, lots of medical images per patient undoubtedly create a considerable burden on doctors. Thus, in this paper, we describe a

Abstract IDDF2018-ABS-0259 Figure 1 Examples of segmentation results on the test data. Each column represents a single frame, a ground truth annotation, a prediction image, and a prediction image annotation

computer-assisted segmentation of intestinal polyps to help doctors visualise polyps in images.

Methods We choose DCNN (Deep Convolution Neural Network) as our model, which has shown outstanding performance in image segmentation tasks in recent years. The data we used to train the model including two open intestinal polyp datasets, CVC-ColonDB and CVC-ClinicDB. The data are divided into training data, validation data and test data. At the same time, we use cross-entropy as a model-optimised loss function and the IoU value as our model's evaluation criteria.

Results Table 1 shows that our model performed well on these three data. At the same time, it should be noted that our model performed significantly better on the training data than the test data as shown in IDDF2018-ABS-0259 Figure 1. This may be due to the lack of data and the variance between different patients.

Abstract IDDF2018-ABS-0259 Table 1 IoU value of two classes (background and polyp) on the separated dataset

DATA	Background IoU	Polyp IoU	Accuracy
Training data	0.976	0.800	0.987
Valid data	0.969	0.604	0.970
Test data	0.947	0.523	0.725

Conclusions The experimental results show that our model has achieved good performance in the polyp segmentation task, which appears as an IoU value of more than 0.5 on the test set and visual examples illustrated in Figure 1. In addition, without the need for manual feature extraction and pre-processing, DCNN model shows good adaptation for polyps of different sizes.

IDDF2018-ABS-0260 DEEP LEARNING FOR POLYP SEGMENTATION

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Background Colorectal cancer is one of the commonest malignancies which threaten the health of human. Most of the colorectal cancers arise from adenomatous polyps, screening for this cancer is effective not only for early detection but also for prevention. Endoscopic examination is an important way to reveal polyps. At present, the main limitation of colonoscopy is the high polyp miss rate. This study aims to improve the accuracy of detection and save doctors' time with deep learning techniques.

Methods The data we used is a combination of CVC-ColonDB and CVC-ClinicDB which contains 912 images with associated polyps. We treat the rest part of a colonoscopy image except polyps as background. Convolutional networks are applied to polyp localization and segmentation. There are three different architectures which include FCN, SegNet and modified ResNet. We trained convolutional networks with these architectures respectively and evaluated these models based on Intersection over Union (IoU) and accuracy.

Results The segmentation results on the test set are reported in table 1 and the accuracy of three architectures is greater than 90%. Results achieved in SegNet and modified ResNet are very encouraging, with a IoU higher than 50% for polyps. IDDF2018-ABS-0260 Figure 1 shows qualitative results of three architectures. It can be seen that all of them recognise the location of polyp successfully and rows 2 and 3 show finer boundaries. The results are reported on test set

Abstract IDDF2018-ABS-0260 Figure 1 Examples of predictions: (a) FCN8 model; (b) SegNet model; (c) modified ResNet model. From left to right, each column represents ground truth, prediction and a translucent prediction image