Colonoscopy—a rare cause of pancreatitis

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Colonoscopy is a common procedure for investigation for colonic pathology either on the basis of symptoms or screening for abnormality. Complications are uncommon—but iatrogenic, harmful to patients, and potentially the subject to complaints. It is important to have a good understanding of what the complications are, how often they occur and how they occur. There are a few well recognised complications such as perforation, bleeding and postpolypectomy syndrome, however there are also a number of less well recognised complications reported such as infection, splenic rupture, having the snare caught on a large polyp, benign pneumoperitoneum, diverticulitis, appendicitis. In this report we outline another rare complication, that of post colonoscopy pancreatitis.

Case report

A 77-year-old otherwise fit man underwent a colonoscopy to investigate a change in bowel habit. His normal medications included aspirin 100 mg once daily and simvastatin 20 mg nocte for primary cardiovascular prevention. He had no known drug allergies. He was a non-smoker and had a minimal alcohol intake. The procedure itself was uncomplicated and no tissue sampling was undertaken. He was sedated for the procedure with 100 mcg of fentanyl and 5 mg of midazolam intravenously.

The patient developed an acute onset of central abdominal pain 4 hours post procedure and presented to our acute surgical service. On physical examination, the patient had a pulse of 72 beats per minute, blood pressure of 130/70 mmHg and a temperature of 37°C. His abdomen was tender on palpation centrally but did not exhibit signs of peritonitis.

Investigations revealed an amylase 1258 U/L, lipase 4248 U/L, C-reactive protein (CRP) 11 nmol/L, gamma-glutamyl transferase 542 U/L, aspartate aminotransferase 484 U/L, alanine aminotransferase 460 U/L, and alkaline phosphatase 92 U/L. Calcium, phosphate, albumin and protein levels were normal and fasting cholesterol was 5.3 mmol/L.

Radiological investigations included a transabdominal ultrasound showed a normal biliary system. A magnetic retrograde pancreatic cholangiogram (MRCP) showed inflammation of the pancreas (Figure 1). A computed tomography (CT) on day 4 revealed a thickened pancreas consistent with inflammation and extensive mesenteric stranding and fluid collections (Figure 2).

He was managed with intravenous fluids, analgesia and clear fluid diet escalating to normal diet over the initial days. The amylase and lipase returned to normal levels and the CRP peaked at 272 nmol/L on day 4. He was discharged on day 12 post presentation in stable condition, the amylase was 40 U/L, lipase was 85 (8–78) U/L and CRP 96 nmol/L. On 3-month follow up, the patient has returned to his normal activities and had no further episodes of abdominal pain.
Figure 1. MRI showing high-signal intensity abnormality resembling haemorrhagic fluid (arrow)

Figure 2. CT on day 4 showing pancreatitis with adjacent stranding and small fluid collections (arrow)
Discussion

Serious complications following colonoscopy are well documented in the literature. The risk of bleeding increases when tissue sampling is performed and the risk of colonic perforation is low, generally quoted in the <1% figures. Other serious but rare complications of colonoscopy includes splenic trauma and sepsis.

The two common aetiologies causing approximately 80% of acute pancreatitis are gallstone migration and alcohol abuse. The remaining causes include metabolic derangement, medications, anatomical anomalies and trauma.

A literature search revealed only two case reports of patients pancreatitis following colonoscopy. In both these cases, the procedure was reported to be difficult around the splenic flexure and multiple attempts to insert the endoscope were made. This was not the case with our patient.

Given the pancreas appearance on the CT and MRI being consistent of haemorrhagic likely to be due to the trauma. The proposed hypothesis is mechanical trauma to the body and tail of the pancreas caused by the mechanical entry of the endoscope and possibly air insufflation around the splenic flexure and transverse colon.

It is very unlikely that the simvastatin was the cause of the pancreatitis as the patient has been on treatment for more than 3 months. Statin-induced pancreatitis occurs rarely and most of the published case studies reported a short duration from the time the medication was started to the pancreatitis. In addition, the patient was re-challenged with simvastatin during the admission and his symptoms did not worsen.

Abdominal pain post colonoscopy is a relatively common symptom and is frequently benign. Patients presenting to emergency services should have investigations to rule out perforation. Once perforation has been ruled out and depending on the clinical presentation, pancreatitis caused by the procedure should be suspected.

With the increase use of endoscopy in diagnostic and therapeutic colonic conditions, clinicians should be aware of such complications to initiate early diagnosis and treatment.

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