Jejunal Diverticulosis as the Obscure Cause of Overt Gastrointestinal Bleeding

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SUMMARY

Jejunal diverticulosis is a rare gastrointestinal condition manifested as benign outpouching from the jejunal wall. It is usually asymptomatic, but may present as obscure gastrointestinal bleeding. This condition is often found incidentally in the imaging work-up of patients with other gastrointestinal conditions. We present a case of jejunal diverticulosis in a 65-year-old gentleman with obscure overt gastrointestinal bleed.

KEY WORDS:
Small bowel, Jejunal diverticula, Gastrointestinal bleeding

INTRODUCTION

Small bowel diverticulosis is a rare entity which is often asymptomatic [1]. Jejunal diverticula are the most uncommon entity of all the small bowel diverticula [2]. It accounts for 0.5%-2.3% of all small bowel contrast studies and only in 0.3%-4.5% of autopsies [2]. Some patients may develop chronic abdominal symptoms such as abdominal pain, nausea, vomiting, diarrhoea and malabsorption [2]. About 10% of the patients will develop complications [1]. Major complications include diverticulitis, gastrointestinal haemorrhage, intestinal obstruction and acute perforation [3]. Thus, identification of small bowel diverticula is important in patients with chronic abdominal symptoms to anticipate the possibilities of these complications in order to make an early and appropriate diagnosis. We discuss a rare case of jejunal diverticula.

CASE REPORT

A 65-year-old Malay male presented with sudden onset of haemetesis and malaena. He also had non-progressive intermittent epigastric pain and flatulence for the past few years. He had no recent history of change in bowel habit or loss of weight. Past medical history included stroke, diabetes, hypertension and gastric ulcer. He was initially treated in another hospital for his upper gastrointestinal bleed. However, he was later transferred to our hospital for logistical reasons. At our hospital, he was haemodynamically stable with a soft, non-tender abdomen. There were no signs of anaemia. Rectal examination revealed no malaenic stool. No mass was palpable. The remainder of the systemic examination was unrevealing. Laboratory work-up was unremarkable except for a platelet count of 113 X 10^9/L. Post-transfusion haemoglobin was 10.1 g/dL. The first oesophagogastroduodenoscopy (OGDS) showed two superficial Forrest III prepyloric ulcers with no active bleeding. Subsequently, a repeat OGDS two days later revealed healed prepyloric ulcers. Colonoscopy was unremarkable. These prepyloric ulcers were thought to be too small to account for the massive blood loss. Therefore, a contrast-enhanced CT scan of the abdomen and pelvis was

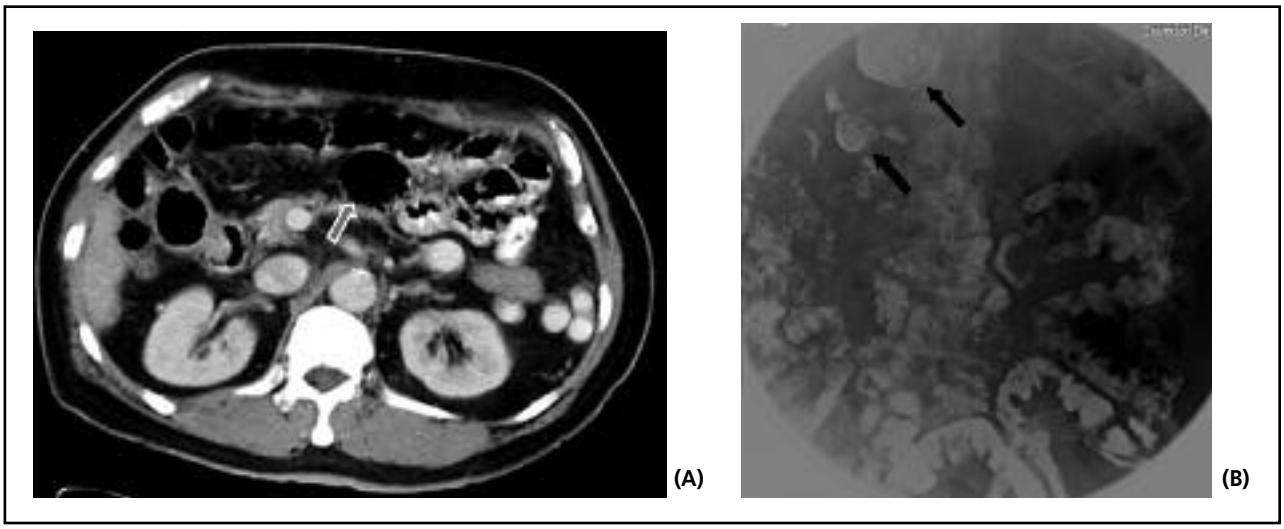

Fig. 1: (A) Axial CT demonstrated diverticula (red arrow) in the proximal jejunum. (B) Prone abdomen radiograph from small bowel follow through demonstrated retained contrast in the outpouchings (black arrow) from jejunum, which was suggestive of diverticula.

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done. There were multiple proximal jejunal diverticula (Figure 1A) on the CT. Double contrast barium meal and small-bowel follow through showed multiple out-pouchings from the proximal jejunum, confirming the diagnosis of diverticuli (Figure 1B). Both CT and barium studies did not show evidence of diverticulitis or active bleeding. The patient was stable on observation in the ward and was discharged after that.

DISCUSSION

The incidence of small bowel diverticulosis is very low as compared to colonic diverticulosis, which is found in 15% to 40% of the adults over the age of 40 [1]. Jejunal and ileal diverticula affect only 0.07% to 1.0% of the population [1]. The majority of patients are asymptomatic and it is only diagnosed as an incidental finding in imaging studies. Duodenal diverticula were diagnosed incidentally in most cases as compared to duodenal and ileal diverticula in one of the studies [4]. This could be due to increased feasibility of OGDS in the current health care system. The importance of identifying small bowel diverticula is based on the risk of developing serious complications such as diverticulitis, haemorrhage and intestinal obstruction [4].

There are two types of small bowel diverticulosis, namely congenital and acquired. The congenital diverticula consist of all 3 intestinal layers, a good example is Meckel's diverticulum. The acquired diverticula have similarities with colonic diverticula. These diverticula consist of mucosal and submucosal layers without intervening musculature. Jejunal diverticula are usually acquired, in which the mucosal herniation takes place at the gaps in the muscle layers. It has a wide range of sizes, ranging from a few millimeters to more than 10 centimeters [2]. Small bowel diverticula were multiple in 24% of patients in one study [4]. In patients with jejunal diverticula, 35% are associated with colonic diverticula and 26% with duodenal diverticula [2].

Small bowel diverticula are commonly seen in the older age group, with a male predominance [2]. In a study in 2002, the mean age for diverticula in the duodenum, jejunum and ileum, and Meckel's diverticulum were 58 years, 67.2 years and 22 years respectively [4]. Our patient fits into the second age group. This can probably reflect the chronicity of the disease which takes years to develop. It can be due to prolonged intraluminal pressure in the small bowel.

Patients with jejunal diverticula can present with chronic abdominal symptoms such as abdominal discomfort and dyspepsia, with vague abdominal pain the commonest symptom [4]. Our patient had chronic abdominal symptoms, which could be contributed by his gastric ulcers and jejunal diverticula. The clinical presentation of jejunal diverticula often overlaps with other causes of acute abdomen such as cholecystitis, pancreatitis or appendicitis. In view of its potential life threatening complications, it should be also considered especially in elderly patients.

Complications of small bowel diverticula occur in 15% of cases [4]. The most frequent complications are usually due to inflammation and obstruction with occasional localized perforation or haemorrhage [5]. In our case, the patient was diagnosed with upper gastrointestinal bleed secondary to gastric ulcer. However, bleeding from the jejunal diverticula was later thought to be the actual cause of gastrointestinal bleed.

Active bleeding from jejunal diverticula is difficult to diagnose. It can be identified either by a 99m Tc-labeled RBC scan or arterography, if blood loss is greater than 1-2ml/minute [4]. In a study by Nobles (1971) of 15 patients who underwent jejunal resection for serious complications of jejunal diverticulosis, 5 had intestinal haemorrhage [5]. A triad of obscure pain, anemia and dilated jejunal loops was proposed to be the alarming symptoms of jejunal diverticulosis.

Other modalities of diagnosing jejunal diverticula include wireless capsule endoscopy and small bowel enteroscopy. While wireless capsule endoscopy is relatively less invasive, it has a small risk of lodging in one of the large diverticula. This may necessitate a laparotomy to remove the capsule. The risk of capsule retention can be reduced by using a dissolvable dummy capsule prior to the real capsule. Small bowel enteroscopy, either in the form of double-balloon-enteroscopy or single-balloon-enterosocpy, is rather invasive and usually reserved for cases where capsule endoscopy detected a bleeding lesion. With small bowel enteroscopy, haemostatic procedures such as injection of diluted adrenaline can be carried out. Should injection fail to stop the bleed, enteroscopy allows injection of Indian ink in order to mark the area of bleeding for easy identification during a laparotomy.

Bleeding diverticula was essentially a self-limiting condition and do not require specific intervention. Laxative is prescribed for preventing constipation thus further diverticulum formation. Life-threatening bleeding from diverticula warrants a surgical resection [1]. Antibiotics were proposed for infected diverticulosis.

CONCLUSION

Though small-bowel diverticula are rare and often asymptomatic, it is important to be aware of this condition and consider it in patients with obscure gastrointestinal bleeding and chronic abdominal symptoms.

REFERENCES

1. Nicole L. Lacz, John V. Zurlo. Small bowel diverticulitis: an often overlooked cause of acute abdomen. Am Soc Emergency Radiol 2010;17: 497-501.
2. Vishal Arun Patel, Helen Jefferis, Ben Spiegelberg *et al*. Jejunal diverticulosis is not always a silent spectator: A report of 4 cases and review of the literature. World J Gastroenterol 2008; 14(38): 5916-9.
3. Ross CB, Richards WO, Sharp KW *et al*. Diverticular disease of the jejunum and its complications. Am Surg 1990; 56: 319-24.
4. Gregory K, Andromachi G, Dimitrios M *et al*. Clinical implications of small bowel diverticula. IMAJ 2002; 4: 431-3.
5. John WD. Major Complications of small bowel diverticula. Ann. Surg. 1979; 190: 2.