Case Report

Fish Bone Perforation of Meckel’s Diverticulum: A Rare Event?

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Foreign body perforation of Meckel’s diverticulum is a very rare event. We report two cases of fish bone perforation of Meckel’s diverticulum that presented within 5 days of each other. Both patients presented with acute abdomen and were initially suspected to have acute appendicitis. The diagnosis was only made at surgery when the appendix was found to be normal and Meckel’s diverticulum was found to be inflamed and perforated by a fish bone. Both cases were treated successfully with Meckel’s diverticulectomy. [Asian J Surg 2005;28(4):295–6]

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Introduction

Meckel’s diverticulum, derived from a persistence of a vestige of the omphalomesenteric duct, is found in 2% of the normal population and normally lies within 30 cm of the ileocaecal valve.1 Most Meckel’s diverticula are asymptomatic and are found incidentally at laparotomy for other pathologies. Meckel’s diverticulum may give rise to bleeding, intestinal obstruction, inflammation, intussusception and neoplasm.2 A very rare complication of Meckel’s diverticulum is foreign body perforation.

Foreign body perforation of Meckel’s diverticulum caused by a fish bone is a very rare event, with only four cases reported in the literature.3–6 We report two cases of acute abdomen caused by fish bone perforation of Meckel’s diverticulum presenting within 5 days of each other to the Department of General Surgery, Ripas Hospital, Brunei.

Case reports

Case 1

A 21-year-old woman presented with a 1-day history of central abdominal pain radiating to the right iliac fossa. She had no nausea or vomiting. There were no urinary symptoms. On physical examination, she had a temperature of 37.5°C and was acutely tender on palpation in the right iliac fossa with rebound tenderness. She had a white blood cell count of 7.6 × 10⁹/L. A provisional clinical diagnosis of acute appendicitis was made and appendectomy was planned. After a McBurney’s muscle-splitting incision, she was found to have a normal appendix. Inspection of the terminal ileum revealed an inflamed and perforated Meckel’s diverticulum. Extruding through the perforation was a fish bone (Figure). A Meckel’s diverticulectomy was performed along with appendectomy. The patient recovered uneventfully. Histopathology revealed a 2-cm Meckel’s diverticulum lined with ileal mucosa showing all the layers of the small intestine in the wall. There was a focal area of acute inflammation in the region of the perforation and the serosa was covered with an acute inflammatory exudate; the appendix was histologically normal.

Case 2

Five days after Case 1, a 49-year-old woman presented with a 3-day history of sudden-onset right iliac fossa pain aggravated by walking. She had no nausea or vomiting. There were no urinary symptoms. On physical examination, she had a tem-
perature of 37.3°C and was found to be acutely tender on palpation of her right iliac fossa. Her white blood cell count was 13.2 × 10⁹/L. A provisional diagnosis of acute appendicitis was again made and appendectomy was planned. At surgery, the appendix was found to be normal through a McBurney’s incision and, on examining the terminal ileum, an inflamed and perforated Meckel’s diverticulum was found. Extruding through the perforation was a fish bone. A Meckel’s diverticulectomy and appendectomy were performed. Postoperative recovery was uneventful. Histopathology revealed a normal appendix and a 1.5-cm Meckel’s diverticulum lined with small intestinal mucosa with a fish bone perforation. Acute inflammation was seen in the region of the perforation.

Discussion

Foreign body perforation of Meckel’s diverticulum is rarely reported. Perforation of Meckel’s diverticulum has been associated with many bizarre foreign bodies including coins,7 bay leaves8 and batteries.9 There seems to be a tendency for foreign bodies to lodge in the blind pouch of Meckel’s diverticulum.10

A preoperative diagnosis of Meckel’s diverticulitis is difficult to make, even more so if the underlying cause is a foreign body perforation when there is no history of previous foreign body ingestion. The symptoms and signs of a foreign body perforation of Meckel’s diverticulum can mimic those of more common diagnoses such as appendicitis,3,4,6–9 peritonitis10 and leaking aortic aneurysm.5 The diagnosis of perforation of Meckel’s diverticulum is almost always made at surgery. There are no specific physical symptoms or signs that can differentiate between perforation of Meckel’s diverticulum and acute appendicitis. Therefore, it is not surprising that in both cases reported here, and all cases that have been reported in the literature, the diagnosis of foreign body perforation of Meckel’s diverticulum was only made when patients underwent surgery for suspected acute appendicitis. The finding of a normal appendix prompted a search for alternative causes of the peritonitis. Diagnostic laparoscopy in acute abdominal pain has been reported to be useful in the diagnosis and management of fish bone perforation of Meckel’s diverticulum.3

Fish bone perforation of Meckel’s diverticulum is known to be a very rare event. The fact that these two patients presented for treatment within 5 days of each other was coincidental, if dramatic.

References


Figure. Resected Meckel’s diverticulum with a fish bone penetrating through the diverticulum.