A Pyogenous Gastric Abscess that Developed Following Ingestion of a Piece of a Wooden Skewer: Successful Treatment with Endoscopic Incision

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Abstract

A 62-year-old man with a medical history of duodenal ulcer was referred to our department for endoscopy, because of epigastralgia associated with mild anorexia. At endoscopy, a large protruding lesion with the appearance of a submucosal tumor was present at the posterior wall of the gastric body. Trying to perform an aspiration needle biopsy for cytological study, we observed the outflow of pus from the puncture point. An incision, 1 cm in length, was performed via a needle-knife sphincterotome, which led to drainage of the abscess and disappearance of symptoms. A 2.5 cm long piece of a wooden skewer was found to be embedded into the area of the bulge and was retrieved.

Key words
Gastric abscess - wooden skewer - endoscopic treatment

Case report

A 62-year-old man was referred to our department for endoscopy by his general practitioner, because of a 10-day history of epigastric pain radiating to the back and associated with mild anorexia.

Apart from an appendectomy 30 years ago and a history of duodenal ulcer, there was no remarkable past medical history. Clinical examination revealed moderate tenderness in the upper epigastrium. The patient was not febrile.

Upper endoscopy showed a bulging mass in the posterior wall of the gastric body, covered with normal-appearing mucosa (Fig.1). A gastric leiomyoma was suspected and therefore an aspiration biopsy with an 18-G needle (BAN-18, Wilson-Cook Medical Inc, Winston-Salem, USA) was attempted for cytological analysis. The puncture of the bulging mass with the needle resulted in the outflow of pus and for the complete disappearance of the bulging mass (Fig.2). Embedded into the area of the bulging, a 2.5 cm piece of a wooden skewer was observed, which was subsequently removed (Fig.3).

When questioned, the patient remembered that 20 days earlier, he had accidentally swallowed a piece of meat that contained a piece of a stick, while eating a traditional Greek meal, which is made by small pieces of pork meat pierced with a wooden skewer. He had given little thought to this incident since he had no symptoms.

The post-procedure course was uneventful. The patient showed complete relief of epigastric pain, and he was discharged from the hospital, completely asymptomatic, two days later.

Discussion

Most ingested foreign bodies pass through the gastrointestinal (GI) tract uneventfully within one week. Gastrointestinal perforation is rare, occurring in less than 1% of
patients (1). When symptoms arise, they are usually secondary to obstruction or, possibly, peritonitis (1,2). Perforation has been reported to occur from toothpicks, sewing needles, fish bones, chicken bones and dental plates (1-4). Foreign body perforation usually results in the development of peritonitis, an intra-abdominal abscess, or, very rarely, after migration of the object into an adjacent solid organ such as the liver, abscess formation. The first case of hepatic abscess secondary to foreign body perforation was reported by Lambert in 1896 (5). Since then, several cases of hepatic abscesses secondary to sharp foreign bodies have been reported (6-14). Recently, Goh et al (15) reported a case of a pancreatic mass secondary to fish bone perforation of the GI tract with migration into the pancreas.

To the best of our knowledge, only one case of gastric abscess due to a fish bone has been reported. Fernandez-Urrien et al (16) reported a 49-year-old woman who presented with epigastric discomfort and vomiting for several months duration. Physical examination and standard laboratory results were normal. At upper GI endoscopy, a 15 mm wide ulcerated, protruding lesion, with the appearance of a submucosal tumor, was present in the prepyloric area of the antrum. Endoscopic ultrasonography showed a hypoechoic, nodular, poorly demarcated lesion, with a heterogeneous internal echo pattern, and a linear, highly echogenic structure. A GI stromal tumor was suspected, and the lesion was resected laparoscopically. The resection specimen consisted of a 13 mm nodular, ulcerated, submucosal lesion with an internal cavity that contained dense pus and a foreign body that proved to be a fish bone.

The preoperative diagnosis of complications from foreign body ingestion is often difficult, as patients frequently give no history of swallowing the foreign body, or may remember the incident only after the diagnosis is made (6). This is especially true if the foreign body is something commonly ingested and, therefore, forgotten, such as a toothpick or a chicken/fish bone. Furthermore, there may be a considerable time lag, ranging from days to months or even years, between the time of ingestion and the onset of symptoms (1,2).

We postulate that our patient ingested the piece of the wooden skewer, which was embedded in the middle of the posterior wall of the gastric body, resulting in the development of a gastric abscess. The diagnosis of a gastric abscess due to an embedded foreign body was not suspected in our patient for several reasons: (a) there was no history of foreign body ingestion, (b) the patient was not febrile, (c) there was a history of duodenal ulcer, which led us to consider an ulcer recurrence as the most probable cause of the symptoms, and therefore to proceed to immediate endoscopy without previous laboratory testing or radiological imaging.

In conclusion, this case demonstrates an unusual presentation of a piece of a wooden skewer embedded into the gastric mucosa, which resulted in the development of an abscess. It illustrates the difficulty in making the diagnosis, unless a high index of suspicion is maintained. It also serves as a reminder to all endoscopists that the diagnosis of a complication due to foreign body ingestion...
should always be kept in mind, even in the absence of fever or other clinical signs of infection.

References

5. Lambert A. Abscess of the liver of unusual origin. NY Med J 1892; 2: 177-178

Quiz HQ - 36, page 83. Answers

1. This patient has varices around the mucus fistula from which the bleeding occurred as a result of portal hypertension complicating primary biliary cirrhosis. The occurrence of varices has previously been described around the stoma; however, its occurrence around a mucus fistula has not been described previously to the best of our knowledge.

2. These varices arise at the border of the mucocutaneous junction of the stoma as a result of anastomoses between the high-pressure portal circulation and the low-pressure systemic venous system.

3. Several treatment strategies have been advocated for stomal variceal haemorrhage, including direct pressure, suture ligation, injection sclerotherapy and mesenteric venous embolization. These methods, however, have high rates of re-bleeding and the major complication of mesenteric embolization is mesenterico-portal thrombosis with intestinal infarction which carries a significant mortality.

Three surgical treatments have been described. Complete revision of the stoma requires laparotomy with its attendant risks and complications. Portocaval shunting to reduce portal hypertension has also been successfully used but carries similar perioperative risks. Mucocutaneous disconnection is an alternative and a less invasive means of surgical intervention. This procedure involves dissection of the peristomal tissues and direct ligation of the portosystemic vascular connections at the mucocutaneous junction.

Recently, transjugular intrahepatic porto-systemic shunt (TIPS) with variceal embolization offers an effective, minimally invasive management option in patients with bleeding stomal varices, and may be used as the primary mode of intervention in conjunction with medical therapy, and as the definitive therapy in patients unfit for surgery.

References