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Biliary Obstruction Years after Retention of a Swallowed Coin in a Duodenal Diverticulum: A Case Report.

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ABSTRACT

Congenital duodenal diverticula are a rare anomaly. The presence of the coin led to the correct diagnosis in this patients with congenital duodenal anomaly. Foreign body retention in the gastrointestinal tract in an adult could be a sign of underlying mechanical pathology. Intraluminal duodenal diverticulitis can have a varied presentation, including life-threatening complications. Awareness should be raised of the conditions associated with congenital duodenal anomalies in adults. He had high-grade fever, abdominal pain, and had been vomiting for a week. While obtaining the medical history from his mother, she described a propensity to swallow coins related to childhood behavioral difficulties.

Keywords: Duodenal diverticulum, Foreign body , Cholangiopancreatography and Coin

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Case Presentation

Our patient was a 34-year-old man, who presented with abdominal pain, vomiting and fever after an episode of pancreatitis. Past history of behavioral problems associated with intellectual impairment, including a compulsion to swallow coins during childhood, an abdominal radiograph was performed. Surprisingly, the radiograph revealed a radiopaque shadow in the central abdominal area. The findings of the ultrasound examination and computed tomography scan were suggestive of dilated biliary and pancreatic ducts. We performed an endoscopic retrograde cholangiopancreatography, which led to confirmation of the suspected coin above an obstructing intraluminal duodenal diverticulum with associated biliary ductal dilation.

Diverticula, sac-like protrusions of the intestinal wall, occur throughout the small and large intestines. The presence of these lesions should be considered in patients with unexplained gastrointestinal bleeding, intestinal obstruction, acute abdomen, chronic abdominal pain, anemia, or malabsorption [1]. The most frequent location of diverticula in the small intestine is the duodenum. Congenital duodenal diverticula are rare anomalies that usually remain asymptomatic. However, patients can present duodenal obstruction with post-cibal fullness or pain relieved by vomiting as the first manifestation of a duodenal diverticulum. Pancreatitis was the presenting manifestation of intraluminal duodenal diverticulum in 20% of the reported cases [2]. Occlusion of the biliary or pancreatic duct from an enlarging diverticulum pouch has also been reported. Surprisingly, it revealed to be a coin as shown in figure. Blood laboratory tests suggested pancreatitis



Figure 1: Showing coin in the X- ray abdomen

After broadening the antibiotic coverage due to concerns regarding ascending cholangitis, our patient underwent an emergency endoscopic retrograde cholangiopancreatography, which confirmed not only the nature of the foreign body but also the underlying anatomical abnormality causing the duodenal and pancreaticobiliary dilatation. Both common bile duct and common hepatic duct were moderately dilated up to 15mm with no intrahepatic ductal dilatation. Even though no purulent bile was seen, due to concerns of ascending cholangitis, a common bile duct stent was inserted during the procedure following removal of the coin.

The differential diagnosis of duodenal stenosis could be broadly classified into congenital and acquired causes. Congenital obstruction is caused by either an intrinsic or extrinsic anomaly. Intraluminal duodenal diverticulum and duodenal atresia comprise intrinsic stenoses. Annular pancreas, choledochal cyst, and malrotation account for most extrinsic obstructions [3].

DISCUSSION

Small bowel diverticula occur most frequently in the duodenum [4]. Intraluminal diverticula are usually congenital, whereas the acquired diverticula are mostly extraluminal. Cases of acquired diverticula account for the vast majority of duodenal diverticula.

Foreign body ingestion is a common problem presenting at the emergency departments. The majority of the ingested foreign bodies pass through the gastrointestinal tract spontaneously [5]. More than 90% [6] of the impacted foreign bodies are amenable to endoscopic retrieval. Ninety percent of the foreign bodies that

reach the stomach will undergo passage. After the initial suspicion of a more sinister pathology such as malignancy in our patient, it was a relief to find that the culprit was a coin.. We hypothesize that the coin lodging in the duodenal diverticulum led to progressive duodenal stenosis over a long period of time, although we concede that this is difficult to prove. Neither our patient nor his mother were collectors of old coins and they denied having recent access to them, which supports the theory of the remote swallowing. It is possible that the duodenal stenosis developed independently of the presence of the coin.

CONCLUSION

Duodenal diverticula are out-pouchings from the duodenal wall (intraluminal diverticulum discussed separately). They may result from mucosal prolapse or the prolapse of the entire duodenal wall and can be found at any point in the duodenum. Intramural duodenal diverticula most commonly cause obstruction of the duodenum when the diverticulum fills with ingested material. They are commonly diagnosed by barium x-ray studies of the upper gastrointestinal tract but also are seen with upper gastrointestinal endoscopy

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