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A rare case of two synchronous gastric duplication cysts in an adult

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ABSTRACT This report describes a rare case of two synchronous gastric duplication cysts in a 56-year-old woman. The larger gastric duplication cyst was identified on ultrasonography and computed tomography, whereas the smaller duplication cyst was identified on gastroscopic examination. The patient underwent open surgical excision of the cysts and had an uneventful recovery.

Keywords: gastric duplication cyst, gastrointestinal duplication

INTRODUCTION

Gastrointestinal duplication is a rare congenital malformation that most frequently affects the small intestine. Stomach involvement is very rare and comprises only 4% of all gastrointestinal duplications.[1] Presentation in adults is uncommon as individuals with gastrointestinal duplication are usually asymptomatic or have nonspecific symptoms. A gastric duplication cyst can be complicated by intracystic haemorrhage, ulceration, infection, mechanical obstruction, and rarely, malignancy. Here, we report an unusual case of two synchronous gastric duplication cysts in an adult who was treated successfully with surgical resection.

CASE REPORT

An apparently healthy 56-year-old woman underwent abdominal ultrasonography (US) to evaluate a mildly raised transaminase (liver enzymes) level. US demonstrated a normal biliary system and a large, well-defined cystic lesion located superior and anterior to the left kidney. The patient was otherwise asymptomatic, with an unremarkable physical examination. Further evaluation with abdominal computed tomography (CT) showed a nonenhancing cystic lesion, measuring 8.8 cm × 7.1 cm, abutting the posterior wall of the cardio-oesophageal junction (Fig. 1). Gastroscopy revealed a bulging deformity with extrinsic compression at the cardio-oesophageal junction. Another smaller nodule, seen at the greater curve of the stomach, was tattooed with methelene blue to enable localisation during surgery.

In view of the potential complications that could arise from the gastric duplication cyst, the patient was offered surgery to remove the cyst. The patient consented and underwent laparotomy and cystectomy of the duplication cyst (Figs. 2–4). Wedge resection was performed for the smaller tattooed nodule, and the frozen section confirmed that it was also a duplication cyst. A Gastrografin swallow, conducted on postoperative Day 3, was normal and the patient was gradually progressed to a regular diet.

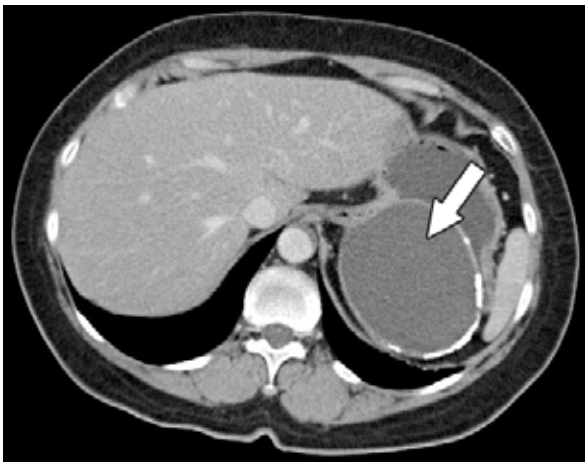

Fig. 1 CT image shows a cystic lesion (arrow), measuring 8.8 cm × 7.1 cm, at the cardio-oesophageal junction.

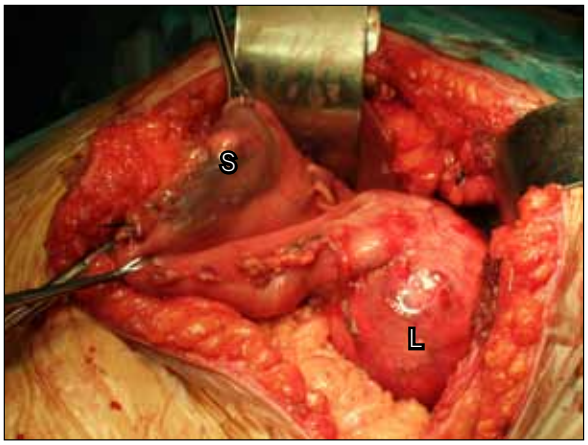

Fig. 2 Photograph shows a large duplication cyst (L) at the cardio-oesophageal junction and a smaller duplication cyst (S), which has a tinge of blue from the methylene blue stain.

Histology of the larger gastric duplication cyst showed a fibrocystic wall with dystrophic calcification, which was partially lined by gastric mucosa that had gastric erosions. The wall of the smaller duplication cyst was composed of gastric mucosa that had mild focal chronic inflammation in the lamina propria.

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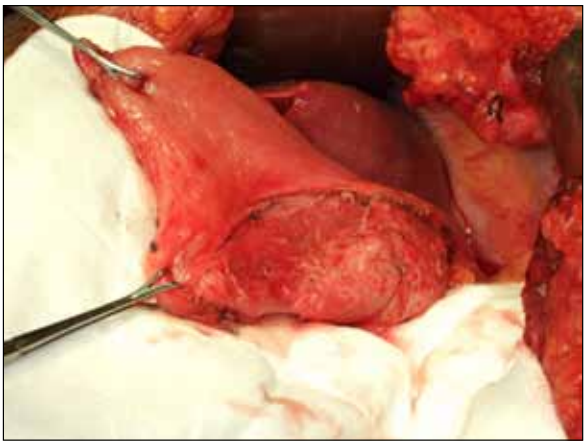

Fig. 3 Photograph shows the resection surface after cystectomy of the large gastric duplication cyst.

DISCUSSION

Gastric duplication is usually diagnosed in children and commonly manifests as an abdominal mass with symptoms of gastric outlet obstruction. However, diagnosis of the condition in an adult can be difficult, as it is usually asymptomatic, or the symptoms are nonspecific, with vague abdominal pain. Continued secretion of enzymes and hydrochloric acid into the duplication cyst may result in gastric ulceration, perforation of the gastric ulcer and the formation of a fistula into adjacent organs, which can result in gastrointestinal haemorrhage.[2,3] Kuraoka et al reported a case where the gastric duplication cyst underwent neoplastic change to an adenocarcinoma, which invaded the stomach and metastasised to the liver.[4]

Laboratory investigations of gastric duplication cysts are usually unremarkable. Although radiological examination with CT is commonly performed, the origin of the cyst is not easily identifiable and it may be mistaken to be of an pancreatic- or oesophageal origin. Gastroscopy enables the examination of the origin of the cyst and the involvement of the gastric mucosa. The use of endoscopic US has been proven to enable accurate differentiation between cysts and solid masses. It is also able to clearly identify the origin of the cyst in relation to the gastrointestinal wall and mediastinum.[5]

Synchronous duplications in the stomach are extremely rare, with only two cases reported thus far.[6,7] The first case presented with epigastric pain and weight loss, whereas the second case was identified after a workup for the cause of an episode of loss of consciousness. In both cases, synchronous duplications were only identified during laparotomy. In our patient, the synchronous small duplication cyst could have been easily missed if gastroscopy was not performed prior to surgery.

In conclusion, in view of the complications that can result from a duplication cyst, it should be properly investigated with gastroscopy, preferably endoscopic US, before surgery is performed so as to prevent a synchronous lesion from being missed during operation.

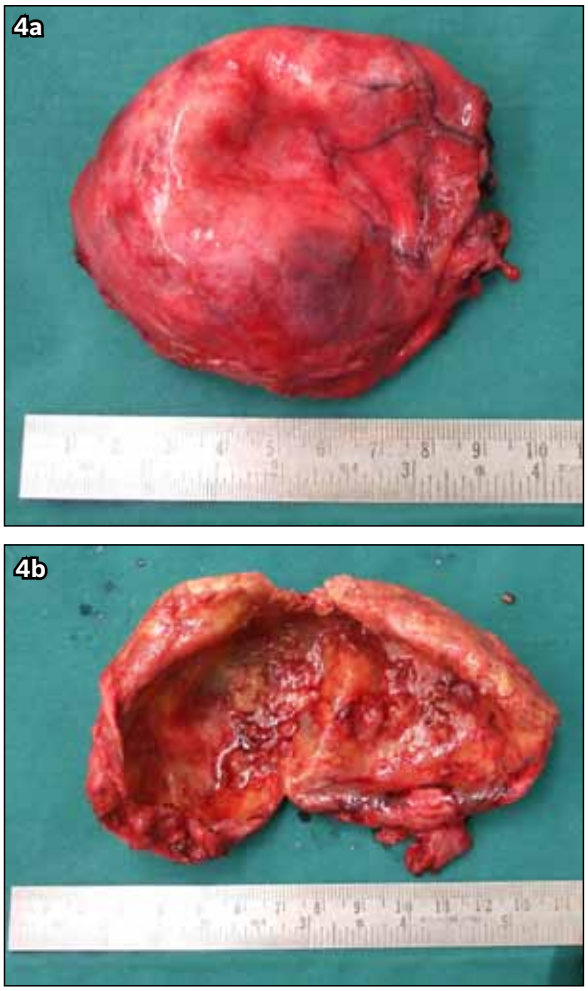

Fig. 4 Photographs of the resected large gastric duplication cyst showing (a) the outer surface of the large duplication cyst and (b) the inner surface of the large duplication cyst after the cystic fluid was drained.

REFERENCES

1. Agha FP, Gabriele OF, Abdulla FH. Complete gastric duplication. AJR Am J Roentgenol 1981; 137:406-7.
2. Faerber EN, Balsara R, Vinocur CD, de Chadarevian JP. Gastric duplication with hemoptysis: CT findings. AJR Am J Roentgenol 1993; 161:1245-6.
3. Mahnovski V, Mahour GH, Rowland JM. Gastric duplication-colonic fistula with colonic ulceration and bleeding. J Pediatr Surg 1998; 33:1815-6.
4. Kuraoka K, Nakayama H, Kagawa T, Ichikawa T, Yasui W. Adenocarcinoma arising from a gastric duplication cyst with invasion to the stomach: a case report with literature review. J Clin Pathol 2004; 57:428-31.
5. Geller A, Wang KK, DiMagno EP. Diagnosis of foregut duplication cysts by endoscopic ultrasonography. Gastroenterology 1995; 109:838-42.
6. Koltun WA. Gastric duplication cyst. Endoscopic presentation as an ulcerated antral mass. Am Surg 1991; 57:468-73.
7. Theodosopoulous T, Marinis A, Karapanos K, et al. Foregut duplication cysts of the stomach with respiratory epithelium. World J Gastroenterol 2007; 13:1279-81.