Laparoscopic resection of gastric duplication cyst containing gastrointestinal stromal tumour: A case report

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Abstract

Gastric duplication cyst (GDC) in adults is an extremely rare congenital anomaly. Here, we report the case of a GDC containing gastrointestinal stromal tumour (GIST) in a 60-year-old male patient who presented with abdominal pain. Laparoscopic resection with safe margins was performed following endosonographic localisation of the lesion. Pathologic evaluation revealed GDC containing GIST, and all surgical margins were free from tumours. The patient was discharged with good condition after 2 days and after 3 months of follow-up, the patient was symptom free and had no complications. Gastric duplication is a rare disease and may contain heterotopic tissue or even neoplastic lesions. Definite treatment is complete surgical removal that can be achieved laparoscopically with the aid of intraoperative ultrasonography for precise localisation of the indeterminate lesions.

Keywords: Duplication cyst, gastrointestinal, laparoscopy, resection, stromal tumour

INTRODUCTION

Gastric duplication cyst (GDC) is a rare congenital anomaly and is very rare in adults.¹ Nearly 70% of the cases were identified at the age of 12 years.² GDCs are 2%–9% of the alimentary tract duplications.³ Definite diagnosis before surgical resection is very difficult. ¹ The most common differential diagnosis includes neuroendocrine tumours, gastrointestinal stromal tumours (GISTs), pancreatic heterotopia and pancreatic pseudocyst.¹³

Here, we report the case of a GDC containing GIST.

CASE REPORT

A 60-year-old male patient presented with vague and repeating epigastric pain for 5 years. The patient was a known case of ischaemic heart disease and hypertension and had no other medical illness or any prior surgery. The initial evaluation of laboratory results was within the normal limits. Upper endoscopy was done, in which a 2.5 cm × 2.5 cm submucosal cystic lesion was identified in the proximal part of the body at the greater curvature. On endoscopic ultrasonography (EUS), a 30 mm × 30 mm cyst at the midbody of the stomach with wall thickening without any regional lymphadenopathy was reported. The

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remaining parts of the upper gastrointestinal (GI) were normal. Abdominopelvic computed tomography (CT) scan with intravenous contrast showed an enhancing, round cystic lesion at the anterior gastric wall.

The patient was scheduled for laparoscopic surgical resection. During intraoperative exploration, the lesion could not be localised precisely. Therefore, intraoperative ultrasonography was performed to localise the definite location of the lesion.

Following the localisation of the lesion, laparoscopic resection with safe margins was performed [Figure 1].

Pathologic evaluation of the specimen showed a GDC containing GIST, measuring 4 cm × 4 cm × 2.5 cm, which was confirmed by immunohistochemistry assay. The mitotic rate was 1–2/5 high-power fields, and all surgical margins were free from tumours. The patient was discharged in good condition after 2 days. After 3 months of follow-up, the patient was symptom free and had no complications.

**DISCUSSION**

Alimentary tract duplication cyst is a very rare congenital anomaly, which is more commonly seen in females. It can affect any part of the GI tract. It can present in tubular and cystic types. Most of them present in the ileum.

They may have intra- or extraluminal presentation. Most of them are single in nature, but may be in multiple forms.

GDCs represent 4% of alimentary tract duplications. In adults, they may be asymptomatic, but they may present with an abdominal mass, abdominal pain, nausea, vomiting, dysphagia, dyspepsia and abdominal distension. Other presentations may be associated with complications of cysts including haemorrhage, perforation, malignancy and gastric outlet obstruction, according to the site and nature of the lesion.

GDCs may contain ectopic tissues such as pancreatic, gastric, duodenal and respiratory tract tissues. Patients may present with bleeding, peptic ulcer or even pancreatitis in complicated GDCs. Usually, GDCs are located in the gastric greater curvature, as in our case, and may compress the adjacent organs.

GDCs are true cysts because they have a mucosal lining, in which the gastric epithelium is surrounded by the muscularis propria. Different imaging modalities can be used for the diagnosis of duplication cysts including transabdominal ultrasonography, CT scan and magnetic resonance imaging. Recently, EUS has been introduced as a popular method for the detection of gastric submucosal lesions. GDCs are usually benign in nature, but malignancies arising from these lesions have also been reported. Different types of treatment such as enucleation, cystogastrostomy and endoscopic removal have been reported.

Complete surgical resection is the best treatment option for these lesions because it removes the cyst completely. It can lead to complete resolution of symptoms and eliminate the chance of malignancy. Laparoscopic resection is a safe and effective treatment option with shorter hospital stay and fewer complications compared to that of the open approach.

We used laparoscopic ultrasonography for definite localisation of gastric lesion.

**CONCLUSION**

Gastric duplication is a rare disease and may contain heterotopic tissue or even neoplastic lesions. Definite treatment is complete surgical removal that can be achieved laparoscopically with the aid of intraoperative ultrasonography for precise localisation of indeterminate lesions.

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**Conflicts of interest**

There are no conflicts of interest.
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