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Case report

GASTRIC DUPLICATION CYST: AN UNCOMMON CAUSE OF PAIN ABDOMEN IN AN ADULT

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ABSTRACT

Duplication cysts are rare congenital developmental anamolies of the gastrointestinal tract, the etiology of which is not completely understood. Multiple theories have been proposed to explain their existence including partial twinning, in utero ischemic events, and abnormal endoderm and notochord separation. Complications including infection, intussusception, and perforation can occur. Rarely, these duplications cysts may undergo neoplastic changes. In this report, we present the case of a 40-year-old male with a gastric duplication cyst who presented with vague postprandial dull-aching epigastric pain. Gastric duplication cyst was diagnosed with upper GI endoscopy and CT scan. The cyst was removed by simple excision and patient has remained symptom-free on follow up.

Keywords: Gastric duplication cyst, Volvulus, Intussusception, simple excision.

INTRODUCTION

A duplication cyst is one of the rarest congenital abnormality involving the gastrointestinal tract. The wall of these duplication cysts is contiguous and they tend to derive a common arterial supply from the GI organ from which they arise[1]. Duplication cysts usually present in the pediatric age group, but some may remain asymptomatic and may present later in life.[2] In this report, we present a middle aged male patient with uncomplicated gastric duplication cyst.

CASE HISTORY

A 40-year-old male patient presented with history of recurrent episodes of postprandial dull aching, nonradiating abdominal pain, localized in the epigastrium and around the umbilicus for 6 months. There was no history of hemetemesis, melaena, hematochezia, loss of appetite, or weight loss. There was no history of diabetes mellitus or hypertension. His past medical, surgical, and social history was unremarkable. Physical examination revealed him to be afebrile with stable vital signs. His systemic examination was noncontributory including per abdomen examination. His laboratory investigations including complete hemogram, RBS, RFT, LFT were unremarkable

as was a chest x-ray and USG abdomen. Upper GI endoscopy showed a soft cystic mass causing an extraneous impression over the fundus of stomach with normal overlying mucosa (Figure 1). Duodenum revealed mild duodenitis in its first part. The rest of the endoscopy was normal. CT plain and contrast of the abdomen showed a well-defined cystic lesion measuring 4.2 x 3.6 x 4.0 cm adjacent to gastroesophageal junction and fundus of the stomach causing extraneous impression on it with no enhancement of the lesion, suggestive of distal esophageal/gastric duplication cyst (Figure 2 and 3). The patient was treated by simple excision of the duplication cyst. Microscopic examination revealed a cyst lined with gastric type mucosa consistent with a gastric duplication cyst.

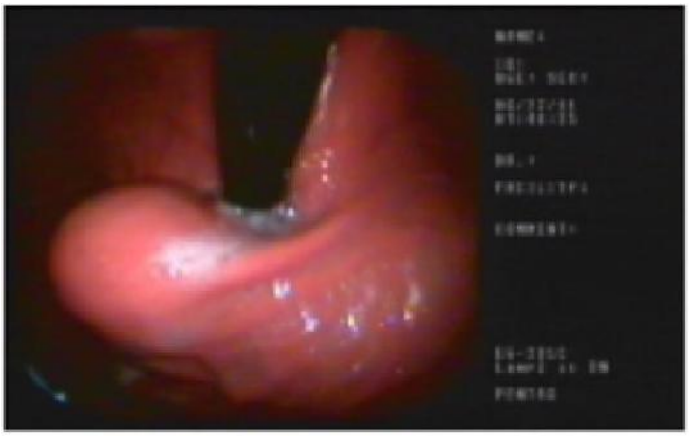
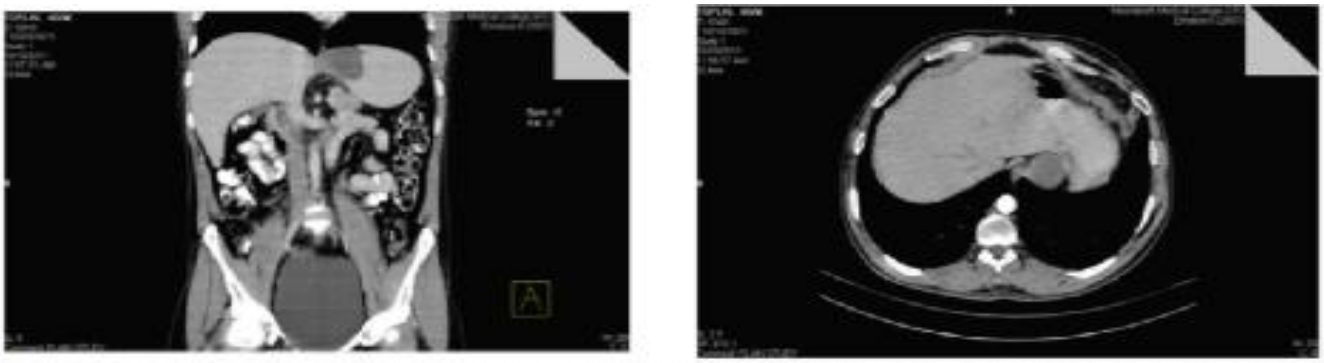


Fig.1: Retroflexed endoscopic view showing a soft cystic mass arising in the fundus of the stomach with normal overlying mucosa



Figures 2 and 3. Coronal and transverse sections of CT plain and contrast of the abdomen showing a cystic lesion adjacent to gastroesophageal junction along the greater curvature of the stomach suggestive of gastric duplication cyst

DISCUSSION

Duplication cysts arise due to a congenital developmental abnormality within the gastrointestinal tract, the etiology of which is not completely understood. The first description of duplication of the gastrointestinal tract was described by Calder[1] in 1733. A gastrointestinal duplication cyst can occur anywhere along the GI tract. Gastric duplication cysts represent approximately 20% of all gastrointestinal cysts. They are often a missed by the clinicians due to the rarity of their occurrence and the vague complaints with which the patients present. With advances in diagnostic techniques, they are now being diagnosed before the patient is subjected to surgery in a majority of the cases.

Multiple theories have been proposed to explain their existence including partial twinning, in utero ischemic events, abnormal endoderm and

notochord separation, abnormal recanalization theory by Bremmer, etc., have been described to explain their occurrence. Although each of these theories offers an explanation for the formation of duplication cysts, none of them adequately and satisfactorily explains the occurrence of these duplication cysts.

A duplication cyst can rarely present in the adult age group and is usually an incidental finding during endoscopy done for vague abdominal complaints of palpable mass, signs and symptoms suggesting GI tract obstruction, or gastrointestinal hemorrhage. The cyst may sometimes contain ectopic pancreatic mucosa and mimic acute pancreatitis. A majority of the duplication cysts occur in females regardless of age[3,4]. About half of the cases were reported to have associated congenital abnormalities[5] the commonest being concurrent duplications elsewhere in the GIT with vertebral anomalies being the second most commonly linked abnormality[4,5].

Gastric duplication cysts are located contiguous with the stomach, generally along the greater curvature of the stomach. If the lumens are contiguous, then it is defined as tubular, and if they are completely separate, then it is described as cystic[6,7] and a majority of them are of the later variant. In our case, gastric duplication was located on greater curvature of the stomach, was cystic in nature, and of the non-communicating variant.

The clinical features of gastric duplication cysts depend on the size, the location, and the communicating structure (if any). Rare though reported complications include torsion of pedunculated cysts, neoplastic transformation, hemorrhage, and pancreatitis[4,8]. These duplication cysts have a definite although limited malignant potential, and three cases of malignancy arising from these duplication cysts have been reported in literature[9].

Ultrasound abdomen, upper GI endoscopy, contrast studies of the GI tract, CT scan, and MRI may demonstrate these lesions.

Simple surgical excision is considered the optimal therapy (6). When a complete excision of these cysts is not possible, debulking, cystogastrostomy, or partial gastrectomy is done.

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