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Gastric Duplication Cyst in 4 Years Male Child: A Rare Case Report

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Abstract

Gastric duplication cyst is an unusual congenital malformation of the gastrointestinal tract representing 4% of all alimentary tract duplications. Clinically the patients may remain asymptomatic or symptoms can be non-specific, which include abdominal mass, pain, nausea and emesis. We report a four year old male child who presented with intermittent pain in abdomen. The child was evaluated for the same by radiology which suggested a duplication cyst in epigastric region. The child underwent excision for the same following which histopathology confirmed the diagnosis of gastric duplication cyst (Gastric mucosal cyst). Although a benign entity, it has risk of complications such as obstruction, torsion, perforation, haemorrhage, and malignancy.

Introduction

Gastric duplication cyst (GDC) is an unusual and peculiar congenital malformation. Duplication cyst is capable of occurring anywhere within the gastrointestinal tract.[1] GDCs represent 4% of all alimentary tract duplications, and approximately 67% manifest within the first year of life.[2] It is most frequently diagnosed in young children presenting with abdominal pain, vomiting or as asymptomatic abdominal mass. We report a rare case of four years male child with pain abdomen diagnosed as gastric duplication cyst (Gastric mucosal cyst).

Case Report

Four years, male child, presented with intermittent pain abdomen and intermittent fever for last six months. There was no history of vomiting, nausea, constipation, loose stool, jaundice, loss of weight. Past medical history was not significant. Physical examination revealed mild epigastric fullnesses with no guarding or rigidity. Hence the child was subjected to further radiological evaluation.

Ultrasonography (USG) abdomen and pelvis revealed a small anechoic lesion in right epigastric region in sub hepatic area close to gall bladder fossa suggestive of duplication cyst (Figure 1).

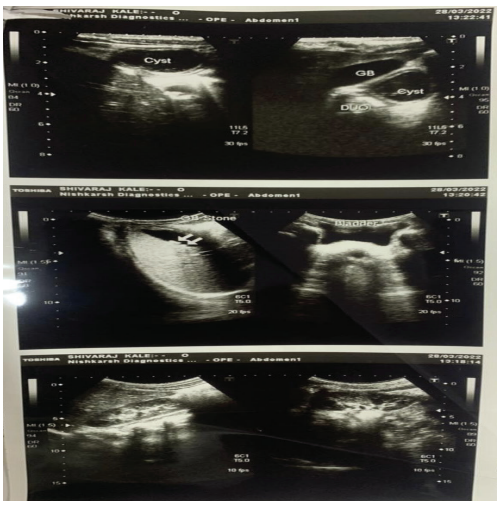

Figure 1: Ultrasonography: small anechoic lesion in right epigastric region in sub hepatic area close to gall bladder fossa suggestive of duplication cyst.

Computerised tomography (CT) scan of the abdomen showed evidence of small well defined, 27 x 23 mm, hypodense cystic thin-walled lesion along the antero-inferior aspect of the pylorus of the stomach. The lesion showed thin minimally enhancing wall located in the sub hepatic region on the right side of the distended gall bladder with possibility of duplication cyst. (Figure 2).

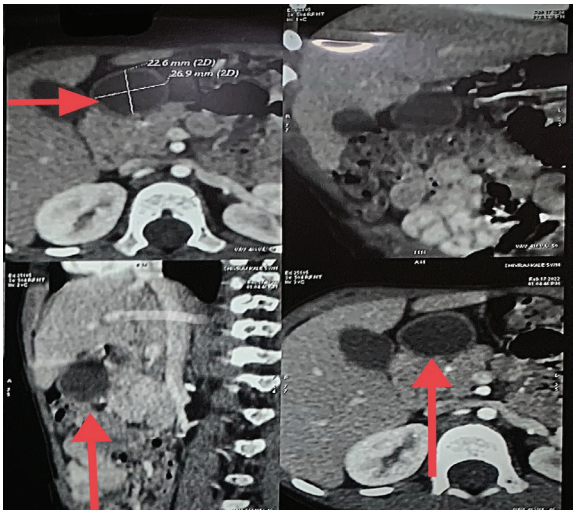

Figure 2: Computed tomography: a hypodense cystic thin-walled lesion (marked with red arrow) of size 27 x 23 mm along the antero-inferior aspect of the pylorus of the stomach.

The child underwent surgical excision of the same and the excised specimen was sent for histopathological evaluation. The gross specimen revealed multiple, grey white, soft to firm tissue bits and pieces measuring 3.5 x 3.5 cm x 0.5 cm which appeared to be part of already cut open cyst. The microscopy showed gastric wall contiguous with cyst wall lined by gastric mucosa with lamina propria showing mild chronic inflammation. The cyst lining was focally denuded with wall showing nodular lymphoid aggregates. Thus, diagnosis of gastric duplication cyst (Gastric mucosal cyst) was made. (Figure 3)

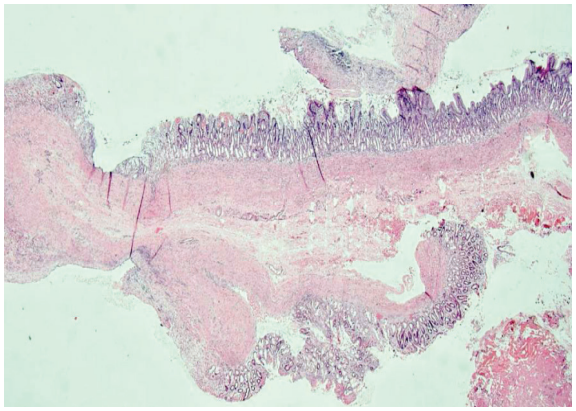

Figure 3: Microscopy: gastric wall contiguous with cyst wall lined by gastric mucosa with lamina propria showing mild chronic inflammation.

Discussion

GDC is a relatively rare congenital anomaly. It can occur at any level from oral cavity to rectum. Ileum is the most common site while the stomach being rare site for occurrence of duplication cyst, and most of them are reported in children.[3,4] They become symptomatic during childhood with 67% being diagnosed within the first year of life, and less than 25% being discovered after age of 12 years.[5] Although it is difficult to diagnose GDC preoperatively, recent imaging modalities have provided some informative findings. CT scan and endoscopic ultrasound (EUS) are the best ways to identify GDC.[6] In our patient, the preoperative CT finding were suggestive of duplication cyst. The pathophysiology of this congenital development is still not clearly understood. However literature has mentioned several mechanisms for gastric duplication cyst which include recanalization failure of the bowel lumen following the solid-epithelial phase of the intestinal development, persistence of epithelial outpouching in intestine, intestinal ischemia in early intrauterine life, and so on.[7] As these malformations are formed before the differentiation of epithelial lining, they are considered as congenital, and are named for the organ with which they are present-in or associated with.[8,9] The important criteria for diagnosis of a gastric duplication cyst are (a) the cyst wall and stomach wall should be contiguous; (b) the muscularis layer of the stomach is continuous with that of the surrounding the cyst; and (c) the cyst wall should be lined by gastric epithelium or other gut mucosal epithelium.[3,5] Complete resection of cyst is the treatment choice to avoid the risk of possible complications such as obstruction, torsion, perforation, haemorrhage, and malignancy.[9]

Conclusions

Rare congenital anomaly like gastric duplication cyst should be differentiated from other cystic masses of the gastrointestinal tract along with possibility of malignancy. While the diagnosis of gastrointestinal tract duplications may be suggested by imaging studies, more often the correct diagnosis is not established prior to surgery. Due to the risk of malignant transformation and other complications, GDC should be treated surgically by complete resection.

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