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Editorial

Gastric duplication Cyst in a Child - An insight

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ABSTRACT

Gastric duplication cyst is uncommon congenital anomaly in paediatric population with an incidence rate of 17 per million populations. Its diagnosis and treatment is challenging in infants and children for both the clinicians and the pathologists. Most of the cases, diagnosis is rendered on laparotomy followed by histopathology as could not be possible on clinical and imaging studies alone due to its varied presentation. The aim of this editorial is to highlight the morphology and rarity of gastric duplication cyst in children as less than 50 reported cases were available in literature.

We received an excised gastric mass measuring 5x4x4cms to histopathology section from pediatric surgeon of 6 years old female. The child presented with chief complaints of abdominal pain, distension and vomiting. Tenderness present over epigastric and hypogastric region. Systemic examination was within normal limits. Ultrasonography revealed cystic mass in abdomen. Contrast enhanced computerized tomography abdomen and pelvis showed thick wall, fluid filled, oval cystic lesion measuring 5x4 cms at stomach. Laparotomy was done and mass was excised. Intraoperative gross image of thick walled cystic mass (4x4cms) at left side of greater curvature of stomach with thickened pylorus (Figure 1). Gross images of resected cystic mass showed well circumscribed, round cystic grey brown mass measuring 5x4x4 cms (Figure 2). On cutting open, straw colored fluid exudes out and no solid or papillary areas noted.

Light microscopy showed cyst wall lined by gastric foveolar epithelium and pyloric glands with muscular hyperplasia and second coat of muscle layer with flattened gastric mucosa and glands. (H&E, x100) (Figure 3). Two complete bundles of muscle layer lined by gastric epithelium on high power (H&E, x400) (Figure 4). This is pathognomic feature of gastric duplication cyst. No evidence of ectopia or malignancy in the sections noted.

The enteric duplication cysts are rare congenital anomalies originated anywhere in GIT found in 0.2% of all children. The most common location is ileum(53%) and stomach constitute only 7% of overall enteric cysts.[1] Less than 50 reported cases were available in literature of Gastric duplication (GD) cyst.[2] GD cyst is noted in 17 cases per millions individuals.[3] Females are more affected than males. The symptoms varies in child and different ages from non-specific to abdominal pain, distension, vomiting, feeding problems, bloody stools solid/cystic mass intussception, perforation or GIT bleeding etc.[3] Hence pre-operative diagnosis is difficult and with the help of imaging modalities and laparotomy diagnosis was rendered. The histopathology is the gold standard for final diagnosis.[1] The

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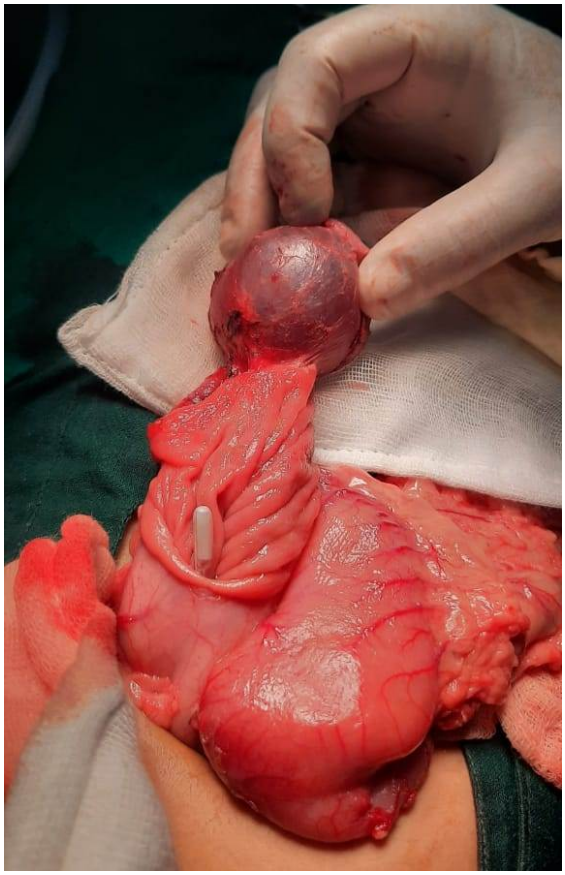

Fig. 1: Intraoperative gross image of thick walled cystic mass (5x4cms) at left side of greater curvature of stomach with thickened pylorus

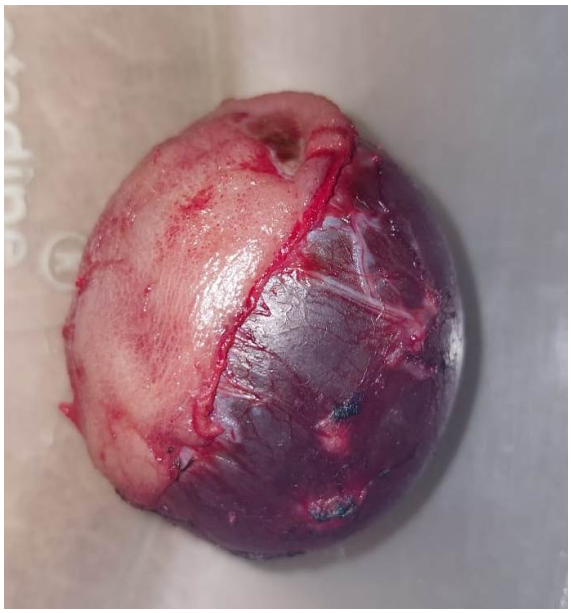

Fig. 2: Gross images of resected gastric duplication cyst

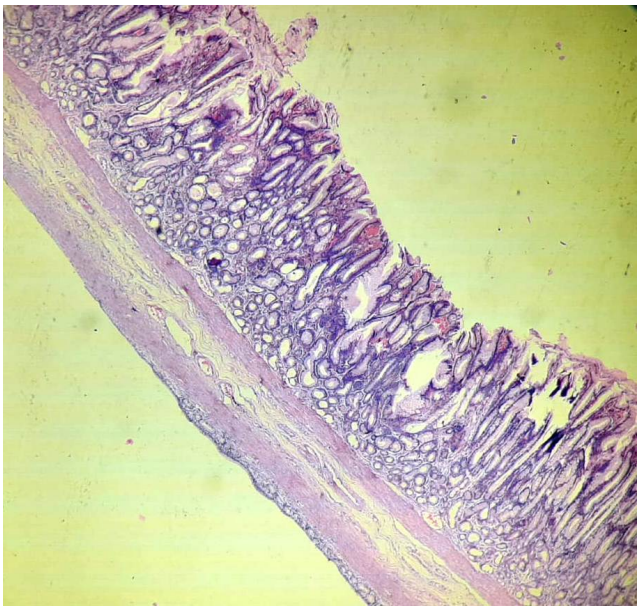

Fig. 3: Light microscopy showed cyst wall lined by gastricfoveolar epithelium nd pyloric glands with muscular hyperplasia and second coat of muscle layer with flattened gastric mucosa and glands. (H&E,x100)

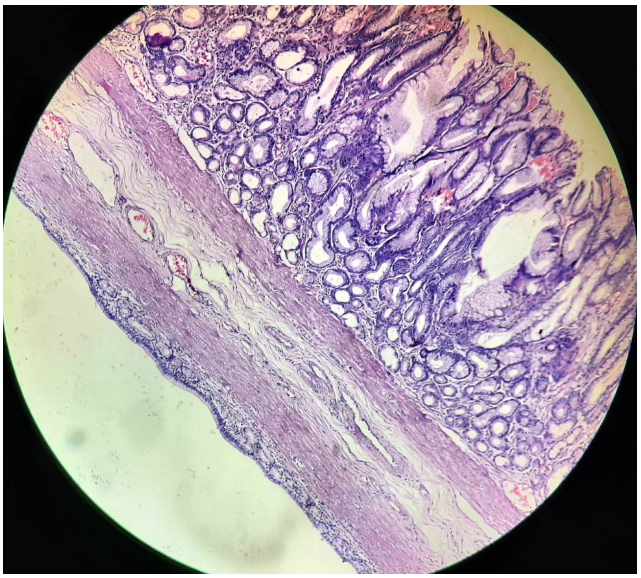

Fig. 4: Two complete bundles of muscle layer lined by gastric epithelium on high power (H&E,x400)

histopathological criteria to confirm the diagnosis of cystic mass as GD cyst must have two complete bundles of muscle layer lined by gastric epithelium, the cyst has a epithelial lining of GIT and cyst and stomach shared common blood supply.[2,4,5] All the criteria was fulfilled in our case and final histopathological diagnosis given was gastric duplication cyst.

Regarding the etiology- the exact cause is idiopathic so many theories have been proposed till date. The most favored theory is split notochord, others are recanalization defects, embryonic bands producing traction diverticula etc.[1,6] Bowel obstruction causes such as volvulus, intussusceptions, mesenteric cyst, a pancreatic pseudocyst, cholodochal cyst and pyloric stenosis are the differential diagnosis due to varied preserntation.[1,6] However due to imaging and histopathology, diagnosis of GD cyst is confirmed. Preoperative diagnosis of GD cysts is often inaccurate. Constrast enhanced CT and ultimately histopathology is standard modality for the diagnosis of GD cyst. Bleeding, perforation, obstruction and rarely malignancy are the main complications. Complete surgical excision is the mainstay of the treatment.[6]

To Conclude

Paediatric gastric duplication cysts are rare congenital deformity and difficult to diagnose due to varied presentations. Histopathology is the gold standard for its diagnosis. Surgical resection is the only method of treatment for GD cysts to avoid complications. High index of suspicious is required for the diagnosis of GD cysts in view of its rarity and complex presentations in different age groups and at different sites in gastrointestinal tract.

Conflict of Interest

None.

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