

## GASTRIC DUPLICATION CYST IN A NEONATE: A RARE CASE REPORT

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### Summary

*Among the duplication cysts of Gastro intestinal tract, Gastric duplication is rarer. Here we are reporting a case of gastric duplication cyst in a neonate.*

### Key words

Gastrointestinal tract duplication; Gastric duplication; cyst.

### Introduction

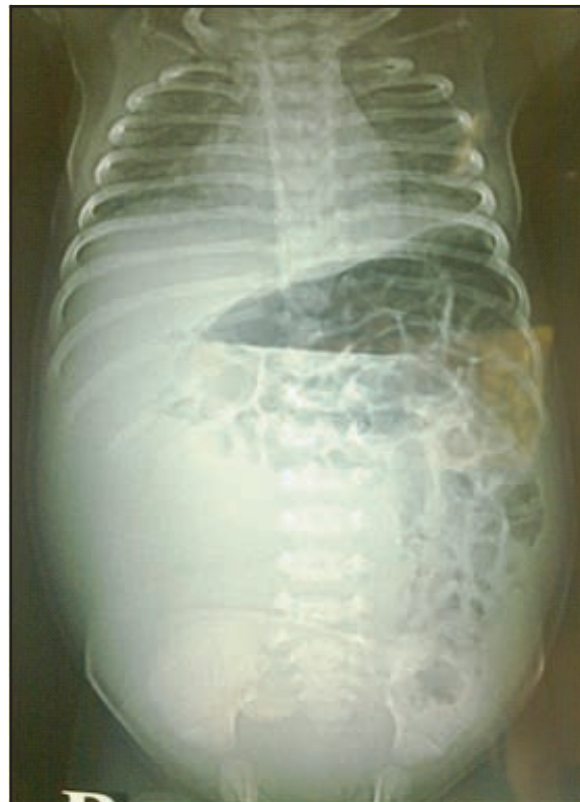
Alimentary tract duplication is a group of rare congenital malformations that varies greatly in appearance, size, location and symptoms. Calder in 1733 first recognized gastrointestinal duplication cyst, but it was William E. Ladd, who first suggested the term “duplications of the alimentary tract” in 1937 [1,2]. It includes a wide variety of mass lesions that are either tubular or cystic and can occur throughout the course of the alimentary tract from oropharynx to anus [3]. He applied the term to congenital lesions having three characteristics a) the presence of a well-developed coat of smooth muscle b) an epithelial lining representing some type of intestinal tract mucosa and c) intimate anatomic association with some portion of the gastrointestinal tract [2]. Incidence is 1 in 4500 births, with slight predominance in male [4,5]. Jejunal and ileal duplication is most common (53%) but gastric duplication is rare (7-8%), roughly 17 of every 1,000,000 births [6,7]. After extensive search, we found only few reported case of neonatal gastric duplication cyst in Asian and Western Journals. Here we are describing our maiden experience in a 27 days old female with huge abdominal mass, which was confirmed as a gastric duplication cyst on laparotomy.

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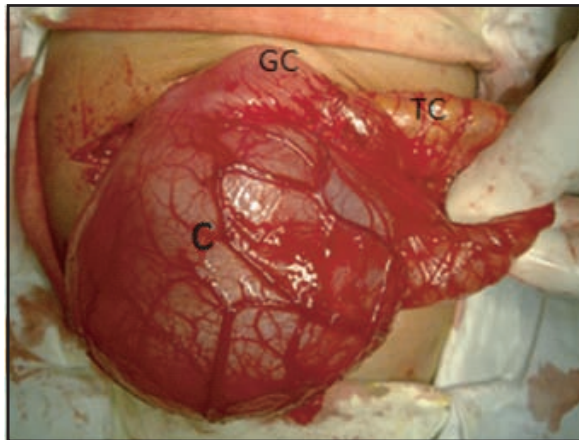
### Case Report

A neonate (27 day old term female baby) of non consanguinous parents, admitted for marked abdominal distension and non bilious vomiting since introduction of breast feeding. The baby was delivered by normal vaginal delivery at home without proper antenatal follow up. She had normal bowel movement and micturation, with no other associated symptoms. Her weight was 3 kg; not dehydrated, non icteric and vital signs were within normal limit. Abdomen was markedly distended and a huge non tender cystic mass felt along the epigastrium, umbilical and left hypochondriac region. It was mobile from side to side and above downwards. Plain X ray revealed a big soft tissue mass compressing the loops of small gut towards left [Fig-1]. Ultrasound showed



**Fig 1 :** Plain X ray abdomen showing mass effect

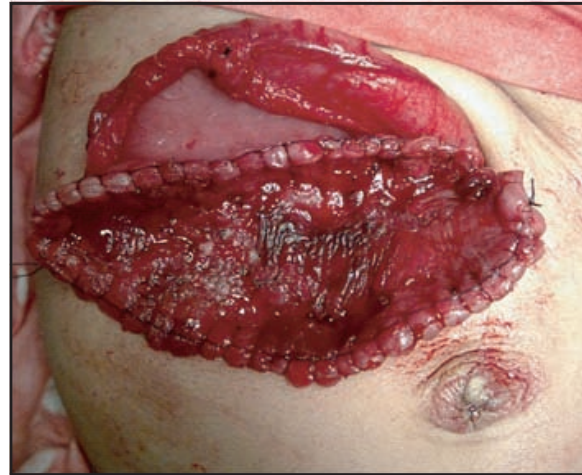
a big cystic mass resembling mesenteric cyst. Her blood count and serum electrolytes were within normal limit. On exploration, a large gastric duplication cyst was found which was arising from greater curvature of stomach without any communication with the lumen and had a common wall at posterior aspect of body, antrum and pylorus of stomach [Fig-2, 3]. Cyst was excised



**Fig 2 :** Relation of the cyst with stomach. GC- Greater Curvature of stomach, TC-Transverse Colon, C-Cyst



**Fig 3 :** Appearance of the cyst after decompression completely except at the site of common wall. Exposed mucosal surface of common wall was cauterized as attempt of mucosal stripping was failed. Continuous interlocking sutures were given at margins for haemostasis [Fig-4]. Histopathology of cyst wall confirmed normal gastric type mucosa and biochemical composition of fluid from cyst was similar to gastric juice.



**Fig 4 :** After partial excision keeping the common wall

Post-operative period was uneventful, the patient was discharged on the 7th day after surgery and was thriving well at 6 months follow up.

#### Discussion

The term gastric duplication is used to refer to lesions in association with the stomach which are usually spherical cysts and most often occur on the greater curvature [3]. The majority are not communicating with the gastric lumen [8,9]. The mucosal lining is usually of gastric type with ectopic pancreatic tissues in about 40% of cases [9]. They are generally identified within the first year of life [10]. Patients typically present with a palpable abdominal mass and non-bilious vomiting but might also suffer from failure to thrive, anaemia, gastroesophageal reflux and abdominal pain [3,8,11]. Rare clinical presentations are hematemesis, gastrointestinal bleeding, recurrent pancreatitis, perforation with pneumoperitoneum/ hemoperitoneum and fistulous communication to the spleen or lower lobe of the lung [3,12-16]. If left untreated there is a chance of malignant degeneration also [17]. Ultrasonography is diagnostic of a large cystic mass in upper abdomen even in antenatal period and can differentiate easily from hypertrophic pyloric stenosis [3,18]. However, in our case sonology report was a large mesenteric cyst. Upper gastrointestinal contrast studies may be helpful [3].

In 10-20% of patients, enteric duplications are multiple and seem to have a high incidence of associated anomalies such as spinal malformation, intestinal malrotation and atresia [3,5]. So presence of one such lesion should warrant a search for others. On exploration, we found no other associated anomalies in our patient. The treatment of a gastric duplication is complete resection, but although resection without violating the lumen of the stomach is ideal, it is often impossible [3]. Marsupialization of the cyst wall and stripping of the mucosal lining is the second option when it is not possible to find a plane between the cyst and the stomach [19]. Segmental gastric resection or even partial cyst resection might be necessary [3]. Frequently, these lesions are large and may be intimately involved with either the gastroesophageal junction or the pylorus [3]. In rare instance, it may communicate with the pancreatic ductal system [20]. There are few case reports where laparoscopic resection was possible [21].

#### Conclusion

Though gastric duplication cyst is a rarer entity, during exploring any congenital abdominal cystic mass in new born, the possibility should be kept in mind.

#### Disclosure

All the authors declared no competing interest.

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