Case Report

Uncommon complication of gastric duplication cyst in eight-month-old child – Case Report

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Summary
Gastric duplication cyst is a rare type of gastrointestinal tract anomaly frequently asymptomatic but present with gastric outlet obstruction. We have here a report on a girl of 8 months age presented with abdominal swelling and vomiting, her investigations did not give a clue then intra-operatively gastric duplication cyst was diagnosed which was completely excised and complete recovery was achieved.

Introduction
Gastrointestinal duplications comprise a rare group of malformations, which vary in its manifestations. The first reported intestinal duplication was in 1733.(1) The term “duplication of the intestinal tract” was introduced by Ladd(2) it includes a set of congenital anomalies that have three features; a well-developed coat of smooth muscle, the epithelial lining of part of the alimentary tract and they are attached to some part of the gastrointestinal (GI) tract. Nine cases of gastric duplication were reported over 12 years by Richard et al.(3) they specified definite consistent clinical characteristics which have provided the basis for increased identification of this abnormality, but still duplications of the stomach account for about 7% of GI tract duplications. Here we are reporting a case of gastric duplication who presented with a sinus formation that was successfully managed surgically, and the patient is doing well at 1 year of follow-up.

Case Report
An 8-month-old girl brought to Khartoum teaching hospital when her mother noticed abdominal swelling since birth which became more prominent after meal; then after 2 months she started to have a non-projectile, non-bilious vomiting, sometimes contain food particles with or without blood streaks and occasionally bloody diarrhea. The family sought medical advice many times and always treated as a case of gastro-enteritis without response. The infant looked unwell, with a weight of 6.5 kg not pale and slightly dehydrated. There was left upper quadrant spherical abdominal mass, about 3 cm in diameter, with some inflammatory features around the edges, soft, smooth, well...
circumscribed and compressible. The rest of the examination was normal. The first clinical impression was haemangioma or lymphangioma. Abdominal U/S reported a non-vascular subcutaneous cystic mass (5.2x5.5 cm) in the lower anterior aspect of left chest wall with features of infected contents. Aspiration using a sterile empty syringe revealed pus and the culture grew no organism. The puncture site remained open and started to discharge clear fluid sometimes mixed with blood and the edges became eroded and ulcerated. Within a week the puncture site became a hole of 1 cm diameter (Fig. 1).

At laparotomy a cystic mass between the stomach and the pancreas was found, attached to distal part of the greater curvature and transverse colon (Fig. 3). It had a communication with anterior abdominal wall but not with the gastric lumen. Complete excision of the cyst and freshening of anterior abdominal wall was performed, and a gastric duplication cyst was the working postoperative diagnosis.

The patient passed through an uneventful post-operative course and was discharged home on the 7th post-operative day. The histopathology report came back as (Gastric Adenomyoma and Heterotopic Pancreatic Tissue) (Fig. 4), and the cyst aspiration cytology reported (Yellowish Clear fluid, Sugar: 23 mg/dl, Protein: 0.3 g/dl, LDH: 4 U/L, WBCs: 0-1 HPF)

She remained stable in her monthly follow-up for 1 year with complete healing of the sinus (Fig. 5).
Discussion
Gastrointestinal duplication cyst is a rare congenital malformation, which can occur anywhere in the alimentary tract from mouth to anus.\(^4\) It has a certain diagnostic criteria which include: intimate attachment to the GI tract, a layer of smooth muscle in the wall, and an epithelial lining resembling a part of the alimentary tract.\(^5\) In our patient all these features were present together with gastric adenomyoma and heterotopic pancreatic tissue seen on histopathology.

The majority of duplications are discovered during infancy and 67% are diagnosed within the first year of life, while less than 25% are discovered after the age of 12.\(^6\) Gastric duplication cyst presentation depends upon the location, size, whether it is communicating with part of the alimentary tract and associated complications.\(^7,8,9\)

This reported case presented with vomiting and abdominal pain as the predominant clinical findings, it was communicating with anterior abdominal wall and when punctured with a needle it got infection and became like a sinus as it opened outside the patient body which is very rare presentation and had never been reported before.

Imaging studies like abdominal ultrasound, CT scan and MRI can help in identification of the location of the cyst and its origin but may not always do so, as in our case.\(^10\) A contrast GI study may show indentation on the gastric wall which make identification of the cyst possible.\(^11\)

The role of FNAC in establishing the diagnosis is still a matter of debate,\(^12\) some authors emphasize the necessity of FNAC to rule out malignant transformation,\(^13\) while others argued that needle aspiration could increase risk of infection and abscess formation\(^14,15\) a thing which has happened in our reported case, when the needle aspiration caused the cyst to discharge on the abdominal skin and led to ulceration and excoriation around the puncture site.

Early diagnosis and prompt surgical intervention carries a good prognosis,\(^8,10,16\) because of the malignant potential although it is rare.\(^17\) Extra mucosal excision with preservation of the adjacent gastric wall is recommended.\(^18\)

In conclusion, gastric duplication cysts are rare malformations that can present with a mass. Needle aspiration carries a risk of infection and sinus formation. Early diagnosis and surgical excision carries a good prognosis.

Conflict of Interest: None.
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References
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