Mesenteric Duplication Cyst, A Rare Cause of Recurrent Abdominal Pain in a Child
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ABSTRACT
Mesenteric duplication cyst is a rare cause of recurrent abdominal pain and abdominal mass in a child. It may vary in presentation from an asymptomatic mass to an acute abdomen. To highlight aspects of the disease and its value in children with recurrent abdominal pain, we present the case of a patient who was admitted to hospital several times for recurrent abdominal pain in whom we eventually diagnosed intestinal mesenteric cyst.

KEY WORDS: Abdominal pain, duplication, mesenteric, cyst, children

INTRODUCTION
Mesenteric cysts are uncommon intra abdominal masses. They can occur anywhere along the mesentery of the digestive tract. Sixty percent of mesenteric cysts occur in the small gut mesentery, 24% in the large gut mesentery, and 14.5% in the retro-peritoneum. They are classified into different subtypes on the basis of on their microscopic findings. The presenting features are usually recurrent abdominal pain with or without abdominal palpable mass. The most frequent mode of acute presentation in children is small-bowel obstruction that can be associated with intestinal volvulus or infarction. Its incidence is about 1 per 20,000 pediatric hospital admissions, with around 830 cases reported in the literature so far. The rarity of these cysts is one of the causes why the accurate preoperative diagnosis is often missed. Roughly one third of cases occur in children less than 15 years of age. The average age of affected children is 4.9 years. It is tough to diagnose them both clinically and pathologically. Only clinical examination can rarely diagnose mesenteric cyst. Mesenteric cyst should be evaluated with detailed history, physical examination, blood tests and imaging studies (X-ray abdomen erect, ultrasound abdomen (USG) and computed tomography (CT) scan in selected cases) to make a provisional diagnosis. The diagnosis is proven on surgical exploration and proved on histology. Complications associated with mesenteric cysts are volvulus, spillage of infective fluid, herniation of gut loops into an abdominal defect, and obstruction. Treatment of mesenteric cyst is essential if the cyst enlarges in size or any of its complication occur. As recurrent abdominal pain is an important cause of seeking medical advice in children, so mesenteric duplication cysts though uncommon should be kept in the differential diagnosis so it can be managed earlier to prevent any possible complication.

CASE PRESENTATION
A 4 years old boy presented to the Paediatrics Department of Al-Nafees Medical College & Hospital with complaints of recurrent episodes of abdominal pain for the last five months. Pain was severe in intensity, felt in the periumbilical and epigastric region and used to last for about 2 days. Pain was usually associated with multiple episodes of non-bilious vomiting. Mother also noticed a progressively enlarging swelling on the right side of abdomen. There was no history of constipation, abdominal distension, jaundice, anorexia, weight loss, fever, haematuria, bruises, petechiae bleeding from any site. He was operated for right sided inguinal hernia a year back. He was a fully vaccinated child, developmentally normal child with no other significant illness in the family. He was taken to multiple hospitals in the past 5 months where supportive treatment was given that temporarily relieved his pain. His USG abdomen was performed twice in the past that was unremarkable. On examination he was a conscious cooperative boy. His vital signs were with in normal limits, His height was at 10th centile and his weight was at 25th centile for his sex and age. Abdomen was non distended, it was soft non tender, a firm mobile mass measuring approximately 8x 4 cm was palpable in the periumbilical region extending to the right hypochondrium, it had regular margins, there was no visceromegaly or ascites.
present as shown in Figure I. There was no pallor, jaundice, lymphadenopathy, petechiae, bruises or edema. Rest of the clinical examination was unremarkable.

His blood complete picture showed Hb was 11.9 gm/dl, TLC and platelets were within the normal range, Urine routine examination and serum creatinine were within the normal limits. Ultrasound abdomen showed a large, thick walled cystic lesion measuring 10.6 × 5.5 × 4.2 cm was seen in the right hemi abdomen with medial extension. Internal echoes were seen. No septation or communication with gut loops were seen. Contrast enhanced CT scan abdomen confirmed a cystic mass measuring 10.3 × 4.5 × 4.6 cm was seen in the right hemi abdomen extending to the midline. No lymphadenopathy, fluid or visceromegaly was noted. Above findings were suggestive of a duplication cyst / mesenteric cyst as shown in Figure II.

His laparotomy was performed, torsion of the cyst was seen, cyst arising from the ileal mesentery 10 cm from the ileocaecal junction was excised. Post operative course of the child was uneventful. Microscopic examination revealed a cyst wall lined by intestinal epithelium. Sub epithelial tissue showed organized smooth muscles. No evidence of granuloma or malignancy seen.

Duplication cyst was made because of the fact that no lining epithelium was noticed even after extensive sampling. However, the facts that the cyst was in close relation to bowel loops and had smooth muscle in cyst wall arranged in circular and longitudinal manner strongly favoured a diagnosis of enteric duplication cyst. Endoscopic ultrasound (EUS) is a commonly used tool for the evaluation and diagnosis of duplication cysts. There has been a recent increase in the use of laparoscopic approach for managing duplication cysts. Enucleation of the cyst can be performed in certain types of cysts. Surgical intervention must be initiated soon after the provisional diagnosis of duplication cyst is made. The fatal complications like; bleeding inside the cyst, torsion, perforation and obstruction are frequent in chronic, untreated cases. Risks of malignant change in untreated cases have been reported. Thus, complete surgical resection of the cyst is regarded as a ‘Gold standard' procedure for the management of duplication cysts. For some other forms of duplication cysts drainage procedure and marsupialization is a preferred treatment of choice.

**CONCLUSION**

Mesenteric abdominal cysts though rare should be kept in mind in children presenting with recurrent abdominal pain as timely diagnosis and treatment can prevent life threatening complications like torsion of cyst and bowel obstruction.
REFERENCES