

Diagnostic Dilemma of Cecal Duplication

A 7-day-old full term male neonate was referred with persistent bilious vomiting and mass in the abdomen. The antenatal scans were normal. The child had passed meconium and was feeding well. On examination, abdomen was mildly distended and non-tender. There was an intra abdominal mass in the right lumbar region extending towards the right hypo-chondrium. Hemato-logical and biochemical examinations were normal. X-ray of the abdomen showed a soft tissue mass in the right lumbar region. Ultrasound scan showed a cystic mass 5.4×3.5 cm in size below the lower surface of the liver with posterior enhancement. The liver, gall bladder, kidneys, spleen and great vessels were normal. With the probable diagnosis of mesenteric cyst or bowel duplication, the child underwent a laparotomy. We found a cystic mass arising from the medial aspect of the cecum, which was intimately related, but not communicating with the cecum. There was a single appendix attached to the parent cecum (*Fig. 1*). A local ileo-cecal resection with end-to-end anastomosis was performed. Postoperative recovery was uneventful. Histopathological examination confirmed the diagnosis of cecal duplication. There was no ectopic mucosa seen. Six-month follow up has been uneventful.

Alimentary tract duplications are rare congenital lesions characterized by intimate attachment to the alimentary tract, presence of well-developed coat of smooth muscle and epithelial lining resembling some part of the alimentary tract(1). Many theories of embryologic origin have been proposed, but

the exact etiology has not yet been established.

Duplications of the alimentary tract may present at any age, but 80% present in first 2 years of life(2). Only 13% of all alimentary duplications are colonic. Heij, *et al.*(3) have reviewed 362 patients reported in literature with 400 alimentary tract duplications and found only 16 cases of cecal duplications. Common presenting symptoms are acute intestinal obstruction, vomiting, recurrent abdominal pain, recurrent gastrointestinal bleed, constipation or an incidental detection. In only 20% of cases is a communication found between the gastro-intestinal tract and the duplication. Thirty per cent patients have ectopic gastrointestinal mucosa(4-5).

Although ultrasound, CT scan and MRI have been useful, a correct preoperative diagnosis is seldom possible as the symptoms are so varied and the entity rare. Ultrasound shows an echogenic inner mucosal layer with a hyperechogenic outer muscle layer. CT scan shows a well-defined cystic structure with low attenuation and contrast enhancement of the outer rim. Now-a-days, diagnostic

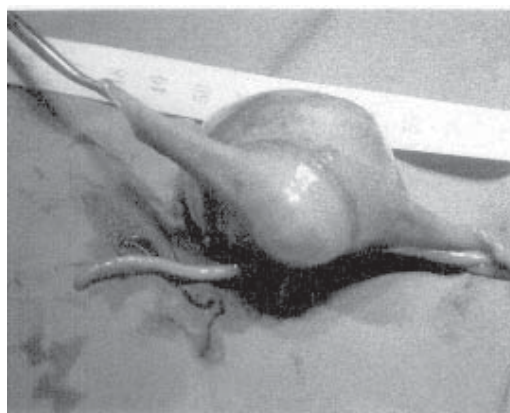


Fig. 1. Picture of the ileocecal region showing cecal duplication.

laparoscopy may have an important role in the diagnosis of these patients. In the present case, the lesion was cystic and intimately attached to the cecum at the ileocecal junction. Hence, the surgical procedure involved only local resection with a primary anastomosis so as to relieve the patient's symptoms and prevent recurrence. Cecal duplications may also present as a part of long tubular duplications of the colon which may be treated by either excising the lesion along with the normal colon, enlarging the existing communications with the normal bowel, or by excising a portion of the common wall of the cyst and the normal colon.

Although rare, alimentary duplications are an important differential diagnosis to consider in children and especially neonates who present with a palpable abdominal mass. The other possibilities are mesenteric, ovarian, pancreatic or choledochal cysts. Undiagnosed intestinal duplications may cause a bowel obstruction or may undergo malignant transformations in adults. The results of surgical management of duplication depend upon its type, site, extent, attachment to alimentary structures and presence of complications.

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Cold Chain System in Chandigarh During Intensified Pulse Polio Immunization 2001-2002

Since the inception of the Immunization Program there has been a great need of strict maintenance of Cold Chain System for all the vaccines from the site of production to the point of consumption. India has attained a immunization coverage of >85%(1) and to sustain high level of immunization coverage,

there is need for strict monitoring of the existing immunization program(2,3) as especially improving cold chain system. The present study was aimed on evaluation of Cold Chain System in UT, Chandigarh during IPPI campaign in 2001-2002.

This study was conducted one week prior to National Immunization Day (NID) and on NIDs. A Pre-tested questionnaire was used(4). We visited different vaccination storage centers and 20 vaccination (PPI) posts in Chandigarh. There was one trained refri-