Case Report

Duplication Cyst in a New Born

Israr Zahir, Shazia Yusuf, Fareen Zada, Muhammad Asif, Nadeem Akhtar, M. Zaheer Abbasi

Abstract: Intestinal duplication is a rare congenital anomaly. Duplications found in proximity of small intestine are the most common enteric duplications encountered and majority of these occurs in the ileum. They may be either cystic or tubular and most of them are located in the mesentery of intestine. We are here presenting a case of a neonate who got delivered by lower segment caesarean section (LSCS) with a huge abdominal mass. At surgery there was huge small gut duplication at ileum.

Keywords: Duplication cyst, Intestinal duplication, congenital anomalies

Introduction

Duplications are rare congenital anomalies which can occur anywhere in gastrointestinal tract from mouth to anus. Only few cases are reported. As Gray remarked “gastrointestinal tract is a fertile field for various and curious congenital malformations are fascinating to study for both surgeon and pathologist”.1 Duplications in proximity of small intestine are the most common enteric duplications and majority of these occurs in the ileum. They may be either cystic or tubular and most of them are located on the mesentery of intestine. The duplications share its muscular wall and blood supply with the adjacent intestine and reside in the leaves of the mesentery. Signs and symptoms due to small intestinal duplications may vary but abdominal distension and/or mass are the most common presentations. Small cystic duplications can act as a lead point for small bowel intussusception or result in localized volvulus. Large duplications can cause compression of adjacent intestine and cause obstructive symptoms. Optimal treatment for small intestine duplications is total excision. In case of cystic duplications, this is usually accomplished by excising the duplications with its adjacent bowel with primary re-anastomosis. In long tubular duplications, attempts should be made to preserve one leaf of mesentery to maintain blood supply to the adjacent bowel.2,3

Case Report

A seven day old male neonate presented to emergency room with complaints of a huge mass in the abdomen. Upon examination there was a huge oval mass covering whole of the abdomen, with visible veins over the abdomen. The mass was firm on palpation, which was extending from right iliac fossa to the left iliac fossa and extending to the pelvis. (Figure-I). Ultrasound abdomen examination reported “Large multiseptate cystic mass with internal echoes, seen occupying whole of abdomen and displacing abdominal viscerae laterally and superiorly. Liver displaced superiorly, however the visualized portion appears to be normal, gall bladder and pancreas not visualized.” The patient was optimized for surgery and exploratory laparotomy done. There was huge tubular duplicated gut from commencing at the ileum, extending proximally about 37cm (Figure – II & III). A meticulous dissection of the cyst and enucleation of the cyst was done, instead of resection and primary anastomosis of the gut. (Sometimes the blood supply of the gut gets compromised after enucleation. In that event a part of the gut is excised with end to end anastomosis). The idea behind the enucleation was to preserve as much gut as possible, as every centimeter of a gut in the neonate is very important to be preserved.

Gross Description: Received in formalin is 11 X 7 cm thick walled grayish white tubular cystic structure. The serosa is shiny and smooth with prominent vessels on the surface. The wall is thick. The mucosal lining is unremarkable. Several representative sections are submitted for microscopic evaluation.
Discussion

Duplication cysts are defined as spherical or tubular structures that are firmly attached to at least one point in the alimentary tract, possess well-developed coats of smooth muscle, and have an epithelial lining resembling some part of alimentary tract. Commonly, duplication cysts are communicated with the intestinal lumen, involve the mesenteric border of the associated alimentary tract, and share a blood supply with the native bowel. The symptoms depend on the size, location and mucosal lining of the cyst. Patient may present with abdominal pain, vomiting, palpable mass or acute gastrointestinal haemorrhage. Intestinal duplication in thorax may present with respiratory distress.4-5 The duplication can be classified into localized duplication, duplication associated with spinal cord and vertebral malformation and duplication of the colon. Localized duplications are common in the ileum and jejunum. Theories explain duplication as a defect in re-canalisation of the intestinal lumen after the solid stage of embryological development. The split notochord theory proposes neural tube traction mechanism resulting in intestinal duplication along with vertebral and spinal cord anomalies (hemivertebrae, anterior spina
bifida, band connection between lesion and cervical or thoracic spine). Due to non-specificity, a preoperative diagnosis based on radiography is unlikely. Upper GI study and barium enema demonstrate filling defect or rarely a communication between the cyst and normal bowel. The ultrasound and CT scan are useful in establishing diagnosis and may be used to evaluate synchronous lesion once a single duplication has been identified. ⁶,⁷ Duplication of cyst manifests as smooth, rounded, fluid filled cysts or tubular structure with thin slightly enhancing wall on CT scan. MRI scan shows intracystic fluid with heterogenous signal density on T₁ weighted image and homogenous high signal intensity on T₂ weighted image. The duplication cyst can be diagnosed prenatally.⁸ Treatment of small cystic or short tubular duplication involves segmental resection along with adjacent intestine. A long tubular duplication cannot be excised as it will lead to short bowel syndrome. In these cases mucosal stripping through a series of multiple incisions is recommended.⁹

References