Case Report

Duodenal Perforation Simulating as Duodenal Duplication Cyst in a Neonate: A Case Report

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ABSTRACT

Spontaneous duodenal perforation in neonates (SDPN) is a rare surgical emergency. Only few cases have been reported. A neonate presented with abdominal distension investigated with imaging modalities which gave suspicion of a duodenal duplication or choledochal cyst. At surgery, a duodenal perforation with local collection, was encountered simulating a duodenal duplication cyst.

Key words: Duodenal perforation; Spontaneous; Duodenal duplication cyst; Choledochal cyst

INTRODUCTION

Exact etiology of these spontaneous duodenal perforations in neonates (SDPN) has not been clearly identified till now. Possible etiology hypothesized is perforated duodenal ulcers. Occasionally, the duodenal perforation with localized para duodenal collection may simulate other cystic lesions of this vicinity. We are reporting a case of SDPN without obvious etiology simulating as duplication or choledochal cyst.

CASE REPORT

A 30-day-old female baby, born by full term vaginal delivery (3.15kg) to gravida 3, para 2 mother, presented with abdominal distention for 10days. She was quite well for the first three weeks of life with essentially normal antenatal scans. Thereafter, the baby progressively developed abdominal distention, excessive cry, and poor feeding. She was exclusively breast fed. She was evaluated in a local hospital with x-rays and ultrasonography, which were suggestive of choledochal cyst. At our facility, contrast enhanced CT scan (IV and oral contrast), performed gave suspicion of duodenal duplication cyst (Fig.1A). After optimization she underwent surgery, which divulged a tiny duodenal perforation (0.4cm x 0.3cm) in the lesser sac (Fig.1B). Second part of duodenum was kockerized; perforation was refreshed and closed with absorbable suture. Postoperative recovery was uneventful. She was discharged in good condition. She is doing fine on 2-year follow-up.

DISCUSSION

Gastrointestinal perforations without any obvious cause have been described as spontaneous.[1] Neonatal perforations of the duodenum are rare, the etiology of which may be distal mechanical obstruction, feeding tube trauma, or an ulcer. SDPN presents without any obvious etiopathogenesis.[1,2]
One of the probable etiologies is a relatively high acid secretion in neonates during the first 10 days of life, due to high maternal gastrin.[2]

Diagnosis and management of SDPN is challenging, since there will be no definitive clinical signs and symptoms of peritonism on account of contained local inflammatory reaction and the resultant fibrosis limited to the retroperitoneal tissue would seal off these perforations, thus minimizing the signs and symptoms of peritonism.[3] Localized collection around duodenum may simulate other cystic lesions of this vicinity such as choledochal cyst and duodenal duplication cyst. Similarly in our case, the imaging workup gave suspicion of choledochal cyst, and later on, of duodenal duplication cyst. But at surgery, we found tiny duodenal perforation situated posteromedial aspect of second part of duodenum which could have been easily missed without proper kocherization of the duodenum.[4,5]

**Conclusion:**

Though the cause of SDPN is difficult to determine, it carries considerable morbidity and mortality on account of delayed identification and management. Moreover, it may simulate other cystic lesions making the surgical decision more challenging. Greater awareness and strong index of suspicion is necessary to earlier identification and management.

**Consent:** Authors declared that they have taken informed written consent, for publication of this report along with clinical photographs/material, from the legal guardian of the patient with an understanding that every effort will be made to conceal the identity of the patient however it cannot be guaranteed.

**Author Contributions:** All the authors contributed fully in concept, literature review, and drafting of the manuscript and approved the final version of this manuscript.

**REFERENCES**