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JEJUNAL WEB CAUSING INTESTINAL OBSTRUCTION IN NEONATES : A CASE SERIES AND REVIEW OF LITERATURE

Paediatric Surgery

Dr. R. K. Tripathi Professor, Department of Surgery, G.S.V.M Medical College Kanpur

Dr.Vijay Kumar Gupta* Junior Resident III, Department of Surgery, G.S.V.M Medical College Kanpur *Corresponding Author

ABSTRACT

Introduction -Intestinal webs are a kind of intestinal atresia rarely occur in the jejunum. These webs are occasionally diagnosed late because most of the times their central fenestration allows the passage of food. Presentation are bilious vomiting with intestinal obstruction. **Case Series -**We reported 3 cases of neonates who presented with atypical symptoms of bowel obstruction and non-specific plain radiograph and ultrasound findings. The diagnosis of jejunal web preoperatively very difficult to make, we only have suspicion and final diagnosis made intraoperatively. **Discussion -**Few cases of jejunal webs are reported in the literature. The jejunum is the site of only 8% of webs and 33% of jejunal webs are associated with other congenital anomalies and/or prematurity. **Conclusion -**Jejunal web needs a high degree of suspicion to be diagnosed and should be kept in mind of clinicians as a differential diagnosis in the setting of unexplained persistent non-bilious emesis in otherwise normal toddlers.

KEYWORDS

Jejunal web, Intestinal obstruction, Intestinal atresia, Bilious vomiting.

INTRODUCTION

Intestinal atresias are historically divided into four types based on Louw and Barnard classification[1]. Type-1: intestinal webs, type-2: fibrous cord, type-3a: V-shaped mesenteric defect, type-3b: apple peel atresia, and type-4: multiple atresias. Type 1 intestinal atresia is considered to be rare and the most common site of webs is known to be the second part of the duodenum. The jejunum is the site of only 8% of webs[2].Vascular theory and Re-canalization theory have been proposed as the underlying etiologies of intestinal webs. However, a recent case report suggested that mucosal hyper-proliferation in a jejunal web might be another mechanism for intestinal web formation[3]. Jejunal webs often present in the neonatal period but may become only intermittently symptomatic or may present later in their life because their central fenestration allows passage of food[4]. We present a case series of jejunal web found in 3 neonates with atypical symptoms of bowel obstruction with bilious vomiting over a period of 3 years.

CASE SERIES

A four day old full term female neonate of birthweight 3kg who had normal antenatal history was admitted with complaint of upper abdominal distension and bilious vomiting since birth. The baby had not passed meconium since birth. . Orogastric tube placed which had large amount of billious aspirate 25 ml per day. The abdominal radiograph revealed a few gaseous shadows in the proximal gut and gasless lower abdomen(Fig1).Upper GI contrast study done and on the basis of all that diagnosis of malrotation of gut made preoperatively. Laparotomy showed normal left sided duodeno-jejunal junction, no Ladd's band and no intestinal malrotation. there was grossly distended duodenum and proximal jejunum with a transition zone at 6 cm distal to the duodeno-jejunal junction(Fig2). Upon longitudinal enterotomy, a jejunal web seen(Fig3). The jejunal web together with 2 cm of the jejunum was excised and the proximal bowel deflated and a primary end to side jejuno-jejunostomy anastomosis was performed with 5/O PDS interrupted. Luminal patency of the distal bowel was confirmed with normal saline. Post-operatively the patient made a recovery with bowel functioning and passed stool on the 4th postoperative day. Second case was a 6 day full term female baby presented with intestinal obstruction and bilious vomiting x ray abdomen and USG abdomen were inconclusive patient was prepared and explored on exploration jejunal web seen and managed by excision of the web segment and followed by jejunojejunostomy patient responded well and discharged on POD7. Third case was a neonate of 3 days old full term baby admitted with bilious vomiting and not passing meconium since birth on x ray abdomen and USG abdomen diagnosis of intestinal malrotation made preoperatively on exploration we got double jejunal web resection of the segment containing jejunal web done and jejunojejunostomy performed patient responded well and enteral feed started on POD3 and patient discharged on POD7.All three cases has no associated congenital anomalies, all three were discharged and followed.

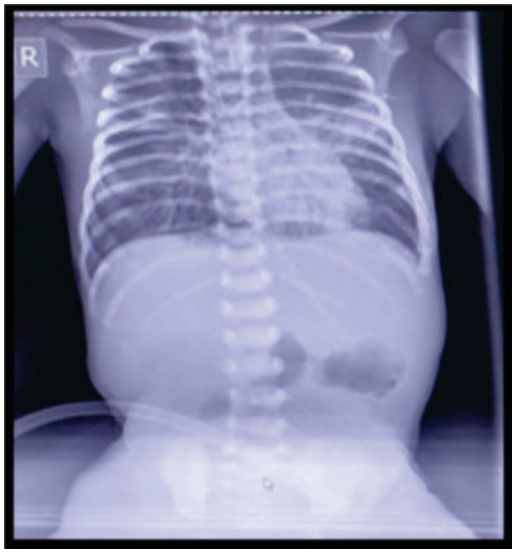

Fig1. Xray Chest Of The Patient Showing Gas In The Stomach And Proximal Small Bowel.

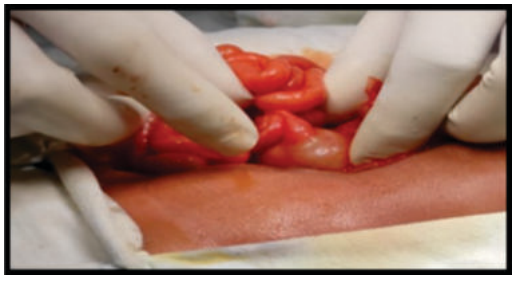

Fig2. Showing Transition Point At The Proximal Jejunum.

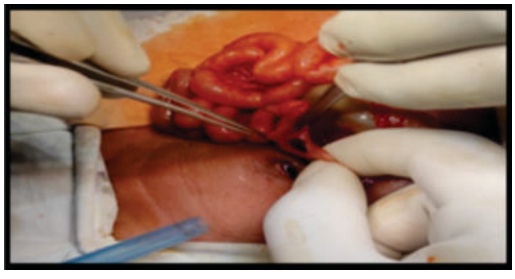

Fig3. Showing Jejunal Web.

DISCUSSION

Bilious vomiting is often considered a pathological sign in a neonate and need urgent medical attention. Differential diagnosis for bilious vomiting includes intestinal obstruction such as intestinal malrotation, intestinal atresia, severe sepsis,and long segment hirschprung disease. Intestinal atresias have been classified into type I (mucosal web), type II (atretic fibrous cord), type IIIa (V-shaped mesenteric defect), type IIIb ('apple peel atresia'), and type IV (multiple atresias) [1]. The jejunum is the site of only 8% of webs[5]. We report a case of a neonate presenting with bilious vomiting due to an obstructing jejunal web masquerading as malrotation. Congenital web of the gastrointestinal tract is an uncommon anomaly causing GI obstruction in infants with very scant in the literature. The most common site of intestinal web is the second portion of duodenum [6], Patients with jejunal web presented with small bowel obstruction and bile-stained vomitus, and treated with excision of the web and jejunoplasty. Multiple jejunal web could also be found in some instances [7], resulting in type IV jejunal atresia, therefore it is essential to ascertain the luminal patency of the distal bowel after enterotomy. The etiology of intestinal atresia remains unknown. According to the recancalization theory proposed by Tandler [8], the duodenal endoderm thickens and obliterates the lumen before it recanalizes. Recently, there has been case report suggesting intestinal hyper-proliferation and mucosal hyperplasia to be a cause for jejunal web in an infant [3]. Andrews and Stem (1981) reported a case of jejunal web in a 48-h old Arab female neonate.[9] The newborn had presented with small bowel obstruction, upper abdominal distention, and bile-stained vomitus. A jejunal web was removed during surgery and jejunoplasty performed. De Backer et al. treated a one-year-old boy with high jejunal membranous stenosis successfully by antimesenteric longitudinal enterotomy over the diaphragm, excision of the latter, and transverse closure of the bowel.[10] Kothari et al. reported a case of jejunal web with a central perforation situated 8 cm from the duodeno-jejunal junction in a four-year-old emaciated male child with history of intermittent episodes of bilious vomiting, abdominal pain, and failure to thrive. Enterotomy with excision of web was done and the child had an uneventful post-operative recovery[11]. Seltz reported a case of jejunal web with a pinhole in a 13-month-old boy with a history of failure to thrive and recurrent episodes of non-bilious emesis beginning at six months of age. Surgical excision of the web was done without any complications.[12]. The treatment for jejunal web remains surgical excision even though variable approaches may be used. Endoscopic laser therapy has been successfully tried for duodenal web[13]. Our patients underwent enterotomy with excision of the webs. Jejunal web which needs a high degree of suspicion to be diagnosed and in order to prevent complications should be kept in mind as a differential diagnosis in cases of intestinal obstruction with bilious vomiting in neonates.

CONCLUSION

jejunal webs are rare entity and there is low specificity of radiological study for jejunal web, and thats why clinicians should have a high index of suspicion for congenital Gastro intestinal webs as a possible cause of GI obstruction in infants and children. Presentation can be late due to presence of fenestration in the web. Plan of management is excision of the involved segment and anastomosis.

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Consent - Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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