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Diagnostic Dilemma Pertaining to Upper GI Obstruction in Infancy: Jejunal WEB

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ABSTRACT
Intestinal webs as a part of type 1 intestinal atresia especially jejunal web is an unusual occurrence in infancy. Mostly diagnosed late as partial intrinsic obstruction makes the child non symptomatic unless the bulk increase or food bolus gets stuck. We report here an unusual case of a female at 3 months presented with subacute proximal obstruction suspected pre operatively as duodenal partial chronic obstruction however intraoperatively was found to have jejunal cribriform web. Our case report presents a 3-month-old age female child with subacute intestinal obstruction with presenting symptoms milder in nature since birth and recent aggravation in symptoms since 15 days. The child was adequately investigated through laboratory, clinical examination and contrast and non-contrast imaging investigations and was prepared for surgical intervention after preoperative hydration and optimizing general condition. The child was then operated through standard protocols with preoperative diagnosis made to be duodenal obstruction with proximal huge dilated bowel and distal bowel collapsed. Intraoperative incomplete fenestrated proximal jejunal web was found to be the culprit and then was operated without anastomosis with enterotomy and complete web excision and closure of enterotomy. The case operated hence was discharged on post operative day 7 with orally allowed soft diet and adequate bowel bladder emptying frequency. The patient was followed post operative for 15 days and 1 month with contrast imaging study showing passage of contrast up to rectum. The patient is in still follow up and doing well. Jejunal webs a part of spectrum of intestinal atresia should be kept as a high degree of suspicion under differential besides duodenal or pylori level breech for chronic subacute obstruction for a child chronically malnourished with non-bilious emesis in otherwise normal looking child beyond neonatal period gone uneventful.

INTRODUCTION

The intestinal atresia is among the most common etiologies of complete and partial small bowel obstruction. It has been classified into five types, including type 1 (mucosal web), type 2 (atretic fibrous cord), type 3a (mesenteric defect), type 3b (apple peel atresia) and type 4 (multiple atresia)[1-2]. Congenital web of the gastrointestinal tract is a rare anomaly refers to partial or complete obstructions of the intestine by a mucosal membrane which may present at any site of the gastrointestinal tract, most commonly in the stomach and small intestine (2nd portion of duodenum)[3].In cases with a fenestrated membrane, the presenting symptoms may take the form of partial obstruction such as failure to thrive, volume depletion, or poor body-weight gain, representing a chronic condition hence diagnosed lately as and when some bulk and or bolus getting stuck with failure to dislodge. The age of onset is inversely related to the diameter of the aperture. A diaphragm with an aperture diameter of 10 mm or more may go unnoticed throughout life[4]. Incidence rate of duodenal atresia is one in 5,000 live births, whereas the intestinal web incidence rate remains unclear. We report here an unusual case of a female child of 3 months presented with subacute proximal obstruction(bilious vomiting) suspected pre operatively as duodenal partial chronic obstruction however intraoperatively was found to have jejunal cribriform web.

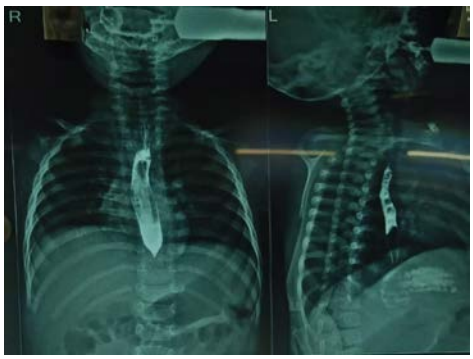

Fig. 1: Barium Swallow (pre operative)

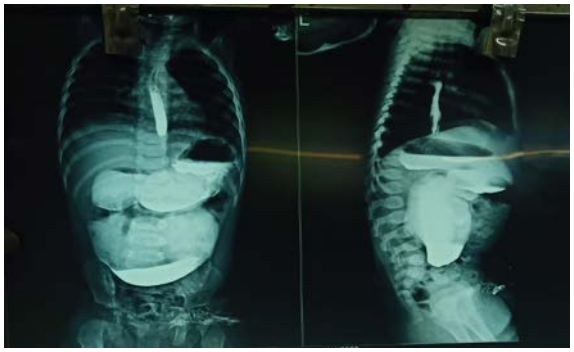

Fig. 2: Upper GI Contrast Study

Case Report: A female child of the age 3 months, presenting at our center with chief complaints of abdominal distention and chronic bilious vomiting failure to gain weight and less adequate breast feed in previously normal fed child with no distention and or vomiting. The complaints were of aggravating nature since last 15 days to presenting date. On examination the child of weight 4000grams (birth weight 2500 grams) with no specific altered findings on general examination and vitals within normal limits and abdominal examinations revealed soft non tender mild distended upper abdomen with no organomegaly while per rectal examinations had stool-stained gloves. Patient was adequately resuscitated and kept nil by mouth with nasogastric tube insertion and per urethral catheterization. Was then subjected to baseline routine blood and urine investigations and radiological non contrast abdominal erect x rays followed by upper GI contrast study(Figure 1 and Figure 2) and ultrasonographic workup to reveal chronic duodenal obstruction and dye hold up beyond a 2nd part of duodenum and further collapsed loops.

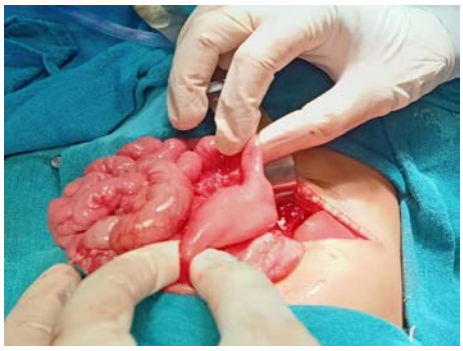

Fig. 3: Intraoperative Jejunal Web Near DJ Junction

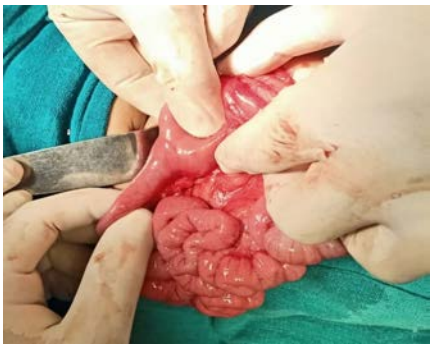

Fig. 4: Intraoperative Palpation of Web Before Enterotomy

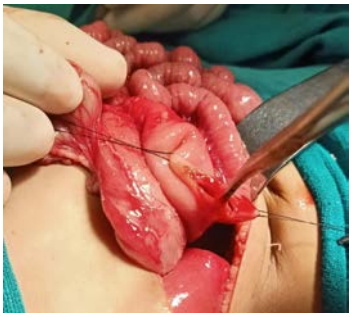

Fig. 5: Enterotomy with Cribriform Web(Pointed by the Artery Forceps)

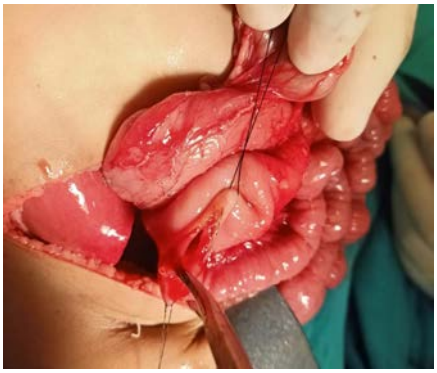

Fig 6: Excision of Web

Assuming a diagnosis of partial duodenal obstruction as contrast agent passed into small intestine with hold up the child was planned for operative intervention and by standard laparotomy approach for child abdomen was explored to reveal incomplete fenestrated proximal jejunal web within 4 cm of duodenojejunal junction(Figure 3, Figure 4, Figure 5,Figure 6) to be the culprit for chronic intermittent partial obstruction.

The child underwent enterotomy with complete web excision(Figure 6) and further closure of enterotomy without the routine primary jejuno-jejunal anastomosis.

Enterotomy over routine anastomosis was favored due to web being in close proximity to duodeno-jejunum junction and possibly complete excision of web felt on manual palpation of web externally.(Figure 4).

The patient was discharged on post operative day 7 after allowing orally with exclusive breast feedings and multivitamins and iron folic acid drops with regular follow up.

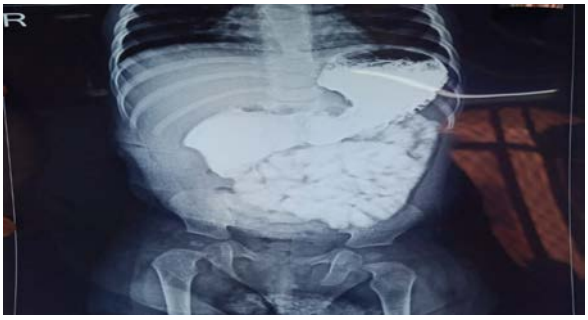

Fig. 7: Post Operative (day15) Contrast Study Showing Passage of Dye in Colon

Follow up visits were done by clinical examinations and contrast imaging study done of post operative day 15th,day 7 post discharge showing no hold up and passage of contrast agent upto rectum in delayed scan(6hrs). (Figure 7).

RESULTS AND DISCUSSIONS

Congenital web of the gastro-intestinal tract is an uncommon anomaly causing GI obstruction in infants. The presenting symptoms of such webs can often be vague and non-specific, especially when the fenestrated mucosal web results in partial obstruction. Diagnosis of an incompletely obstructing web can be difficult and the mean time to diagnosis for those with jejunal webs was quoted as 231 days[3]. The etiology of intestinal atresia remains unknown. According to the recanalization theory proposed by Tandler[5]. the duodenal endoderm thickens and obliterates the lumen before it recanalizes. Another widely adopted theory by Louw and Barnard[6] suggested intrauterine vascular events causing disruption of mesenteric vessels and subsequently intestinal atresia. Recently, there has been case report suggesting intestinal hyper-proliferation and mucosal hyperplasia to be a cause for jejunal web in an infant[7].

In our case the diagnostic dilemma prevailed due to preoperatively all investigations suggesting duodenal web but when explored found to have a jejunal web cribriform and single partial non obstructing to be the cause of chronic obstruction leading the child ‘s growth failure and inadequate weight gain.

CONCLUSION

Jejunal webs as a part of spectrum of intestinal atresia should be kept as a high degree of suspicion under differential besides duodenal or pylori level breech for chronic subacute obstruction for a child chronically malnourished with non-bilious /bilious emesis in otherwise normal looking child beyond neonatal period gone uneventful.

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