ROLE OF DUODENOPLICATION IN TREATING MEGADUODENUM POST DUODENODUODENOSTOMY

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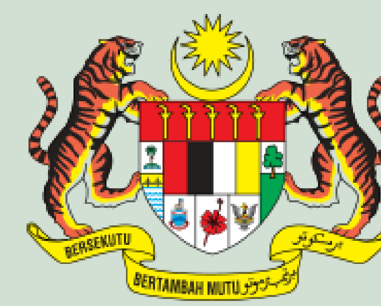
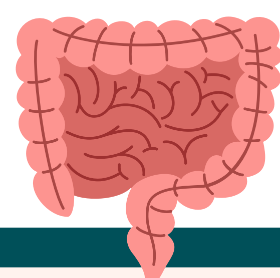


INTRODUCTION



Megaduodenum is a clinical syndrome which is characterized by remarkable expansion of duodenum. It can occur due to mechanical or functional abnormalities. Although it is extremely rare in early childhood, the possibility of megaduodenum which can subsequently cause functional duodenal obstruction post duodenoduodenostomy should not be excluded. We describe an infant who previously underwent duodenoduodenostomy for duodenal atresia who later diagnosed with megaduodenum.

CASE REPORT

2 months old preterm girl borned at 34 weeks of gestation with history of duodenal atresia who done laparotomy and duodenoduodenostomy at day ten of life. Child discharged well 24 days postoperatively. Two weeks later, she presented to us for multiple episodes of vomiting with milk content and dehydration. Upon assessment, she was cachexic. Abdomen clinically soft, not distended. Abdominal xray showed huge gastric shadow with normal bowel gas distribution. Trial of small amount feeding attempted however child had high bilious aspirate. Upper gastrointestinal (UGI) contrast was done to rule out anastomotic stricture. Findings noted narrowing at the anastomotic site measuring approximately 6.5mm x 4.6mm (W x L). However, contrast was still seen opacifying the small bowel distal to this narrowing, features represent anastomotic stenosis. Proceeded with laparotomy, adhesiolysis and duodenoplication. Intraoperatively, noted grossly dilated D1, no anastomotic stricture seen from the previous anastomotic site. Duodenal plication was done to just above anastomosis site. Some small bowel adhesion was noted. Post operative care was uneventful. Feeding started at post op day five. Full feeding achieved 17 days post operation. Currently, she is tolerating feeding, slowly gaining weight and no more episode of vomiting.

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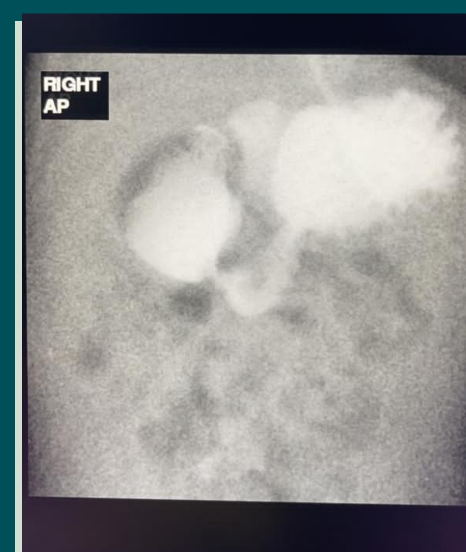


Figure 1 : Preoperative upper gastrointestinal study demonstrated anastomotic stenosis.

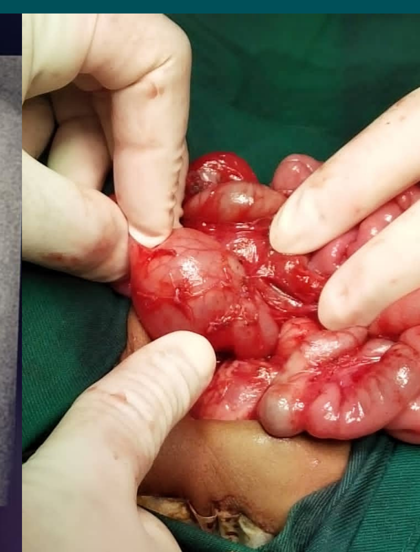


Figure 2 : Intraoperative megaduodenum proximal to previous anastomosis site

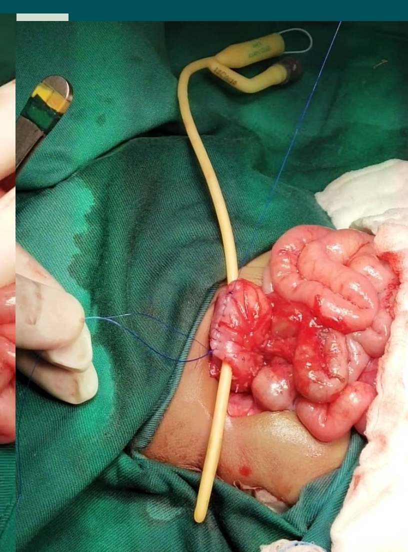
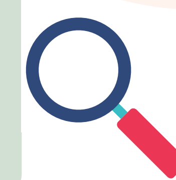


Figure 3 : Duodenoplication done with Prolene 4/0

DISCUSSION



Megaduodenum can be caused by mechanical or chronic duodenal obstruction. The former includes congenital duodenal stenosis or strictures after surgical treatment of congenital duodenal malformations [1,2]. Congenital bands, annular pancreas, adhesions, tumors, aneurysm and superior mesenteric artery syndrome are among the extrinsic lesions that may cause obstruction [3]. Nevertheless, there are some causes without any mechanical cause that cause functional megaduodenum. Irrespective of the cause, the obstruction should be relieved. The overall goals are to relieve or bypass the obstruction to improve duodenal emptying and to restore gastrointestinal tract continuity [4]. For this patient, intraoperatively we found that the first part of duodenum massively dilated, however no anastomotic stricture seen. The outer diameter of previous anastomotic site measuring 1cm. So we consider this expansion of duodenum causing functional obstruction and thus plication was performed with good result achieved.

CONCLUSION

In evidence of functional duodenal obstruction secondary to megaduodenum with underlying duodenal atresia post surgery, duodenal plication should be considered to help reduce problems associated with megaduodenum and this will help to restore earlier bowel transit.