www.jpnim.com Open Access eISSN: 2281-0692
Journal of Pediatric and Neonatal Individualized Medicine 2022;11(2):e110229
doi: 10.7363/110229
Received: 2021 Mar 23; accepted: 2021 May 02; published online: 2022 Oct 15

Case report

Congenital pyloric web: A rare cause of neonatal gastric outlet obstruction

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Abstract

Congenital gastric outlet obstruction is a rare clinical entity. It may be confused with more common conditions (like idiopathic hypertrophic pyloric stenosis and others) and is difficult to diagnose. Patients have a dilated stomach with intermittent intolerance to feeds and have normal meconium and stool passage.

Here is reported a case of a 10-day-old girl with recurrent non-bilious vomiting and upper abdominal distension after feeds. X-rays showed distended stomach with distal gas. On further investigation the baby was found to have a web in the pylorus. The web was excised via a prepyloric gastrotomy and reconstruction with a Heineke-Mikulicz pyloroplasty was done. Postoperative period was uneventful. On follow-up, the baby is asymptomatic and is thriving well.

To conclude, presence of a pyloric web should be considered in neonates with non-bilious vomiting with a normal pylorus and a persistently distended stomach.

Keywords

Pyloric web, neonatal gastric outlet obstruction, pyloric atresia, web, type 1 pyloric atresia, non-bilious vomiting.

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How to cite

Basu S, Makan A, Tulsian A, Joseph V, Gandhi S, Sisodiya Shenoy N, Shah H. Congenital pyloric web: A rare cause of neonatal gastric outlet obstruction. J Pediatr Neonat Individual Med. 2022;11(2):e110229. doi: 10.7363/110229.

Introduction

Congenital pyloric obstruction is rare. These neonates present in neonatal life or infancy with persistent non-bilious emesis and poor feeding with normal passage of meconium and milk stools and are therefore difficult to diagnose. They may be confused with more common conditions (like idiopathic hypertrophic pyloric stenosis) and have different surgical management. These patients have a dilated stomach on X-ray with or without distal gas. Here we present a case of congenital pyloric obstruction due to a web.

Case report

A 10-day-old female, preterm, first-born baby weighing 2.3 kg was admitted with recurrent non-bilious vomiting and upper abdominal distension after feeds. The baby was feeding voraciously after the vomiting. The baby passed meconium in good amounts after birth, followed by small amounts of milk stools. The antenatal scans showed polyhydramnios. At presentation, the baby was dehydrated with poor tone and activity. Abdomen was soft with upper abdominal fullness. There was no lump palpable. Intravenous fluids were started to correct dehydration. X-ray of the abdomen and pelvis (**Fig. 1**) revealed a massively dilated stomach with paucity of gas in the distal bowel. Sonography revealed no evidence of pyloric wall thickening (2 mm), no duodenal anomaly and no features of malrotation.

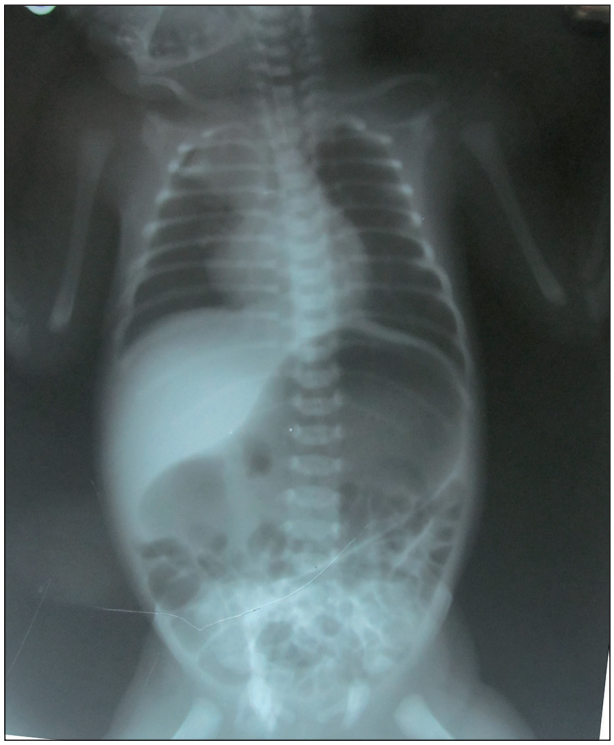

Figure 1. X-ray of the abdomen and pelvis revealed a massively dilated stomach with paucity of gas in the distal bowel.

Contrast study (**Fig. 2**) showed a grossly dilated stomach with significant retention of contrast after 2 hours. Contrast was visualised in distal bowel in delayed films.

At exploration, a massively dilated stomach with a narrow calibre duodenum and no pyloric thickening were confirmed. Prepyloric gastrotomy revealed a web at the level of pylorus (**Fig. 3**), which was excised, and a Heineke-Mikulicz pyloroplasty was done over a transanastomotic nasojejunal feeding tube. A nasogastric tube was kept for gastric decompression.

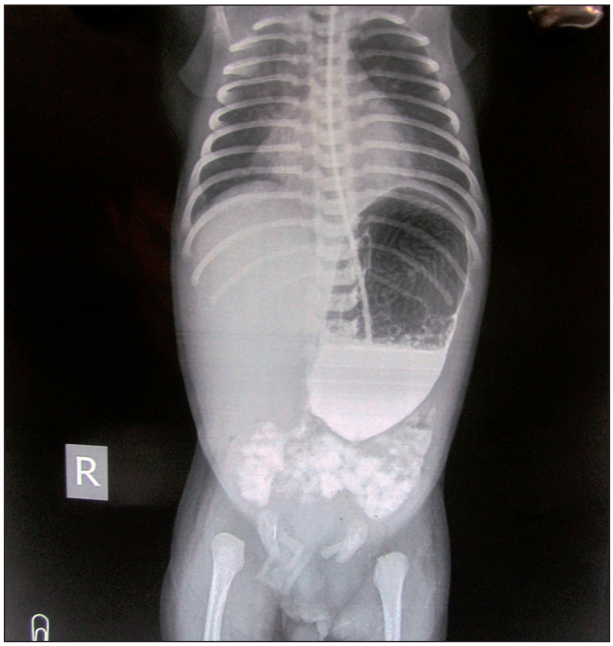

Figure 2. Contrast study showed a grossly dilated stomach with significant retention of contrast after 2 hours.

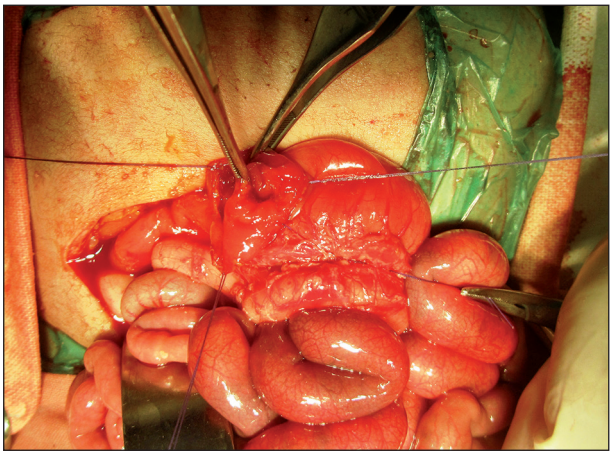

Figure 3. Prepyloric gastrotomy revealed a web at the level of pylorus, which was excised.

The baby was started on early enteral nasojejunal feeds followed by oral feeds. The child is thriving well on follow-up.

Discussion

Pyloric web was first described by Gerber in 1965 as a rare cause of gastric outlet obstruction in neonates [1]. Pyloric webs are very rare (less than 1 in 1 million). These neonates may have a distended stomach on antenatal scans, associated polyhydramnios and are usually preterm. These neonates present in the first week of life with recurrent non-bilious vomiting, feeding difficulties and failure to thrive and rarely gastric perforation [2]. Moderate to severe dehydration may be present. In cases of webs with a relatively large lumen, presentation is in infancy when the child progresses to semisolid feeds.

The cause of this rare anomaly is unknown with failure of recanalization implicated in its formation. Type 1 pyloric atresia is an occluding membrane without any serosal discontinuity. This variant of pyloric atresia with a perforated web is even rarer. Clinically, it mimics several medical and surgical conditions. Medical causes of non-bilious emesis in neonates are feed intolerance, milk allergy, raised intracranial pressure, sepsis or necrotizing enterocolitis [3]. Vascular rings, gastric atresia, gastric volvulus, preampullary duodenal obstruction are other differentials. However, the most common cause of neonatal gastric outlet obstruction is idiopathic hypertrophic pyloric stenosis.

Plain and contrast X-rays reveal a dilated stomach with a normal duodenum and delayed gastric emptying. Clinical examination of a palpable olive and pyloric thickening with an elongated pyloric channel on ultrasonography are diagnostic of hypertrophic pyloric stenosis.

Treatment is excision of the web and can be open or endoscopic [4, 5]. Endoscopic excision may be possible if there are no major vessels or muscle and avoided in neonates < 2 kg [6]. Histopathologically, the web may be made of two layers of mucosa which may not be uniform and rarely with muscle and vasculature as well [7].

Conclusion

Congenital pyloric web is a rare cause for neonatal gastric outlet obstruction. Web with central perforation may present later in infants and children with failure to thrive. Early management has favourable outcome.

Declaration of interest

The Authors declare that there is no conflict of interest. External funding: nil.

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