Unusual association of diseases/symptoms

Vomiting and food refusal causing failure to thrive in a 2 year old: an unusual and late manifestation of congenital duodenal web

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Summary

Congenital duodenal anomalies like atresia, stenosis and web or diaphragm commonly present in the neonatal age with signs of intestinal obstruction. Duodenal webs can sometimes present in early infancy and very rarely beyond infancy. The authors present a case of congenital duodenal web with a very small central aperture in a 2-year-old child with presenting features of persistent vomiting and resultant failure to thrive without any overt signs of intestinal obstruction.

BACKGROUND

Vomiting, fussy eating and food refusal are very commonly seen symptoms in infants and toddlers. At times, these symptoms are overlooked by parents and sometimes by general practitioners as well. Rarely vomiting without overt signs of intestinal obstruction can be due to congenital duodenal obstruction. A high index of suspicion is necessary to diagnose these conditions at ages when they do not commonly present.

CASE PRESENTATION

A 2-year-old boy was brought to our hospital from a distant village by his parents with the symptoms of vomiting and refusal to feed well since 4–5 weeks age. He would vomit once or twice everyday, forceful, non-bilious vomiting, generally half an hour to 1 h after feeds. Vomiting increased if he was fed mainly solids. That is why his diet at 2 years of age mainly consisted of milk and small amounts of semisolid gruel like food. He passed normal motions usually everyday. Off and on he would have mild abdominal distension which usually subsided without any treatment. He was taken by his parents to their local general practitioner frequently, who would give medical treatment from time to time. As he did not have any overt signs of intestinal obstruction, the local doctor did not think of an underlying organic cause for the vomiting. The parents were concerned as the vomiting was persistent, his feeding was inadequate and he was not gaining weight well.

He is the second child of his parents, the elder one is 7 years of age and well. He was born normally at term and did not have any significant problem in the neonatal period. He was breast fed on demand since birth. Complementary feeding was attempted by mother at 9 months of age but was not successful because of the persistent vomiting. His development until now is normal.

On examination, he was not acutely unwell, he was a thin but an active and playful child. His weight was 6.02

kg which is below the second centile for his age. There was no dysmorphism. The abdomen was mildly distended without any palpable mass or organomegaly. Rest of the systemic examination was normal. He was admitted to the hospital for investigations.

INVESTIGATIONS

An erect abdominal x-ray showed marked dilatation of the proximal duodenum suggestive of a duodenal obstruction (figure 1). Barium examination of the upper GI tract was done confirming the duodenal obstruction, most likely a duodenal web (figure 2). A small amount of dye passing distally in a thin stream could be because of an aperture in the web. The parents were explained the findings of the investigations and surgery was planned after their consent.

TREATMENT

After preoperative stabilisation the child was taken for surgery. Abdomen was opened by a right upper abdominal transverse incision. The stomach and duodenum (first and second part) were grossly dilated. There was a web with a very small central aperture at the junction of second and third part of duodenum. The aperture was allowing only a 6Fr feeding tube to pass through (figure 3). There was no extrinsic obstruction in the form of malrotation, bands or annular pancreas.

Duodenotomy was done at the level of the diaphragm and the defect with central small opening confirmed by passing a no 6Fr infant feeding tube. There were small particulate residues of food in the dilated part of duodenum. Stay sutures were taken and the web was excised circumferentially leaving the medial side to prevent injury to the ampulla and the margins were overrun with a continuous vicryl suture (figure 4). The longitudinal incision of the duodenum was closed transversely by vicryl suture in two layers. An abdominal drain was left and closure done in layers.

Figure 1 Grossly dilated stomach indicating gastric outlet obstruction.

Figure 2 Barium study shows dilated stomach, first and second part of duodenum. Small amount of barium is seen trickling into third part of duodenum.

Figure 3 Preoperative photograph showing duodenotomy has been done, the proximal tube is in stomach and second part of duodenum and the other tube passing through the duodenal web.

Figure 4 Excised duodenal web with a 6Fr feeding tube through the central hole.

OUTCOME AND FOLLOW-UP

The child had an uneventful recovery after the surgery, was allowed feeds after 7 days which he tolerated well. He did not have any vomiting after surgery and was taking full mixed diet by tenth postoperative day. At the time of discharge, 3 weeks after surgery he weighed 6.8 kg which was 780 g more than the admission weight.

DISCUSSION

Congenital duodenal obstruction is one of the common congenital anomalies in the newborn age. Most commonly these present in the early neonatal age with the signs of high intestinal obstruction.^{1–6} Intrinsic anomalies like duodenal atresia and stenosis may be associated with other conditions like Down's syndrome, prematurity, situs inversus and coexistent extrinsic anomalies.^{2–9} Our patient did not have any evidence of any other associations. In the various case series on congenital duodenal obstruction, the age at presentation described ranges from newborn to early infancy, that is, 3 months.^{2–6}

Late and unusual manifestations of duodenal web have been reported before in case reports at ages 5, 6, 8 and 19 months.^{1 10–12} Very rarely congenital duodenal webs have been known to present for the first time in adults.^{13 14}

Vomiting is a very common symptom in infants and toddlers. The common reasons for vomiting without any other associated symptoms are regurgitation due to gastro-oesophageal reflux, gastrointestinal infections, sometimes due to overfeeding. Congenital duodenal obstruction generally has associated signs of intestinal obstruction along with vomiting which were never seen in this patient. Despite a very small aperture which allowed only a 6Fr feeding tube to pass through, he never developed signs of intestinal obstruction. The small aperture allowed milk and

liquids to pass through and hence he was on an inadequate and faulty diet till 2 years of age with resultant failure to thrive. An abdominal x-ray was enough to arrive at the diagnosis, however it was confirmed by doing a barium examination as well.

This case is reported to highlight the fact that rarely congenital duodenal web can present without signs of obstruction at a later age with only failure to thrive and vomiting. A high index of suspicion is necessary to diagnose congenital anomalies when they present beyond the usual age and in a modified presentation.

Learning points

- ▶ Rarely congenital duodenal web can present even beyond infancy.
- ▶ Congenital duodenal obstruction due to duodenal web can present without overt signs of intestinal obstruction.
- ▶ A high index of suspicion is necessary to diagnose congenital anomalies at ages when they do not commonly present.

Competing interests None.

Patient consent Obtained.

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