Case Reports

Congenital Duodenal Diaphragm

H.K. Borah
R. Medhi

The diagnosis of congenital duodenal obstruction may not always be made during the neonatal period. The symptoms may mimic a feeding problem and some children with duodenal stenosis or a perforated web may not present until late childhood (1). The obstruction commonly occurs in the vicinity of the ampulla of Vater. The possibility of incomplete duodenal obstruction should be suspected in young children with a history of persistent vomiting and failure to thrive.

Case Report

A 2-year-old boy was admitted with a history of persistent bilious vomiting and chronic abdominal distension since birth. The vomitus was non-projectile and contained undigested food eaten days earlier. His bowel habit was irregular and the quantity of stool passed was very small. On examination, the child was poorly nourished and weighed 8.5 kg. The most striking physical feature was a protuberant abdomen.

Barium meal study of the upper gastrointestinal tract showed a stomach which was normal. The duodenal cap and entire C-loop showed marked dilatation till the duodenojejunal flexure, with stasis of barium upto 3 hours *(Fig.. 1).* After 8 hours a few clumps of barium were seen in the distal bowel.

From the Department of Pediatric Surgery, Gauhati Medical College, Guwahati.

Reprint requests: Dr. H.K. Borah, South Sarania,, Guwahati 781 007.

Received for publication: May 17,1992; Accepted: Fabruary 16,1994

On exploration of the abdomen, the stomach was normal in size and shape. The whole duodenum was markedly distended, the distension abruptly terminating at the duodenojejunal flexure. There was no evidence of malrotation. A duodonotomy of the fourth part of the duodenum revealed a thick diaphragm with a central hole of about 5 mm diameter at the site of obstruction. A side-to-side duodeno-jejunostomy was performed. The post-operative ileus was prolonged and nasogastric aspiration had to be continued for 7 days.

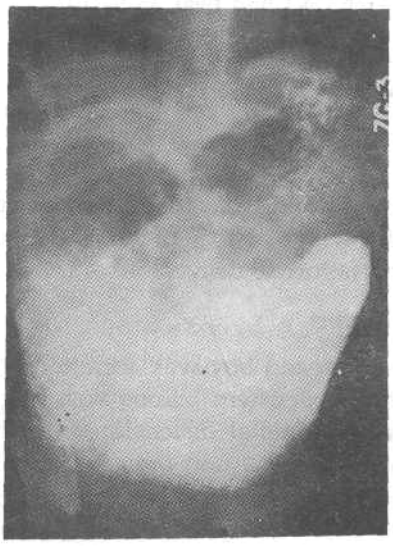

Fig. 1. Barium meal showing the dilated duodenum three hours after the ingestion of barium without anydistal emptying. The stomach is normal.

He was discharged from hospital 2 weeks after the operation. A repeat barium study done 6 months later showed a marked regression in the size of the duodenum and a functioning anastomosis. During the six years following the operation, he had no further problems and is growing well.

Discussion

Congenital intrinsic duodenal obstruction is a rare condition with an estimated incidence of 1 in 7500 births (2). Intrinsic obstruction of the duodenum may be complete or incomplete. Various types of atresia are usually limited to the 1st and 2nd parts of the duodenum. Incomplete obstruction may be due to a perforated diaphragm. The commonly encountered variety of diaphragm is the 'wind-sock' type(3) particularly found in patients in whom the diagnosis is delayed(4). In the present cases, it was a centrally perforated diaphragm at the duodenojejunal flexure, a comparatively unusual site for such an entity.

A case with similar clinical presentation due to a diaphragm in the mid-jejunum in a 2 year-old child was reported from Chandigarh (5). Rao *et al.(6)* in a study of extrinsic and intrinsic duodenal obstructions encountered .3 cases of duodena diaphragm. Recently, Dutta and Sharma (7) reported 2 cases of duodenal diaphragm in neonates.

The usual surgical treatment for duodenal diaphragm is its excision and duodenoplasty. We had resorted to the alternative technique of a bypass procedure because we felt that it was easier.

REFERENCES

1. Schnaufer L. Duodenal atresia, stenosis and annular pancreas. *In:* Pediatric Surgery, 4th edn. Eds. Welch KJ, Randolph JG, Ravitch MM, O'Neill JA Jr, Rowe MI, Chicago, Year Book Medical Publishers Inc, 1986, pp 829-837.
2. Irving IM. Duodenal atresia and stenosis: Annular Pancreas. *In:* Neonatal Surgery, 3rd edn. London, Butterworth and Co, 1990, pp 424-441.
3. Bill AH Jr, Pope MM. Congenital duodenal diaphragm. Surgery 1954,14: 482-486.
4. Molenaar JC, Looyen SG. 'Wind-Sock' web of the duodenum. Z Kinderchir 1974, 14: 164-171.
5. Thapa BR, Sahni A, Jethi SC, Rao KLN, Mehta S. Jejunal diaphragm. Indian Pediatr 1991, 28: 544-545.
6. Narashimarao KL, Mukhopadhya B, Mullick S, Yadav K, Mitra S, Pathak IC. The spectrum of pediatric pyloroduodenal obstructien. Indian Pediatr 1983, 20: 273-277.
7. Dutta T, Sharma A. Congenital diaphragmatic occlusion of duodenum: report of two cases. Indian J Surgery 1993, 55: 312-313.