

## Case Reports

### Fixation Anomaly at Duodenojejunal Junction

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Congenital duodenal obstruction commonly occurs due to malrotation, atresia, stenosis and annular pancreas in decreasing order of frequency. Besides this, duodenal obstruction may occur due to high fixation of duodenojejunal junction or due to hyperfixation bands at duodenojejunal flexure(1-5). We are presenting three cases in which duodenal obstruction occurred in the presence of normally rotated gut.

#### Case Report

*Case 1:* A 25 days old male child was admitted with bilious vomiting since birth. On examination epigastric fullness with visible gastric peristalsis was noticed. Plain skiagram of the abdomen revealed air fluid levels in stomach and distal duodenum with paucity of gases in the remaining gut. Upper GI contrast study demonstrated obstruction at distal duodenum. At laparotomy there was no evidence of malrotation. Stomach along with the duodenum was grossly dilated. Obstruction was demonstrated at duodenojejunal junction due to the

attachment of ligament of Treitz over a narrower base which was causing kink at duodenojejunal flexure. Duodenojejunal junction was released by dividing the peritoneal covering thereby smoothening the acute angulation. As soon as the duodenojejunal junction was released, gas and fluid from the duodenum flowed into the jejunum. Intrinsic duodenal obstruction was ruled out.

*Case 2:* A 2½ month old female child weighing 5 kg was admitted with bilious vomiting of 2 months duration. On admission, the child was grossly dehydrated. Examination revealed epigastric fullness but the rest of the abdomen was scaphoid. Plain skiagram of abdomen showed moderately dilated stomach with small amount of air in remaining bowel. Upper GI contrast study was inconclusive. Due to persistence of symptoms, the patient was operated with the probable diagnosis of malrotation. On exploration, stomach was dilated and duodenojejunal junction was obstructed by extrinsic bands running from posterior parietal peritoneum to duodenojejunal flexure. These bands were lysed thereby releasing the obstruction.

*Case 3:* A 20 days old male child was admitted with bilious vomiting since birth, and moderate dehydration. Examination revealed visible gastric peristalsis. Plain skiagram abdomen showed dilatation of stomach along with duodenum with small amount of gases in distal bowel. Upper GI contrast study demonstrated obstruction at duodenojejunal junction, with hardly any contrast material going beyond duodenojejunal junction (*Fig. 1*). On exploration, stomach and normally rotated duodenum were grossly dilated, but the jejunum was collapsed as it issued from behind the mesocolon. The dilated duodenum abruptly narrowed at duodenojejunal junction, at which point there was a kink

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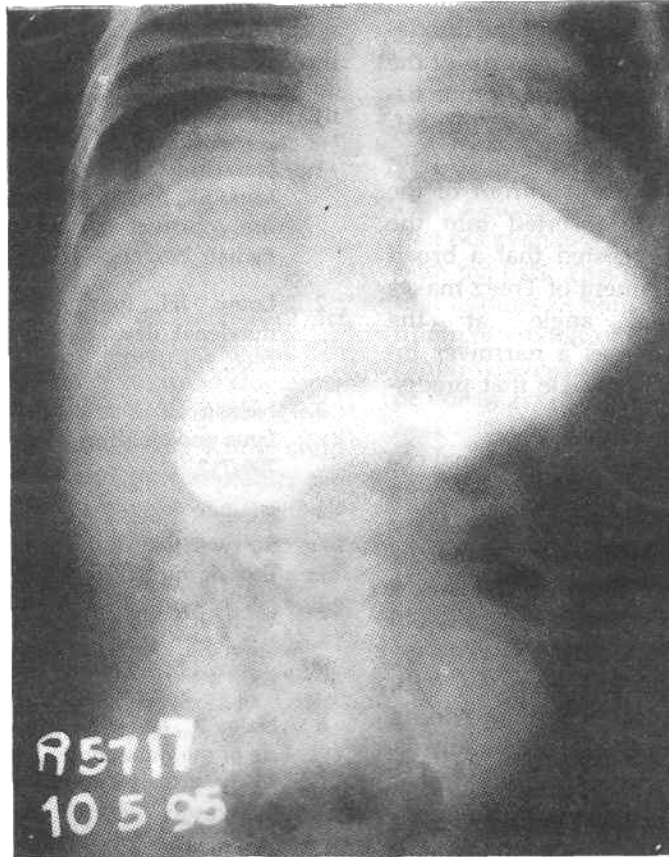
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*Received for publication: August 14, 1995;*

*Accepted: October 18, 1995*

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*Fig. 1. Delayed film of upper GI contrast study showing hold up of contrast material at duodenojejunal junction.*

produced due to narrow attachment of ligament of Treitz. Duodenojejunal junction was released by dividing the attachment of ligament to the fourth part of duodenum.

**Discussion**

Congenital obstruction of duodenojejunal junction due to extrinsic band or due to narrower attachment of ligament of Treitz at duodenojejunal flexure is a rare cause of bilious vomiting in the newborn period(1-5). In majority of cases, there was no evidence of malrotation but the duodenojejunal junction was found to be obstructed, which was either due to extrinsic bands at duodenojejunal flexure(5) or due to very narrow

attachment of ligament of Treitz at duodenojejunal flexure(6). Louw suggested that such cases in which the duodenum shows evidence of dilatation and hypertrophy with no evidence of malrotation, should be labelled as "congenital megaduodenum"(2). The angulation at the duodenojejunal flexure by narrow attachment of ligament of Treitz is responsible for the condition, and that the condition is cured by freeing the duodenojejunal junction.

Haley and co-workers detailed the anatomic description of the ligament of Treitz, studying its method of attachment to the bowel(6,7). Ligament of Treitz which is also known as suspensory muscle

known as suspensory muscle of the duodenum takes origin from the right crus of the diaphragm and from the dense fibrous tissue around the celiac artery. From this origin it extends downwards behind the pancreas, the splenic vein and in front of the left renal vein to be inserted into the duodenum. They suggested that a broad attachment of the ligament of Treitz makes a smooth obtuse angle at the duodenojejunal junction whereas a narrower insertion creates an acute angle that predisposes to obstruction.

Congenital extrinsic duodenojejunal obstruction should be clearly separated from incomplete midgut rotation. In the latter entity, the duodenum does not cross the midline behind the superior mesenteric vessels and the duodenum is generally obstructed in its second or third part by extrinsic adhesions running from the right posterior parieties to the high riding cecum. In distinction, the duodenum is normally rotated in the congenital extrinsic obstruction of the duodenojejunal junction. It is concluded that duodenal obstruction may rarely occur in the presence of normally rotated gut as illustrated by

these three cases.

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#### NOTES AND NEWS

##### IAPS CON-96

The XXII Annual Conference "IAPS CON-96" is being organized under the auspices of Indian Association of Pediatrics Surgeons, Banaras Hindu University on October 25-27, 1996. For further details, please contact: Prof. S. Chooramani Gopal, B, 5/F2, Meera Colony, Banaras Hindu University, Varanasi 221 005. Telephone & Fax: (91)-0542-310483 (Office) (91)-0542-311146 (Res).