Gastric outlet obstruction secondary to adult gastric antral web

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The gastric antral mucosal diaphragms also called gastric antral webs (GAW) are circumferential membranes of mucosa and submucosa with a central aperture that occur in the gastric antrum near the pyloric canal [1]. They form a rare cause of gastric outlet obstruction (GOO) in adults [2,3].

A 45-year-old well-nourished male presented with postprandial epigastric pain, bloating, fullness and belching since childhood. He had borborygmi and crampy pain postprandially for several hours after which fullness and pain was relieved. He reported intermittent exacerbations with repeated vomiting containing undigested food taken several days before with recent increase in frequency of episodes. He had undergone an endoscopy a year back reporting a prepyloric ulcer with pyloric stenosis and was treated conservatively with not much improvement.

An endoscopy revealed GOO with a very small opening of the pylorus, not negotiable with the scope (Fig. 1). A contrast-enhanced computed tomography demonstrated normal but overdistended stomach, showing abrupt cutoff just proximal to pylorus, with normal caliber pylorus and duodenum without any lesion or thickening but showed some contrast indicating incomplete obstruction (Fig. 2). A diagnosis of pyloric obstruction secondary to healed prepyloric ulcer was made. At laparotomy there was no scarring of antrum, pylorus or duodenum. On pyloroduodenotomy the obstruction was found to be because of a GAW immediately juxtapyloric in position. After dividing the web, a pyloroplasty was completed. Post surgery patient's symptoms resolved with normal imaging.

The etiology of GAWs is agreed to be congenital in infants and children whereas in adults, whether it is congenital or acquired is controversial [4]. Approximately one fourth of all reported cases is associated with either gastric or duodenal ulcer disease, possibly caused by scarring of linear circumferential prepyloric and pyloric ulcers [4,5].

Infants and children present with persistent postprandial non bile-stained vomiting and failure to thrive or malnutrition [3]. Adults present with postprandial fullness, bloating, epigastric pain, eructation of foul gas, symptomatically relieved by vomiting. Late presentations in adults are possibly due to progressive narrowing of aperture following marginal ulcerations and decreased motility with time or sudden obstruction secondary to poorly masticated food or mucosal edema of gastritis [6].

A classic feature on barium is a double-bulb appearance: normal duodenal bulb with a proximal antral chamber between the web and the pylorus [6]. However, if the antral chamber is small with close proximity of the web to the pylorus, as in our case, this sign may not be demonstrated. Whenever the stomach is normal but with gastric retention with an abrupt cutoff, and the pylorus and duodenal cap are normal, a GAW should be considered. EGD usually shows a large mucosal fold with a variable aperture or a pinpoint pseudopylorus as in our case causing diagnostic confusion [5,7].

If GAW aperture is more than one centimeter and the patient is asymptomatic, only dietary modifications are advised [4-6]. In symptomatic patients or in smaller aperture, either surgical or endoscopic intervention is needed. Surgical options are incision of the web with or without pyloroplasty [5-7]. Endoscopic options are resection with a snare, papillotomy, or Nd:YAG laser [7].

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Conflict of interest: None

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Received 5 April 2013; accepted 16 April 2013