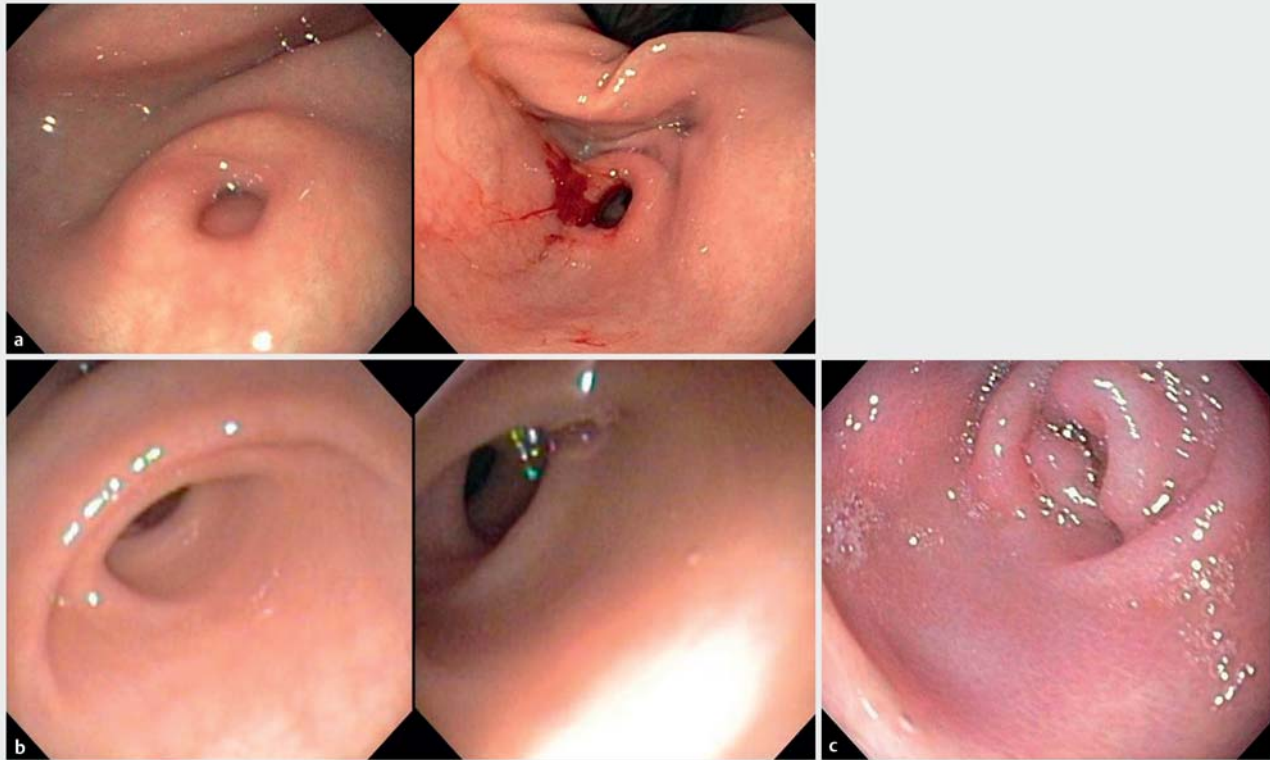


Endoscopic diagnosis of antral webs in children



► **Fig. 1** Examples of antral webs in children. **a** Circumferential diaphragm with a central aperture through which the true pylorus is seen. **b** Crescentic fold overhanging a long, narrow channel leading to the pylorus. **c** Circumferential redundant folds that did not resolve with full gastric insufflation or peristalsis.

An antral web is a rare cause of obstructive symptoms with an unknown prevalence. It was first described in children in 1957, and there remains limited description of these anatomic anomalies in the literature [1–3]. Diagnosis may be delayed due to nonspecific symptoms and variable presentation. Upper gastrointestinal barium study is currently the standard investigation for evaluation, although diagnosis at the time of surgical intervention is not uncommon [1, 4, 5]. Children with an antral web may also undergo endoscopic evaluation that fails to diagnose the abnormality [4] because of a low level of suspicion and insufficient clinical training to identify this rare anomaly.

Endoscopic diagnostic criteria for antral web were described in 1969, and include

► VIDEO 1



► Video 1: Endoscopic diagnosis of antral webs in children, showcasing: (i) a false pylorus and antropylic chamber created by a web; (ii) a partial web obscuring the pylorus; and (iii) a narrow and obstructing prepyloric channel created by a web.

► Table 1 Patients diagnosed with an antral web at the Children’s Hospital of Wisconsin from 2005 to 2015. Only one patient was diagnosed by barium study prior to endoscopy.

Patient no.	Age at diagnosis, months	Sex	Symptoms	Duration of symptoms, months	Prior upper GI findings	Prior ultrasound	EGDs, n	Outcome
1	139	Male	Emesis, FTT	131	Normal	None	>5	Improved emesis; continued oral aversion
2	131	Male	Emesis, weight loss, pain	24	Large stomach, otherwise normal	None	3	Improved emesis; improved body mass index; improved pain
3	27	Male	Emesis, FTT and dependent on gastrostomy tube	26	Normal	None	2	Improved emesis; full PO feeding 3 months after surgery
4	45	Male	Emesis	10	Normal	None	2	Improved emesis
5	6	Male	Emesis	5	Pylorospasm	Normal	1	Improved emesis
6	4	Male	Emesis, weight loss	2	Normal	Normal	1	Improved emesis; improved weight-for-length
7	1	Male	Emesis	0.5	Normal	Normal	1	Improved emesis
8	7	Male	Emesis, weight loss	6	Normal	Normal	1	Improved emesis; improved weight-for-length
9	95	Female	Abdominal distension, dependent on gastrojejunostomy tube	7	Gastric outlet obstruction	None	1	Improved emesis; increased PO feeding

EGD, esophagogastroduodenoscopy; FTT, failure to thrive; PO, by mouth; GI, gastrointestinal.

a small aperture of fixed size (1 mm – 1 cm) with surrounding smooth mucosa and normal peristalsis distally. However, experience since that time has revealed that the anatomic defect of an antral web is a continuum. This heterogeneity is evidenced by the nine patients diagnosed with antral web at our institution from 2005 to 2015 reviewed here (► **Table 1**; ► **Fig. 1 a – c**; ► **Video 1**). Once the web was identified in our patients, surgical (or endoscopic) resection led to resolution of symptoms.

As shown in these patients, an antral web may be mistaken for the pylorus, the prepyloric channel created by the web may be traversed without recognition of its obstructive nature, and a partial web may be seen as a gastric fold. Because of the rarity of this anatomic abnormality, a high index of suspicion and thorough evaluation of the antropylic region are required when endoscopy is carried out for feeding intolerance.

Endoscopy_UCTN_Code_CCL_1AB_2AD_3AD

Competing interests

None

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DOI <http://dx.doi.org/10.1055/s-0042-120290>
Endoscopy 2017; 49: E18–E20
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Stuttgart · New York
ISSN 0013-726X