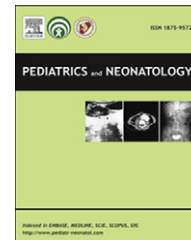




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## CASE REPORT

# Elimination of Postoperative Pyloric Stricture by Endoscopic Electrocauterization and Balloon Dilatation in an Infant With Congenital Antral Web

Hsun-Chin Chao <sup>a,\*</sup>, Chih-Cheng Luo <sup>b</sup>, Chao-Jan Wang <sup>c</sup>

<sup>a</sup> Division of Gastroenterology, Department of Pediatrics, Chang Gung Children's Medical Center, Chang Gung Memorial Hospital, Chang Gung University College of Medicine, Taoyuan, Taiwan

<sup>b</sup> Department of Pediatric Surgery, Chang Gung Children's Medical Center, Chang Gung Memorial Hospital, Chang Gung University College of Medicine, Taoyuan, Taiwan

<sup>c</sup> Department of Radiology, Chang Gung Memorial Hospital, Chang Gung University College of Medicine, Taoyuan, Taiwan

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### Key Words

antral web;  
balloon dilatation;  
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endoscopy;  
pyloric stricture

We, herein, report a male infant who presented with recurrent pyloric stricture after two surgeries (web excision and antropyloplasty), which were done, respectively, at 5 days of age for congenital antral web and 6 months of age for the subsequent pyloric stricture. The patient suffered from anorexia, progressed vomiting, and weight loss gradually after the first and second surgeries, and then, endoscopy revealed severe pyloric deformity and stricture. Poor inflation was noted during endoscopic balloon dilatation because of tight pylorus; a subsequent electrocauterization and balloon dilatation were done, and the patient's clinical symptoms improved significantly 2 weeks later. A follow-up endoscopy was performed 1 month and 12 months after endoscopic therapy, showing steady regression of pyloric stricture. The patient had adequate diet intake and growth in the later 12 months.

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## 1. Introduction

Antral web, membrane, or diaphragm is generally regarded as a congenital anomaly with a circumferential mucosal septum in the prepyloric region, projecting intraluminally perpendicular to the long axis of the antrum. In most of the cases, a central or eccentric aperture is present, varying

\* Corresponding author. Division of Gastroenterology, Department of Pediatrics, Chang Gung Children's Medical Center, Chang Gung Memorial Hospital, Chang Gung University College of Medicine, 5-Fu-Hsing Street, Kuei-Shan, Taoyuan 33305, Taiwan.

E-mail address: [chaohero@yahoo.com](mailto:chaohero@yahoo.com) (H.-C. Chao).

from a pinhole to several millimeters in diameter; in a few cases, the web was unperforated or complete.<sup>1–3</sup> The condition has been described in premature and newborn infants, in older infants and children,<sup>4–7</sup> and in adults.<sup>5,8</sup> It is usually associated with symptoms and signs of gastric outlet obstruction.

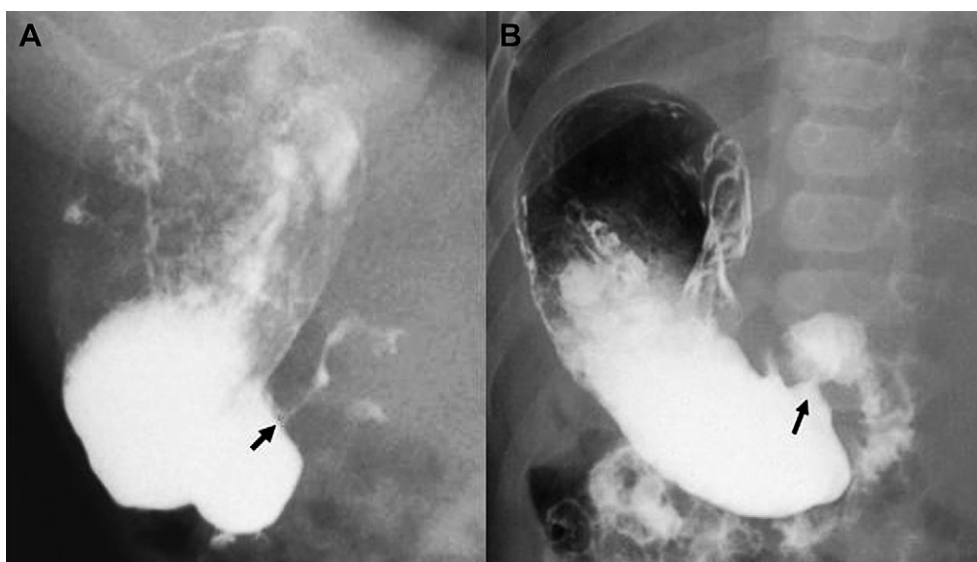
For a symptomatic antral web with gastric outlet obstruction, surgery remains the primary and effective treatment method.<sup>9,10</sup> We, herein, report an infant characterized by a congenital antral web with recurrent pyloric stricture after repeated surgeries. He was successfully treated with therapy combining electrocauterization and balloon dilatation by means of flexible endoscopy.

## 2. Case Report

A 6-month-old boy was admitted because of gradual loss of appetite in the past month and progressed vomiting, with a weight loss of 0.8 kg in the past 2 weeks. He had feeding intolerance and vomiting after birth. The patient underwent barium study of an upper gastrointestinal series at 3 days of age, which revealed a thick (4 mm), circumferential web at the prepyloric antrum and a sharp band-like filling defect in the distal antrum as well as spraying of barium through a central aperture with “jet stream” (Figure 1A) during examination. Abdominal sonography showed a fluid-retained, dilated stomach without compatible features for hypertrophied pyloric stenosis. A subsequent web excision and antropyloplasty were performed at 5 days of age, and the patient’s feeding volume gradually increased and vomiting episodes decreased after operation. His records on growth charts between birth and 5 months showed steady and adequate growth velocity, with 50–75th percentile in both length and weight.

At the time of admission, physical examination revealed a relatively slim male infant with a body weight of 7.1 kg

(10th percentile) and body length of 67 cm (50–75th percentile). The other physical examinations were unremarkable. The hemogram showed mild leukocytosis (white blood cell count, 13,600/mm<sup>3</sup>). The biochemistry showed hypoalbuminemia (albumin, 2.9 g/dL) and hypokalemia (potassium, 3.1 meq/L). Abdominal ultrasound revealed edematous antrum with fluid retained in the stomach. Upper gastrointestinal barium study showed deformed and severely narrowed pylorus (Figure 1B). A flexible endoscopy revealed pyloric scarring with pyloric stricture. The endoscope (5.5-mm external diameter) could not pass through the pylorus, and the biopsy forceps (1.5-mm external diameter) could just pass through the narrowing pylorus; balloon dilatation (6 mm) by means of an endoscope was performed, but unfortunately, the balloon could not be inflated with water because of a tight pylorus. Similar to previous surgical intervention, a web excision and antropyloplasty were performed. The patient’s appetite increased, and the vomiting decreased after surgery, but unfortunately, anorexia and vomiting recurred after the third week postoperatively. He was admitted again for weight loss and dehydration. An endoscopy revealed marked prepyloric deformity and pyloric stricture (Figure 2A), the 5.5-mm-diameter endoscope could not pass through the pylorus; several attempts at endoscopic dilatation using different balloons (8 mm, 10 mm, and 12 mm; Microvasive Inc., Boston Scientific Corp Ltd, Cork, Ireland) inflated with water were made, but the balloon could not be well inflated. Subsequently, endoscopic cauterization of the deformed pylorus through the midline was performed using a cutting snare (electrosurgical snare; Olympus, Tokyo, Japan) on six different portions (Figure 2B). Each electrocautery was performed at 150 J (15 W × 10 seconds). No significant bleeding occurred, and subsequent dilations with a water-inflated balloon (12 mm; Microvasive Inc.) for 60 seconds in each dilatation were performed. The patient’s feeding volume gradually increased, and the



**Figure 1** (A) Initial barium study of UGI series reveals a persistent, sharp band-like filling defect in the antral region (arrow) and spraying of barium through a central aperture with a “jet effect,” which is a characteristic feature of antral web. (B) A barium study of UGI series at 6 months of age reveals deformed prepyloric antrum and pyloric narrowing. UGI = upper gastrointestinal.

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