Congenital distal esophageal obstruction caused by intraluminal mucosal web

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Here, we report a case with intraluminal membrane (web) located in the lower esophagus causing complete obstruction. Esophagogram revealed complete obstruction near the esophagogastric junction. Surgical excision of the esophageal membrane was performed.

To our knowledge, only a few cases with membranous esophageal atresia have been reported. It must be remembered in neonates who cannot tolerate feeding.

Key words: congenital, obstruction, esophageal web, esophageal atresia.

Congenital intraluminal mucosal web of the esophagus is a very rare type of esophageal atresia. There are two types of this abnormality: the isolated esophageal membranous atresia and the esophageal membranous atresia with tracheoesophageal fistula. In the isolated esophageal membranous atresia, the esophageal appearance is externally normal in surgical exploration. Previously, only a few cases with an obstructing web had been reported[1-5]. The choices of treatment are excision by esophagotomy and/or gastrotomy, thoracoabdominal approach or endoscopic perforation of the web and dilatation.

Here, we report a two-day-old male newborn with intraluminal membrane (web) located in the lower esophagus causing complete obstruction. The esophageal membrane was excised by longitudinal esophagotomy.

Case Report

After a cesarean section delivery, the newborn with respiratory distress and bradycardia was transferred to the neonatal intensive care unit. The patient was premature, at 32 weeks' gestational age, weighing 1920 g. There was a history of polyhydramnios. It was observed that he could not tolerate feeding via feeding tube.

On physical examination, the abdomen was scaphoid. There was no finding of any pulmonary aspiration. No additional congenital abnormality was detected. Esophagogram performed on the second day after birth showed complete obstruction in the lower portion of the esophagus and gasless abdomen (Fig. 1). It was realized that the feeding tube was introduced

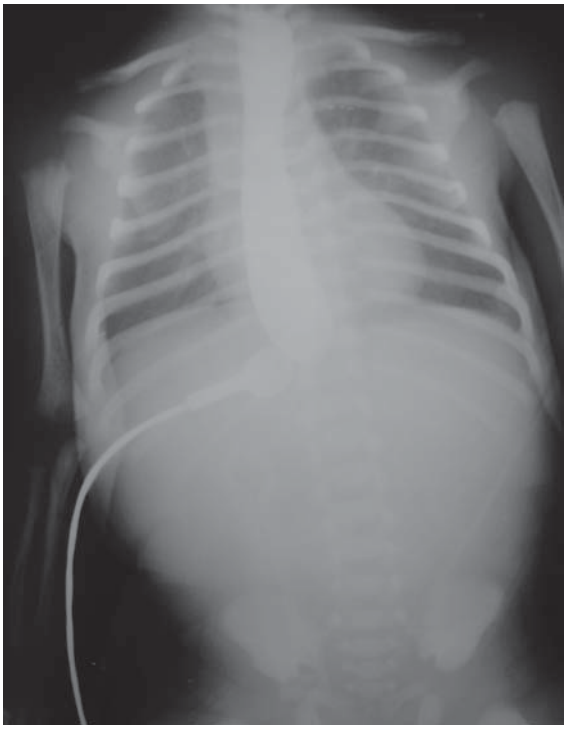


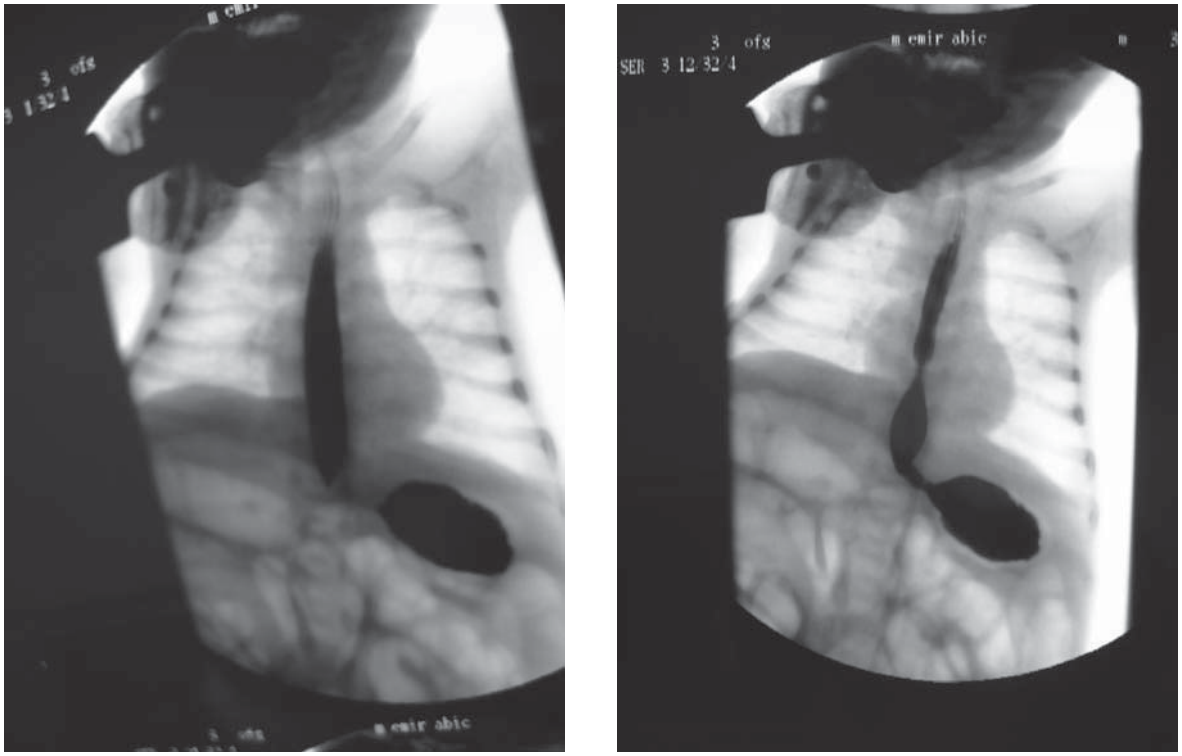
Fig 1. View of distal esophageal obstruction.

to the distal esophagus instead of the stomach. Esophagoscopy showed complete obstruction in the lower esophageal segment. Hence, the abdominal esophagus was explored via midline incision. Intraabdominal esophagus appearance was externally normal. A catheter passed from the nasopharynx met an obstruction in the esophagus and the catheter was palpated in the upper part of the web in the distal esophagus. To determine the exact position of the obstructive web, a small incision was made to the fundus. Through this incision a mosquito clamp was advanced to the distal intraluminal esophagus. Localization of the membrane was about 1 cm proximal to the esophagogastric junction. The esophagus was incised longitudinally over the lesion. The thick membrane was circularly resected. The nasogastric catheter was advanced into the stomach. The longitudinal esophagotomy and fundus incision were closed. Five days after the operation, feeding was started via nasogastric tube. Oral feeding was started on the 10th postoperative day and was well tolerated. The postoperative period was uneventful. Esophagogram showed normal passage two months postoperatively (Figs. 2A, 2B). No gastroesophageal reflux was detected. At the eight-month follow-up, the patient had no difficulty in swallowing semi-solid food and had an ideal weight gain.

Discussion

In Gross's classification, there are five types of esophageal atresia, but his classification did not include obstructing esophageal web[6]. Congenital obstruction by an intraluminal mucosal web of the esophagus is a rare anomaly compared to the other types of esophageal atresias. The etiology of this anomaly is not well understood. In Kluth's classification of esophageal atresia, the membranous atresia of the esophagus is under type IV[7]. Sharma et al.[2] suggested splitting type IV into subtypes as isolated esophageal membranous atresia and esophageal membranous atresia with tracheoesophageal fistula. To our knowledge, only five cases diagnosed with membranous atresia without tracheoesophageal fistula have been reported in the literature. In those cases, the esophageal membrane was at the middle or lower esophagus (Table I)[1-5].

Esophagogram shows the location of obstruction. Preoperatively, we evaluated



Figs. 2A, 2B. View of normal passage postoperatively.

Table I. Reported Cases of Isolated Membranous Esophageal Atresia Without Fistula

Study	Location of web	Treatment
Nanni[1]	Middle third	Resection and primary anastomosis
Sharma[2]	Lower third	Endoscopic perforation and excision of web
Chuang[3]	Lower third	Longitudinal esophagotomy and excision of web
Abel[4]	Middle third	Endoscopic perforation and repeated dilatation
Pai[5]	Lower third	Thoracoabdominal approach and excision of web
Present case	Lower third	Longitudinal esophagotomy and excision of web

the esophagus with rigid esophagoscopy. There was no luminal opening in the lower esophageal segment. Since we had no information about the distal esophagus and the continuity of the intestinal system below the obstruction, we decided to perform surgical exploration. The intraoperative diagnosis was membranous esophageal atresia in the distal esophagus. The treatment alternatives for these membranes causing complete obstruction are excision by esophagotomy and/or gastrotomy, thoracoabdominal approach or perforation of the web and dilatation[1-5].

Here, we report a very rare case with intraluminal mucosal web causing regurgitation. It must be remembered in neonates who cannot tolerate feeding.

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