Case Reports

Esophageal Stenosis

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Esophageal stenosis is uncommon in infancy. Esophageal ring is the most common cause of stenosis(l). Any child presenting with persistent regurgitation or vomiting or refusal for solid food should be investigated for esophageal stenosis(2). We report three cases of esophageal ring causing stenosis.

Case Reports

Case 1: A 16 month old female child weighing 9.26 Kg presented with regurgitation of feeds since the age of one year. Of late, she had also developed dysphagia to solids. There was no history of choking or recurrent respiratory infections. Weaning foods were introduced around 6 month of age without any apparent problem. Physical examination of the child was essentially normal. Investigation revealed a hemoglobin of 9.8 g/dl and normal X-ray chest.

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Barium swallow showed narrowing at the lower end of esophagus. Upper Gl endoscopy revealed a smooth circular narrowing of lumen near gastroesophageal junction with normal surrounding mucosa. Histopathology of the esophageal mucosa was normal. Esophageal narrowing was relieved with single dilation using Savary Gillard Dilator. After dilation, the child showed improvement in symptoms and was seen again after 3 months when she was asymptomatic. Repeat endoscopy at this time revealed no narrowing.

Case 2: A three year old girl weighing 10 Kg presented with complaints of vomiting after feeds since the age of one month. The symptoms were gradually progressive in nature. Initially she used to vomit out about 10-20% of the feeds taken within 2 to 3 minutes, but for the last one month vomitus consisted of almost 70 to 80% of the consumed food. Besides vomiting, she used to take more time to finish her meals. There was no history of recurrent chest infections or choking during feeds. Physical examination of the child was normal. Barium meal examination was suggestive of an esophageal ring at the lower end. Upper GI endoscopy revealed a stricture at 18 cm mark with a lot of accumulated curd material at the mouth of stricture. To relieve obstruction, dilation was attempted using angioplastic balloon but in vain. Later on dilation was done using Savary Gillard Dilator. After single successful dilation, the child was better. On subsequent visits for a follow up period of 6 months, the child showed a steady improvement and became symptom free.

Case 3: An 11 year old boy weighing 16.0 Kg presented with complaints of vomiting

and failure to thrive. Vomiting started after semisolids were added to the diet around 6-7 months of age. To finish a meal, he used to vomit out the contents eaten 3 to 4 times. In the last 3 to 4 months prior to presentation, he had also developed nasal regurgitation during sleep possibly due to esophageal stasis of the food. Clinical examination of the child was normal except for short stature (height was 110 cm). There was no evidence of palatal paresis. Investigations yielded a hemoglobin of 8g/dl; normal X-ray chest; negative Mantoux test and a bone age of 7-8 years. Barium swallow showed a narrowing at lower end of esophagus with proximal dilation of the whole of esophagus. Upper gastrointestinal endoscopy showed a dilated esophagus with narrowing at gastroesophageal junction and mucosal congestion in the lower one third portion. Endoscope could be passed into stomach after a slight resistance at cardia. Stomach and duodenum were normal endoscopically. Histopathology of the esophageal mucosa was normal. To relieve obstruction, dilation of the stenotic area was done twice using angioplastic balloon. The first dilation was not satisfactory but after second successful dilation of esophageal narrowing, the child showed steady symptomatic improvement. He came for follow up after a period of 6 months during which time there was a significant gain in weight as well as height. He was subsequently lost to follow up.

Discussion

Esophageal obstruction in children can be either congenital or acquired. Amongst the congenital causes, esophageal rings are the commonest. Other congenital causes described are webs, congenital stenosis, stenosis due to bronchial remnants and muscular rings. Acquired esophageal obstruction is usually seen as a result of reflux induced injury of the esophageal mucosa, accidental corrosive ingestion, inflammation or following surgery for esophageal anomalies. Management of these patients differs depending upon the etiology. Stenosis due to rings is easily managed by less frequent dilation while stenosis as a result of peptic or corrosive injury require repeated dilations or more often surgical measures for permanent cure(3).

Recurrent vomiting in infancy is a common presentation and is usually dismissed as normal regurgitation. Uncommonly gastrointestinal reflux is suspected and antireflux measures are undertaken to provide symptomatic relief. Congenital esophageal obstruction is rarely thought off as a cause of recurrent vomiting happened in our third case which was referred to us only at the age of 11 years. Thus any infant or child who presents with difficulty in swallowing or persistent regurgitation of feeds with or without failure to thrive should be investigated to rule out an esophageal stenosis. Often these complaints are noticed by the parents at the time of introduction of semi-solids in the diet(4). Diagnosis is done by a barium swallow followed by a endoscopic examination of the upper GI tract, supplemented by a mucosal biopsy. A congenital cause can be concluded by early onset of symptoms and absence of history of corrosive ingestion. A relatively normal histopathology from surrounding mucosa excludes peptic esophageal disease secondary to gastro-esophageal reflux (GER) as the cause of esophageal obstruction. In all our cases, mucosal rings were the cause of stenosis since the narrowing was 3-4 cm above the gastroesophageal junction and the surrounding mucosa was normal which excludes the possibility of stricture due to peptic esophagitis. It has recently been suggested that GER and reflux esophagitis may itself be contributory factors to the

development of esophageal ring. This study(5) was, however, done in adults and an early onset of symptoms as in our cases does not support this hypothesis. Further, none of the children showed evidence of GER either by barium swallow or in the esophageal mucosal biopsy.

Recurrence of symptoms have been described in almost two third cases of these patients over a period of 4-5 years. However, in our series, all patients were asymptomatic till at least 6 months after the initial dilation. Further follow up will tell us about the possibility of long term recurrence.

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