

## Case Reports

### **Congenital Esophagobronchial Fistula in a 13-Year Old Child**

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This is the report of a 13-year old girl who presented with symptoms of coughing after feeds and recurrent chest infections for past 3 years. Chest radiographs demonstrated consolidation. Contrast swallow and upper GI endoscopy demonstrated a left esophagobronchial fistula. Surgical treatment completely cured the patient.

**Key Words :** Esophagobronchial fistula.

Congenital esophagobronchial fistula is a rare entity. A delay in diagnosis is usual, and patients often present with a pulmonary infection. We report a case of congenital esophagobronchial fistula in a 13-year old girl.

#### **Case Report**

A 13-year old girl was referred with repeated attacks of cough after feeds, persisting over past 3 years. There was a history of repeated chest infections, in the past 3 years, which had been diagnosed as pneumonia. She had undergone extensive medical management. There was no associated dysphagia, anorexia or vomiting.

A plain radiograph of the chest showed the presence of a diffuse radio opacity in the left

lower perihilar region, suggestive of a consolidation.

A water soluble contrast swallow revealed the existence of a fistula between the middle thoracic esophagus and the left lower bronchus (Fig 1). Following this an upper GI endoscopy was done with a flexible endoscope, which clearly demonstrated the presence of a well epithelialized fistulous tract originating from the mid esophagus.

After preliminary preparations, a left thoracotomy was done, and the esophagobronchial fistula was identified communicating with the left lower bronchus (Fig 2). The left lower lobe was destroyed as a result of chronic infection. The fistula was successfully resected with the left lower

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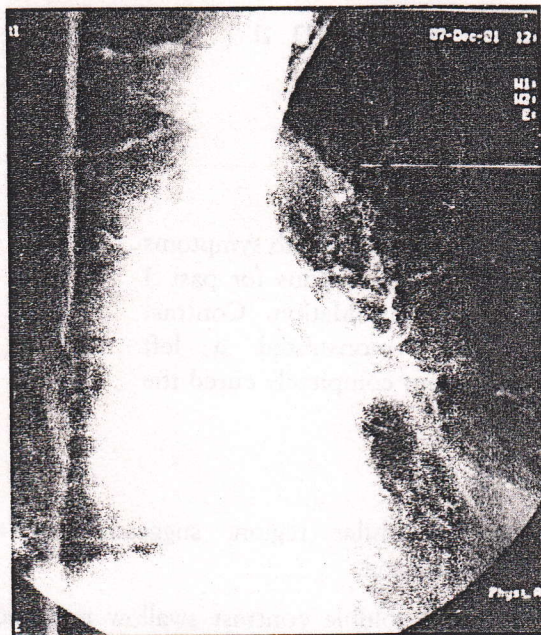


Fig 1 : Contrast radiograph showing the esophagobronchial fistula.

pulmonary lobe. The left upper lobe was normal. No aberrant vascular communications were noted. The postoperative period was uneventful. The intercostal drain was removed after 4 days. A contrast study was done after 10 days; this was normal. Following this the nasogastric tube was removed. The girl recovered well.

The histopathological examination of the pulmonary lobe revealed chronic inflammation. No vascular abnormalities were noted in the specimen.

### Discussion

During early embryological development, the tracheobronchial tree and the esophagus are closely associated. There are a wide spectrum of congenital anomalies involving either one or both organ systems. During development, the lung sacs embrace the mid and lower esophagus, and if a part of the lung bud joins

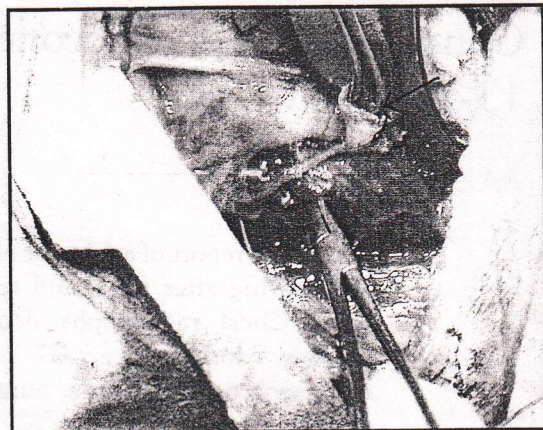


Fig 2 : Peroperative picture of the fistula, with the esophagus seen below.

the esophagus through a focal mesodermal defect, a bronchopulmonary foregut malformation develops. If the segment of the lung tissue separates from the main pulmonary anlage, it develops into a bronchopulmonary foregut malformation with a lung sequestration.<sup>1</sup>

Esophagobronchial fistula is a relatively rare condition and is characterized by recurrent cough especially after drinking liquids and the patient is commonly misdiagnosed to have chronic lung problems.<sup>2</sup> The child who had been referred to us had also taken antitubercular treatment for 1 year in view of her chronic respiratory problems. A high index of suspicion is required in all the cases of recurrent cough with repeated chest infections in order to recognize this condition. Oral esophageal contrast studies are diagnostic in most patients. Persistence of such a communication in adulthood is rare and would be possible only if the tract is very small so that the aspiration into the lung is small in amount and could be tolerated congenital esophagobronchial fistulas at an age as late as 60 years have been reported.<sup>3</sup> Esophagobronchial fistulas can be congenital



or acquired, the latter being more common.<sup>4</sup> Acquired fistulas can be either secondary to chronic inflammation, or a consequence of trauma or malignancy. The surgical treatment can be either definitive or staged. A preliminary gastrostomy can be performed to improve nutrition before a definitive repair is carried out.<sup>5</sup> In our case, we performed a definitive repair, which consisted of division of the fistula with closure of the esophageal defect. A left lower lobectomy was performed

because of irreversible inflammatory lesions. The use of video-assisted thoracic surgery (VATS) for treating congenital esophago-bronchial fistula in patients without associated pulmonary abscesses or empyema has also been reported.<sup>6</sup>

Early diagnosis of this rare condition is necessary if severe pulmonary complications are to be avoided. Early direct repair gives excellent results.

### References

- <sup>1</sup> Srikanth MS, Ford EG, Stanley P, et al. Communicating Bronchopulmonary Foregut Malformations : Classification and Embryogenesis. *J Pediatr Surg* 1992; 27: 732-736.
- <sup>2</sup> Freixinet J, Rami R, Ledo R, et al. Congenital bronchoesophageal fistula in adults; Report of three cases. *Eur J Cardiothorac Surg* 1990; 4: 451-453.
- <sup>3</sup> Vial P, Boachon G, Meilland M, et al. Congenital esophagobronchial fistula in the adult. *Sem Hop* 1984; 60: 1139-1142.
- <sup>4</sup> Hendry P, Crepeau A, Beatty D. Benign bronchoesophageal fistulas. *J Thorac Cardiovasc Surg* 1985; 90: 789-791.
- <sup>5</sup> Gerzic Z, Rakic S, Randjelovic T. Acquired benign esophatorespiratory fistula : report of 16 consecutive cases. *Ann Thorac Surg* 1990; 50: 724-727.
- <sup>6</sup> Fukuhara T, Higashi R, Mushiake H, et al. A case of video-assisted thoracic surgery for congenital esophago-bronchial fistula. *Kyobu Geka* 1998; 52: 1137-1139.