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Original Research Paper Medicine

Radiology Quiz

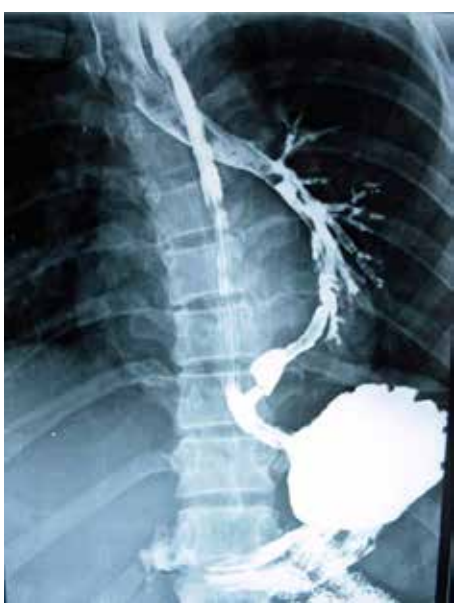
* Dr.Vishnu Sharma.M — Professor and head, Dept of Respiratory medicine, A J Institute of medical sciences, Mangalore., * Corresponding Author

Dr . Harsha D S — Assistant professor, Dept of Respiratory medicine, A J Institute of medical sciences, Mangalore, Karnataka, India

ABSTRACT *Congenital broncho esophageal fistula manifesting with symptoms for the first time in adulthood is rare. Classical symptoms include cough immediately after food intake and expectoration of food particles after swallowing. Diagnosis is confirmed by barium swallow. Treatment is by fistulectomy.*

KEYWORDS : Congenital broncho esophageal fistula, Barium swallow, Bainbridge and Keith classification

What is this investigation and what is the diagnosis?



Answer: Barium swallow showing Bronchoesophageal Fistula

Barium is seen to tract into the left lower lobe bronchus from the lower end of esophagus. The communication is large, giving the appearance of bronchogram due to retrograde filling of left bronchial tree and the trachea.

This was a 31 year old lady who presented with cough immediately after food intake and expectoration of food particles after swallowing since 4 months. Patient did not have any history of predisposing conditions for aspiration. Common predisposing causes[1] for aspiration in a conscious adult are lower cranial nerve palsy, esophageal obstruction due to stricture, neoplasm and acquired fistulous communication between esophagus and trachea or bronchi due to malignancy, trauma or rarely infections like tuberculosis[2].

The investigation of choice in a suspected Bronchoesophageal fistula is barium swallow. Barium swallow confirmed the presence of fistula in this patient.

This patient did not give any history of trauma or instrumentation. She had no clinical or radiological findings to suggest acquired fistula. Upper GI scopy showed normal esophagus with the fistulous opening in the lower end of esophagus just above the gastro esophageal junction. There was no evidence of any inflammation at the site of fistulous opening. Bronchoscopy showed the bronchial end of the fistula opening in the lower lobe bronchus and there was no evidence of any inflammation. Absence of inflammation is very characteristic of congenital Bronchoesophageal fistula[1].

Bronchoesophageal fistulae are classified into congenital and acquired. Congenital Bronchoesophageal fistula is usually associated with oesophageal atresia and readily diagnosed in infancy. Persistence of congenital Bronchoesophageal fistula manifesting with symptoms in adulthood is a very rare condition. So far only around 300 cases have been reported worldwide. Bronchoesophageal fistulae are almost three times more common on the right side than the left and the most frequent site of communication is the right lower lobe[2].

The criteria for diagnosing a congenital bronchoesophageal fistula are[3]

Absence of inflammation and lymphadenitis
The presence of mucosa in fistulous tract on histopathological examination

Muscularis mucosa and transition of the lining epithelium from squamous to columnar

Bainbridge and Keith classification of congenital bronchoesophageal fistula[4]

Type I	Associated with a wide necked esophageal diverticulum with an inflamed tip, which perforates in to a bronchus
Type II	Short tract running directly to bronchus (90%)
Type III	A fistulous tract connecting a cyst in the lobe which in turn communicates with bronchus
Type IV	Fistula that connects with a sequestrated lobe of lung

Patients with fistula characteristically develop cough on swallowing (Ono's sign) and expectorate swallowed food in the sputum[4].

Theories to explain why symptoms first appear in the adult
There may be an occlusive membrane covering the fistula that ruptures later in life[5]. A mucosal fold which acts as a valve and loses its occlusive effectiveness after chronic inflammation[6].Obliquity of the fistulous tract permitting its closure during swallowing[7]. The fistula, which is always invested with a smooth muscle coat, has the ability to contract, thus narrowing or completely occluding its lumen[8].

Conventional barium swallow is the most sensitive means for the diagnosis of bronchoesophageal fistula[9].

Treatment of choice for benign bronchoesophageal fistula is surgery[9]. Fistulectomy was done for this patient. She made uneventful recovery.

References

1. Maeta H, Toyota N, Ikeda M, Honboh T, Iwanaga Y. Congenital and acquired esophagobronchial fistula.Kyobu Geka,2006;59:215-20.
2. Juhani RO,Salo JA,Mattila SP:Congenital bronchoesophageal fistula in the adult.Ann Thorac Surg 1995; 59:887-890.
3. Smith DC. A congenital broncho-oesophageal fistula presenting in adult life without pulmonary infection. Br J Surg 1970; 57: 398–400.
4. Brainbridge MV, Keith HI: Esophagobronchial fistula in the adult. Thorax1965,20:226-233.
5. Jackson C, Coates GM. The nose, throat and ear and their diseases. Philadelphia: Saunders, 1929:1124.
6. Mullard KS. Congenital tracheooesophageal fistula without atresia of the oesophagus. J Thorac Surg 1954;28:39-54.
7. Demong CV, Grow JB, Heitzman GC. Congenital tracheoesophageal fistula without atresia of the oesophagus. Am Surg 1959;25: 156-62.
8. O Osinowo, HRS Harley, D Janigan. Congenital broncho-oesophageal fistula in the adult. Thorax 1983;38:138-142
9. Rämö OJ, Salo JA, Mattila SP. Congenital bronchoesophageal fistula in the adult. Ann Thorac Surg.1995;59:887–889; discussion 890.