Pyrex Journal of Medicine and Medical Sciences

Vol 3 (3) pp. 10-12 July, 2016
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http://www.pyrexjournals.org/pjmms
ISSN: 2985-8828

Case Report

Acquired Tracheoesophageal Fistula- A Diagnostic Challenge, Representing as Recurrent Lower Respiratory Tract Infection

Silky Arora, Gauri Chauhan*, Tegsimran Duggal and A.K Bhardwaj

M.M Institute of Medical Sciences, Mullana, Ambala, Haryana, India-133207

Accepted 14th July; 2016

Abstract

Tracheoesophageal fistula, being majorly 'Congenital' is found at birth with grievous symptoms and a definitive suspecting diagnosis. Other form of TEF being 'Acquired' is challenging to be diagnosed as the presentation is variable, with respiratory and gastro-intestinal symptoms. The cause of Acquired TEF has been found to be majorly Traumatic with ingestion of foreign bodies, but it is also found to be sequelae of granulomatous infection and can even be idiopathic. Here we highlight a case of an adolescent girl, with chronic history of GI symptoms and an acute presentation with respiratory illness, with final diagnosis of Acquired TEF, probable of sequelae of a chronic granulomatous process.

Keywords: TEF (Tracheoesphageal Fistula), granulomatous, Acquired, Respiratory infection.

INTRODUCTION

Granulomatous infection, foreign bodies and trauma used to be the most common causes of benign acquired TEF. In fistulae due to granuloma and foreign body, the pathology involves the membranous wall of the trachea & is often limited in extent.__Symptoms range from cough associated with ingestion to life threatening aspiration pneumonia. Here we present a case of Acquired TEF presenting as lower respiratory tract infection with distress.

CASE REPORT

We present a case of a 17 year old female with recurrent episodes of vomiting since 3 months, fevers & cough for 1 month. She was brought to intensive care unit with shortness of breath since 12 days. Vomiting were interacted after meals and the increasing discomfort on meals reduced the appetite of the patient with deteorationn of her health and built Since 1 month she was experiencing cough on taking foods / liquids. Patient also had some episodes of fever associated with chills, evening rise and no relief on medication. Recently she started having shortness of breath with increase discomfort on taking orally. No significant h/o orthopnoea, dyspnoea on exertion was elicited.

Examination revealed signs of respiratory distress with chest findings suggesting cavity / consolidation in left lower zone and right upper zone. A primary diagnosis of LRTI (Lower Respiratory Tract Infection) & Tuberculosis with respiratory compromise was made and child subjected to investigations. ABG revealed no signs of respiratory compensation; X-Ray was suggestive of hazy opacities in Right Upper Lobe and Left Lower Lobe. A positive ESR and Mantoux was found while sputum analysis for AFB being negative. IV Antibiotics showed no improvement and child was put on ATT (Anti-tubercular

Corresponding author email: gauri_chauhan31@yahoo.com

Figure 1

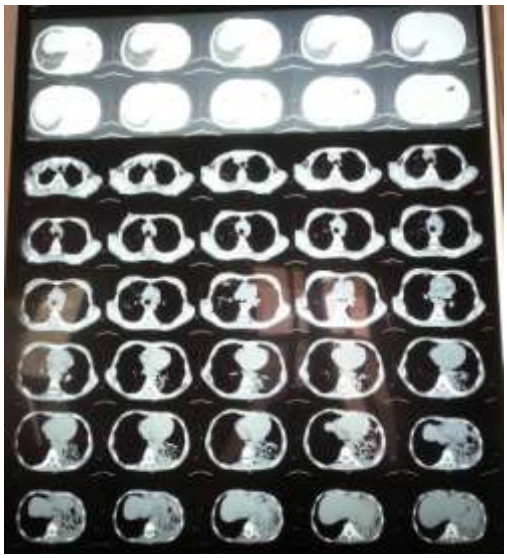

Figure 2

Drugs). Seeing not much improvement in the patient; an HRCT was planned for any bronchial obstruction.

HRCT revealed (Figure 1 and 2)

1). Multiple inter-bronchial fistula
2). Thickening with stricture at mid thoracic esophagus
3). Lobar consolidation of left lower lobe
4). Consolidation of right upper lobe
5). Multiple bilateral consolidations

Endoscopy revealed: TEF at 25 cms in lateral / posterior wall of esophagus, surrounded by granulation tissues. Extended lower till about 35 cms.

A retrospective history was taken; revealed no h/o any substance abuse, any poisoning, no corrosive attack, no h/o intubation. A diagnosis of TEF was helpful for the respiration condition. Due to micro-aspirations ruling out any serious infective condition causing the same, Ryle's tube was put in-situ for feeding purpose and further surgery with stenting was planned.

DISCUSSION

Abnormal communication between trachea and esophagus, due to benign pathology is a rare entity which can either be late presentation of congenital TEF or due to acquired causes such as post traumatic, post inflammatory or secondary to any contagious diseases Shah *et al.,* 1994. The classic al presentation is swallow-cough sequence (ONO'S Sign) Gergic *et al.,* 1990, as in

our case, should arouse suspicion of the diagnosis.

Non-malignant TEF can be caused by delayed presentation of congenital TEF or presence of tracheoesophageal membrane which gets ruptured later in life , as only such type of fistula can remain dormant till its presentation in adult where both the tubes are patent Holman et al., 1986. Although none of such is evidenced in our case. Other causes can be post traumatic or may be due to pressure changes during vomiting Mathisen et al., 1991 that can be considered favorable in our case.

Clinical symptoms are characteristic and similar to those of a congenital TEF. Persistent coughing episodes without apparent cause lead to the false diagnosis of asthma Koltai et al., 1995. Our patient was also mislead as a case of respiratory compromise due to lower respiratory tract infection which was finally subjected due to micro aspirations through the tracheoesophageal fistula. Diagnosis can be done be barium studies, fluroscopy, CT studies, X-Ray can be helpful by passing a nasogastric tube that is done for suspected Congenital TEF. X-Ray may show bilateral consolidation due to aspirations as seen in our case; later HRCT was helpful in diagnosing and confirming by GI-endoscopy.

The timing of operative intervention depends on the patient's condition, the presence of a pulmonary infection, the size of the fistula and state of the local inflammatory reaction. Different procedures have been proposed (Gerwat and Bryce, 1975; Neale and Beachly, 1974) and difficulties in management of acquired TEF have been described. For our patient stenting was planned , meanwhile wide bore Ryle's tube was put in-situ and discharged on anti-tubercular drugs.

CONCLUSION

TEF being either congenital or acquired is diagnosed radiographically. Acquired TEF mostly has preceding factor and insult but can be idiopathic as suspected in our case. Highlighting it as one of the causes of recurrent respiratory illness, TEF goes unnoticed pertaining to illness becoming chronic.

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