Tracheoesophageal fistula, a congenital malformation occurring approximately 1 in 4000 births, rarely presents as the H-type variant in which there is a fistula between an intact trachea and esophagus. Diagnosis is often delayed because patients are able to eat and present with a chronic, less-specific symptom triad of coughing or cyanosis with feeding, gas distention, and recurrent pneumonia or bronchitis. We present the case of a 12-year-old boy with chronic pulmonary symptoms, and history of a subglottic foreign object who was diagnosed with H-type tracheoesophageal fistula.

Abstract

The patient was born at term with no history of ventilator dependence. He exhibited feeding difficulty at birth, and had three episodes of pneumonia through childhood. At 10 years of age, a bronchoscopic evaluation with direct laryngoscopy was carried out upon exacerbation of asthma symptoms for 12 months. A 1 cm flexible, plastic disc was identified in the patient’s subglottis with associated granulation tissue and subglottic banding (found to be a medication vial cap). This is demonstrated in Image 1.

Following removal of foreign body, swallowing difficulty persisted and choking spells worsened over the next 15 months. Subsequently, an esophagram demonstrated H-TEF at the T4 level.

Rigid and flexible bronchoscopy revealed a fistula at the left posterior tracheal wall 2 cm superior to the carina (image 2). An upper limb maintained patency to the esophagus, along with a second, inferior, blind outpouching (image 3). An endoscopic repair was not attempted due to the size of the fistula.

The tracheoesophageal fistula was divided by open, transcervical approach using an endoscopic gastrointestinal anastomoser stapler. Although the patient has had improvement in pulmonary symptoms since fistula closure, surveillance endoscopy six months later revealed scant bubbles from the suture line which suggest the possibility of a recurrent fistula.

Conclusion

This case illustrates delay in diagnosis of H-TEF due to minimal, non-specific symptoms. In this child, symptoms were ascribed to chronic lung disease and a chronically retained tracheal foreign body, both of which were confounders to eventual diagnosis. Contrast esophagrapy and bronchoscopy are valuable tools in diagnosis. The treatment of H-TEF is surgical repair.