

## Spontaneous Bronchial Tear after Severe Coughing Bouts in an Old Female

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### Abstract

Spontaneous tears of the mucosal layers are well known in esophagus after vigorous vomiting. But severe bouts of cough leading to a tear in the bronchial tree is not commonly seen and not reported yet. We report this rare occurrence in an immune-compromised female with respiratory infection.

### Clinical Details

A 60 year old female with chronic kidney disease secondary to an undifferentiated vasculitis on immune-suppressive medication and maintenance hemodialysis, presented with severe cough over 2 days associated with hemoptysis of moderate quantities. She was found to have left lower lobe pneumonia with a small syn-pneumonic pleural effusion on chest radiograph and Computerized Tomogram of chest (Figure 1).

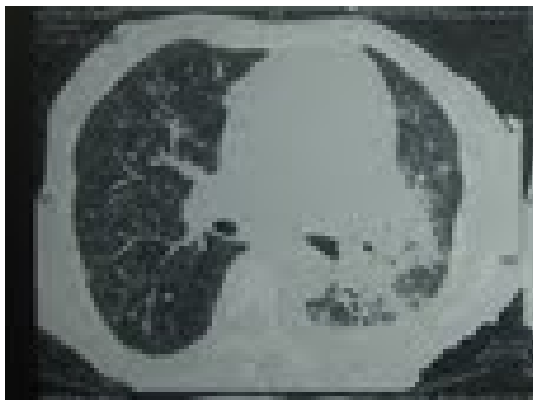


Figure 1: Left lower lobe consolidation with mild pleural effusion.

She was in respiratory distress and required invasive ventilation. Routine investigations and coagulations parameters like PT, APTT and platelet count were normal. She was not on any anticoagulant or anti platelet agents. A flexible bronchoscopy was performed through the endotracheal tube. It revealed a tear (Figure 2) along the junction of left upper and lower lobe bronchi measuring about 1 cm length and 3-4 mm wide, oozing fresh blood. A broncho alveolar lavage (BAL) collected from the left lower lobe was turbid but not grossly hemorrhagic. Cytological analysis of BAL revealed a few red blood cells and predominant neutrophils. Subsequently BAL culture grew *Pseudomonas aeruginosa* which was treated with appropriate

antibiotics. Her hemoptysis eventually subsided and in due course she was extubated and discharged soon after, in a stable condition.

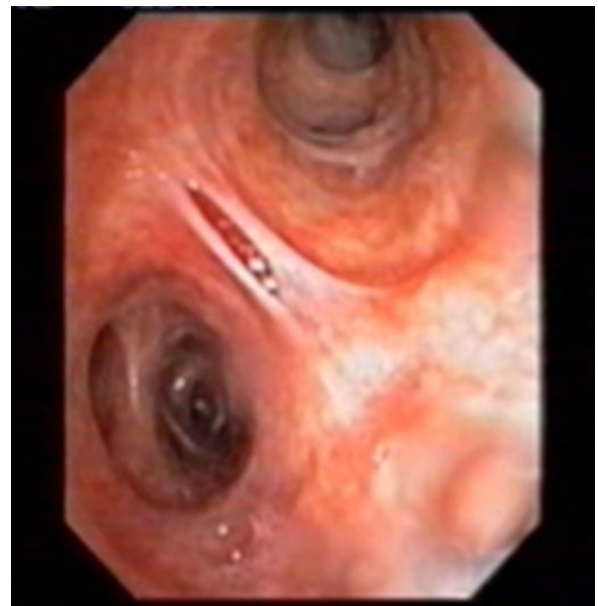


Figure 2: Bronchial tear extending along the junction of left upper and lower lobe bronchi.

### Discussion

Tears in the bronchial tree are almost always trauma-related; spontaneous tears are not generally heard of. On a detailed MEDLINE review of literature, there was only a solitary case report of a tracheal tear in a young boy after severe bout of cough [1]. Thus, this is a distinctly unusual condition, not reported earlier. This patient had left lower lobe pneumonia which was the likely incitement for the cough but the source of bleeding itself was the tear in the mucosa at the junction of the left upper and lower lobar bronchi which was seen to be

bleeding actively at bronchoscope visualization. The relatively distal location was also too far to occur iatrogenically by the endotracheal intubation placement or by suctioning through it. As well, there was no history of chest trauma to account for it making a strong case for spontaneous bronchial tear due to the severe bouts of coughing.

## References

1. Roh JL, Lee JH (2006) Spontaneous tracheal rupture after severe coughing in a 7-year-old boy. *Pediatrics* 118: 224-227.