Spontaneous Bronchial Tear after Severe Coughing Bouts in an Old Female

Swamy TLN¹, Hasan A² and Bhattu U¹

¹Department of Pulmonology, Care Hospital (Banjara Hills), Hyderabad, India
²Department of Respiratory Medicine, Deccan College of Medical Sciences, Hyderabad, India

Corresponding author: Swamy TLN, Department of Pulmonology, Care Hospital (Banjara Hills), Hyderabad, India, Tel: +91-9849808430; E-mail: drtlinswamy@gmail.com

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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).

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 antiplatelet agents. A flexible bronchoscopy was performed through the endotracheal tube. It revealed a tear (Figure 2) along the junction of left upper and lower lobar 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.

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