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Plastic Bronchitis

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Figure 1. Computed tomography of the chest showing consolidation of right lower lobe with arrow showing plugged bronchioles.

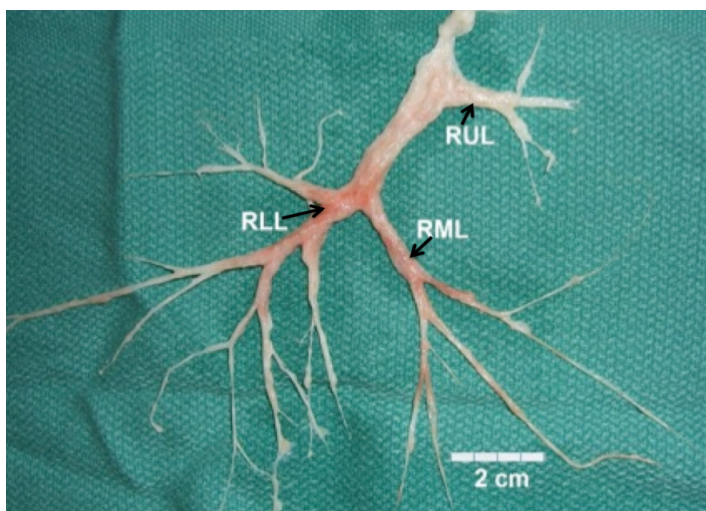


Figure 2. Bronchial Cast showing complete casting of right upper lobe (RUL), right middle lobe (RML) and right lower lobe (RLL).

A 45-year-old male with a one-month history of dyspnea and cough presented with productive sputum consisting of bronchial casts for several days prior to admission. Chest computed tomography showed bilateral opacifications (Figure 1). Several casts were expectorated daily (Figure 2). Pulmonary function tests revealed moderate restrictive lung disease. Bronchoscopy showed evidence of a cast in the right lung. Cast pathology and bronchial washings revealed no evidence of atypical cells or fungi, few inflammatory cells and a predominance of fibrin. No microorganisms were found. The patient was treated with antibiotics, as well as nebulized N-acetyl cysteine, with improvement in cast expectoration. The patient was asymptomatic at his two-week follow up. Repeat chest radiograph and pulmonary function tests were normal. The patient was diagnosed with plastic bronchitis.

The underlying pathology of plastic bronchitis is not well understood. It is characterized by the presence of large, thick, mucofibrinous plugs filling the broncho-pulmonary tree, leading to severe respiratory distress.^{1,2} While commonly seen among children, few cases have been described among adults. It usually occurs in patients with inflammatory conditions, where the casts are fibrinous with eosinophilic material, or acellular cast composed mainly of mucin with little fibrin and no inflammatory cells, except for occasional mononuclear cells, as seen in patients with cardiovascular disease.^{3,4} Plastic bronchitis has been seen in several conditions, such as asthma, allergic bronchopulmonary aspergillosis, cystic fibrosis, smoke inhalation, after Fontans operation, H1N1 infection and idiopathic.^{4,5}

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