



# Bronchial Artery Embolization as a Bridge to Lung Transplantation

A Singhal, MD<sup>1\*</sup>, C King, MD<sup>1</sup>, H Mani, MD<sup>2</sup>, and AW Brown, MD<sup>1</sup>

<sup>1</sup>Advanced Lung Disease and Lung Transplant Clinic, Inova Fairfax Hospital, Falls Church, VA, USA

<sup>2</sup>Department of Pathology, Inova Fairfax Hospital, Falls Church, VA, USA



## Abstract

Hemoptysis is a common complication in cystic fibrosis (CF), affecting approximately 8% of patients. Massive hemoptysis occurs in 4% of CF patients and accounts for 8.5% of deaths in patients without lung transplantation. Bronchial artery embolization (BAE) is a life-saving intervention in patients with airway compromise or hemodynamic instability from hemoptysis. Despite the effectiveness of BAE in controlling hemoptysis acutely, CF patients who undergo BAE remain at increased risk for recurrent hemoptysis and death; therefore, evaluation for lung transplantation should be considered.

Histopathology of an explanted CF lung after successful bilateral lung transplantation is shown in the attached *Image A*. Foreign embolic material from prior BAE is identifiable. *Image B* and *Image C* highlight the dramatic improvement in CT chest imaging following lung transplantation, illustrating that although BAE is a temporizing procedure, transplantation is the definitive treatment for recurrent, massive hemoptysis in advanced CF lung disease.

## Keywords

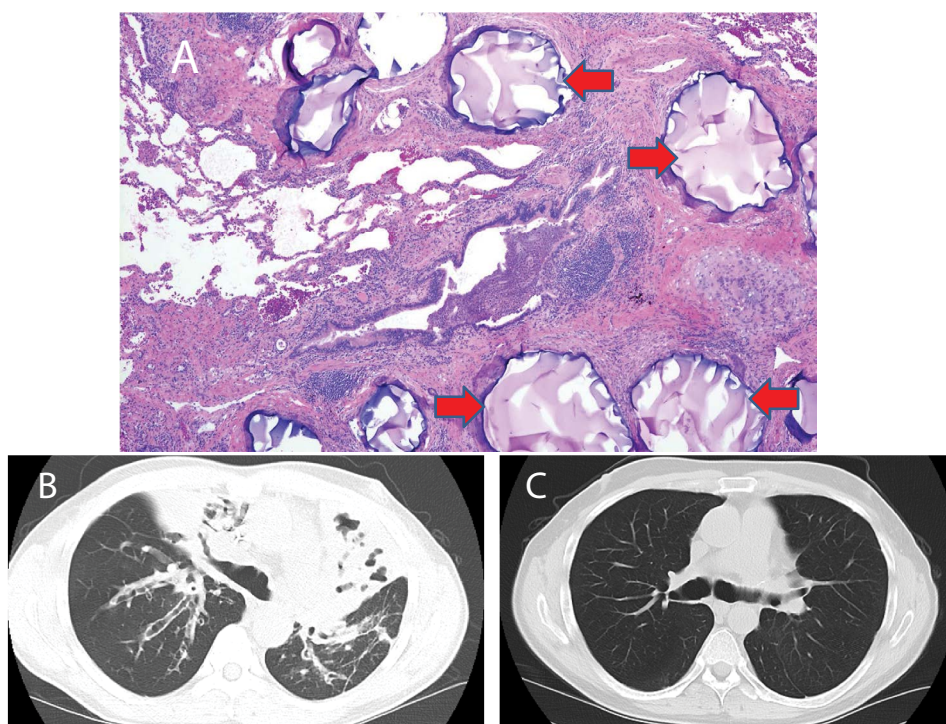
Cystic fibrosis, Bronchial artery embolization, Lung transplantation, Massive hemoptysis

**\*Corresponding author:** Anju Singhal, MD, Advanced Lung Disease Fellow, Inova Advanced Lung Disease and Transplant Program, 3300 Gallows Road, Falls Church, VA 22042, USA

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**Image A:** Sections of the explanted lung show embolic foreign material (red arrows) in bronchial artery branches resulting from prior BAE for massive hemoptysis. The accompanying bronchioles are inflamed and filled with purulent material, typical of CF (H&E, 100x).

**Image B:** Chest CT image of CF patient prior to lung transplantation with extensive cystic bronchiectasis, chronic consolidation, and volume loss in the upper lobes.

**Image C:** Chest CT image of CF patient one year after bilateral lung transplantation with normal lungs free of infiltrates or bronchiectasis.

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