Translocation of Microspheres into the Pulmonary Artery after Bronchial Artery Injection

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Figure 1. Enlarged right bronchial artery with two branches (*arrow*) before (A) and after (B) embolization, resulting in complete occlusion of both branches of the vessel.

Figure 2. Microsphere fragments (*arrows*) embedded in organizing thrombus (*asterisks*) in a large pulmonary artery. L = lumen. Original magnification, $\times 42.5$.

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Figure 3. Microspheres (asterisks) embedded in intraparenchymal pulmonary artery (arrowheads). Note hemorrhagic atelectatic parenchyma (left) and normal alveolar tissue (right). B = companion bronchiole. Original magnification, $\times 42.5$.

A 23-year-old man with known chronic pulmonary thromboembolic disease was admitted with large-volume hemoptysis. Computed tomography angiogram showed an aneurysm of the right middle lobe pulmonary artery and an enlarged right bronchial artery with extensive collateral vessels. The bronchial artery was successfully occluded (Figures 1A and 1B) with injection of 300- to 700- μm Embosphere Microspheres (Biosphere Medical, Rockland, MA). However, hemoptysis persisted and a pulmonary endarterectomy was performed to relieve pulmonary vascular obstruction and decrease additional collateral bronchial vascular flow. A significant amount of material, composed of organizing thrombus and nonpolarizable, brightly eosinophilic microspheres (Figure 2), was removed from the right pulmonary artery. Unfortunately, the aneurysmal right middle lobe pulmonary artery subsequently ruptured, necessitating surgical resection of the right middle lobe. Pathologic examination demonstrated eosinophilic-appearing microspheres in the vessel (Figure 3). Connections between the bronchial and pulmonary circulations exist and were reported 65 years ago in surgical lobectomy specimens from patients with bronchiectasis (1). This case confirms previous observations and demonstrates that material injected *in vivo* into the bronchial circulation can reach the pulmonary circulation. ■

Author disclosures are available with the text of this article at www.atsjournals.org.

Reference

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