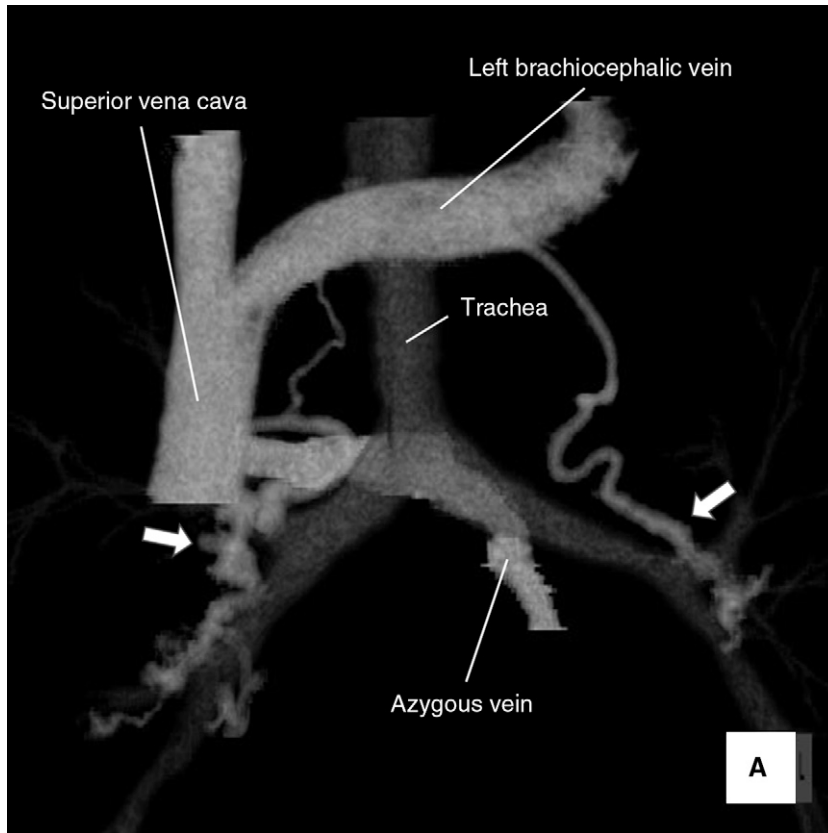


# IMAGES IN PULMONARY, CRITICAL CARE, SLEEP MEDICINE AND THE SCIENCES

## A Case of Hemoptysis Due to Bronchial Varices Treated with Variceal Sclerotherapy

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**Figure 1.** Reconstructed three-dimensional computed tomography angiography focused on the airway and the veins, showing bilateral bronchial varices (arrows). Generally, the right bronchial veins drain into the azygos vein, and the left bronchial veins drain into the left superior intercostal vein, hemiazygos vein, or accessory hemiazygos vein. In this case, however, the right bronchial veins mainly drained into the superior vena cava close to the bifurcation of the azygos vein and partly drained into the brachiocephalic vein, whereas the left bronchial veins drained into the brachiocephalic vein directly.

A 61-year-old man was referred to our hospital for massive hemoptysis in the right lung. His medical history included congenital aortic valvular stenosis treated with aortic valve replacement. Because the hemoptysis continued after bronchial arterial embolization, we attempted bronchial occlusion with an Endobronchial Watanabe Spigot (Novatech); however, the amount of hemoptysis increased. We assessed the contrast-enhanced computed tomography images and suspected bronchial varices as the bleeding source (Figure 1). We performed a pulmonary angiography for bronchial variceal sclerotherapy and inserted a microcatheter (Super-Masamune; Fuji Systems) into the right bronchial vein via the superior vena cava. After we confirmed that the contrast agent did not flow into the pulmonary vein as a result of high left heart pressure, we injected monoethanolamine oleate under balloon occlusion (Figure 2). The intractable hemoptysis ceased without recurrence, and a subsequent bronchoscopy revealed hematocystic spots and marked dilation of the nonpulsatile submucosal vessels in the distal truncus intermedius (Figure 3).

Massive hemoptysis due to bronchial varices is extremely rare in adults, and its treatment is challenging (1, 2). In recent reports, one patient with liver cirrhosis was successfully treated with a combination of a transjugular intrahepatic portosystemic shunt and embolization of the feeding collateral vein (3). Another patient was treated with variceal sclerotherapy using an endobronchial technique (4). To the best of our knowledge, this is the first case of massive hemoptysis to be successfully treated with endovascular bronchial variceal sclerotherapy. ■

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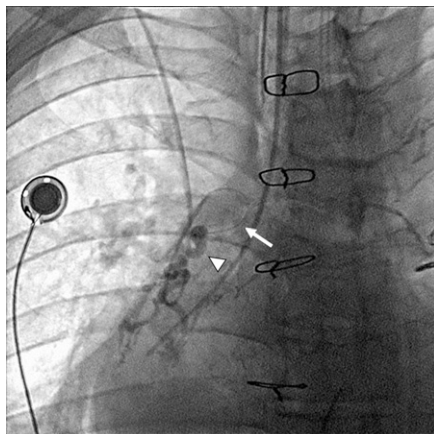
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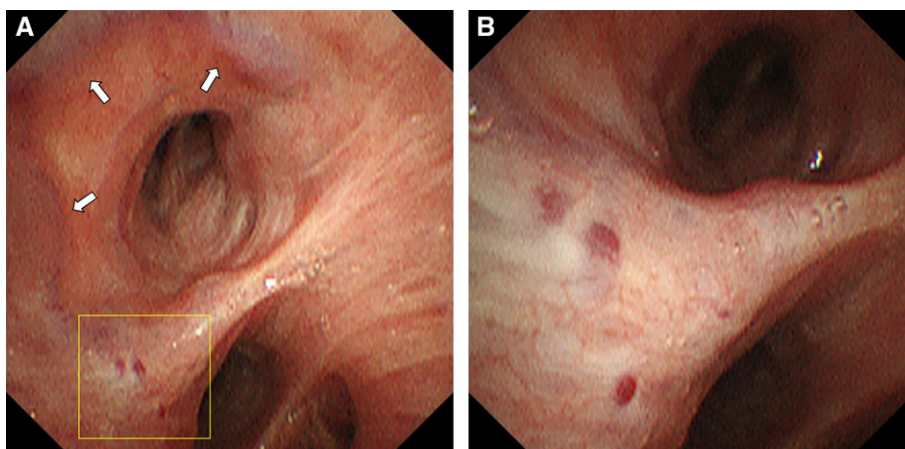
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**Figure 2.** Image showing sclerotherapy of the bronchial varices. A microcatheter was successfully inserted into the right bronchial vein (arrow), and monoethanolamine oleate was injected under balloon occlusion (arrowhead).



**Figure 3.** Endoscopic findings after hemoptysis improved. (A) Marked dilation of the nonpulsatile dark violet submucosal vessels on the ostium of the middle lobe (arrows). (B) Focusing on the area within the yellow square in A, bronchoscopy revealed hematocystic spots on the distal truncus intermedius.

**Author disclosures** are available with the text of this article at [www.atsjournals.org](http://www.atsjournals.org).

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