A Pulmonary Vascular Variation to Be Considered in Resective Lung Surgical Procedures

Banu Yoldas, MD, and Soner Gursoy
Izmir Dr. Suat Seren Chest Diseases and Thoracic Surgery, Training and Research Hospital, Izmir, Turkey

Pulmonary variations and anomalies constitute one of the most important considerations during thoracic surgical procedures. Nowadays, videothoracosopic resection, which secures a better and more highly magnified visibility of thoracic structures because of the use of optical instruments, is more common. Nevertheless, such vascular anomalies may cause problems, especially during the learning curve.

A 66-year-old man was evaluated for lung cancer, and a right upper lobectomy was planned. After hilar dissection, a pulmonary vein originating from the superior lobe of the lung and draining to the superior vena cava was detected (Fig 1). This vein was ligated, and resection continued.

The truncus anterior of the upper lobe was located more distally than it should have been because of an abnormal venous vessel draining to the vena cava. Also, this segmental artery was not the usual width, and two similar arteries (including a posterior segmental artery) to the superior lobe were detected. One of these arteries was at the expected location of the middle lobe artery. A small posterior ascendan artery completed the arterial configuration of the upper lobes.

In addition to the abnormal vein draining to the vena cava, the upper lobe had an anterior segment vein draining to the left atrium. Moreover, the middle lobe vein was draining to the atrium with the inferior pulmonary vein (Fig 2). With careful exploration, an upper lobectomy was performed without any problems. After the operation, computed tomographic images were considered retrospectively, and the accessory pulmonary vein was observed (Fig 3).

Awareness of vascular anomalies and careful attention to all resection types is very important. Keeping such anatomic variations in mind may help young thoracic surgeons, especially, prevent potential morbidity and mortality.