Absent Right Pulmonary Artery With Coronary Collaterals Supplying the Affected Lung

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A 64-year-old man with chronic atrial fibrillation was referred to our hospital for resection of a biopsy-proven adenocarcinoma of the right lung. A preoperative coronary angiogram demonstrated large, tortuous collateral vessels arising from the proximal right (Figure 1) and left circumflex (Figure 2) coronary arteries. These vessels supplied the right lung. The native coronary arteries were moderately diseased. A right ventriculogram showed no visualization of the right pulmonary artery (Figure 3). A computed tomographic scan of the chest also showed that the right pulmonary artery was absent (Figure 4). An aortogram showed no arterial supply to the right lung other than that from the coronary arteries. The patient underwent a right pneumonectomy and did well thereafter.

Figure 1. Angiogram of right coronary artery in the anteroposterior projection. A large collateral vessel (arrow) arises from a moderately diseased coronary artery (arrowhead) and supplies the right lung.
Figure 2. Angiogram of left coronary system in the anteroposterior (A) and in a steep left anteroposterior (B) projection. A tortuous collateral (arrows) comes from the proximal circumflex artery (arrowhead) and supplies the right lung.

Figure 3. Anteroposterior projection of a right ventriculogram showing filling of the main and left pulmonary arteries. No right pulmonary artery is seen.

Figure 4. Computed tomogram of the chest demonstrating absence of right pulmonary artery.