

Circumflex-to-bronchial artery fistula with saccular aneurysm

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Abstract

We report a case of fistulous communication with two saccular aneurysms (9 mm and 7 mm) between the sinoatrial branch of the circumflex artery and the bronchial arteries.

Key words: bronchial artery, coronary artery fistula.

Coronary artery fistula is defined as an abnormal vascular communication between the coronary artery and any of the great vessels or cardiac chambers [1]. The overall incidence of coronary-to bronchial artery fistula (CBF) has been estimated to be 0.6% among the population undergoing coronary imaging [2]. Coronary-to bronchial artery fistulas usually originate from the left circumflex artery via a left atrial branch. Although CBFs are thought to be congenital, some underlying pulmonary diseases such as bronchiectasis can cause the anastomoses to dilate and become functional.

A 64-year-old male patient with bronchiectasis was referred to our department with effort intolerance after coronary angiography for further evaluation. Coronary angiography showed no significant stenotic lesions in the left main, left anterior descending or in the right coronary arteries. However, a fistulous communication with two saccular aneurysms (9 mm and 7 mm) between the sinoatrial branch of the circumflex artery and the bronchial arteries was observed (Figure 1). Contrast-enhanced multi-detector computed tomography also showed the saccular fistulous communication between the Cx and bronchial artery (Figure 2 A). Multi-detector computed tomography angiography demonstrated that the fistula originated from sinoatrial branch of the Cx and coursed through the right of the aorta and right atrium. The fistula was connected to the right bronchial artery behind the right atrium (Figure 2 B). Fistula ligation operation was suggested to the patient, but the patient did not accept this operation.



Fig. 1. Coronary angiogram showing a fistulous communication with two saccular aneurysms (arrow) between the sinoatrial branch of the circumflex artery and the bronchial arteries

Most patients with CBF are asymptomatic, but it can be a source of hemoptysis, angina due to coronary steal phenomenon, congestive heart failure and rupture of an aneurysmal fistula. In cases of great fistula with saccular aneurysm, as in our patient, surgical ligation of the CBF can be chosen for a definitive treatment.

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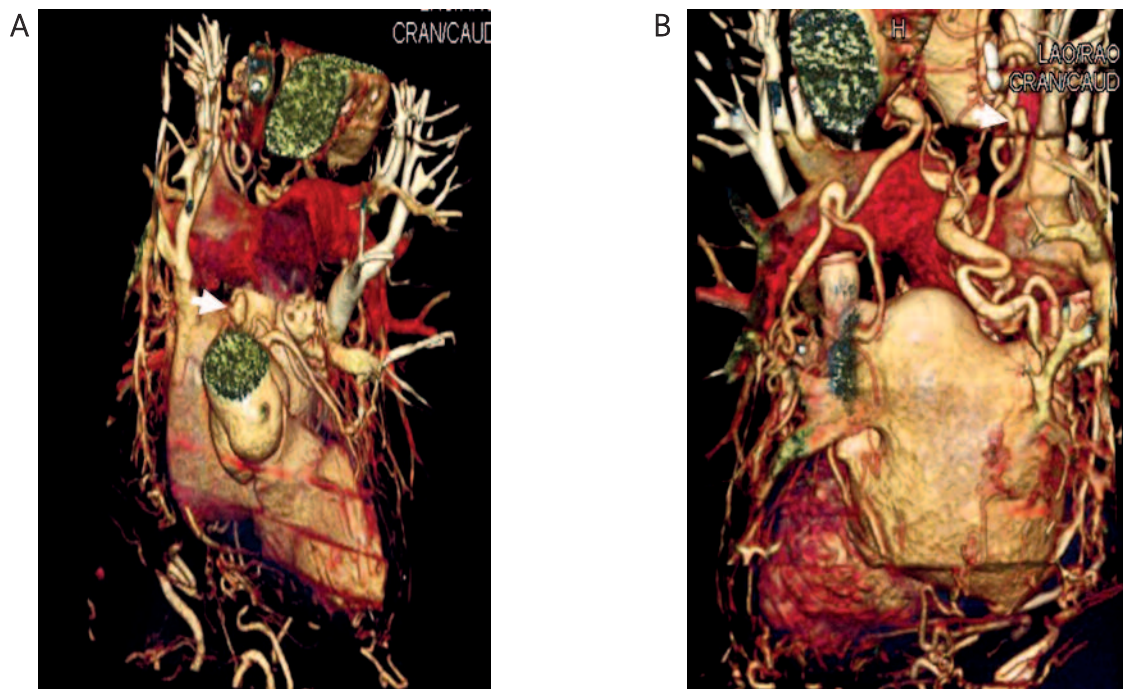


Fig. 2. Three-dimensional volume rendered image from multidetector computed tomography coronary angiography, showing the saccular fistulous communication (arrow) between the circumflex artery and bronchial artery (A) and fistula originating from the sinoatrial branch of the circumflex artery and coursing to right atrium (B)

References

1. Papadopoulos DP, Perakis A, Votreas V, Anagnostopoulou S. Bilateral fistulas: a rare cause of chest pain. Case report with literature review. *Hellenic J Cardiol* 2008; 49: 111–113.
2. Lee ST, Kim SY, Hur G, et al. Coronary-to-bronchial artery fistula: demonstration by 64-multidetector computed tomography with retrospective electrocardiogram-gated reconstructions. *J Comput Assist Tomogr* 2008; 32: 444–447.