

IMAGES IN INTERVENTION

Percutaneous Coronary Intervention for Treatment of Paraganglioma With Coronary Vascularization

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A 58-year-old man was referred to the cardiology outpatient clinic because of palpitations. Physical examination highlighted the presence of mitral early systolic click. Transthoracic echocardiography showed a retrocardiac mass that was compressing the left atrium and surrounding the pulmonary artery and the aorta. Cardiac computed tomography demonstrated a mass extended from the upper mediastinum to the cardiac region, with invasion of the pericardium, the wall of both atria, both pulmonary arteries, and the ascending aorta (Figure 1). Histological diagnosis of paraganglioma was made by endovascular ultrasound-guided biopsy.

On coronary angiography, vascularization of the mass by coronary fistulas was demonstrated,

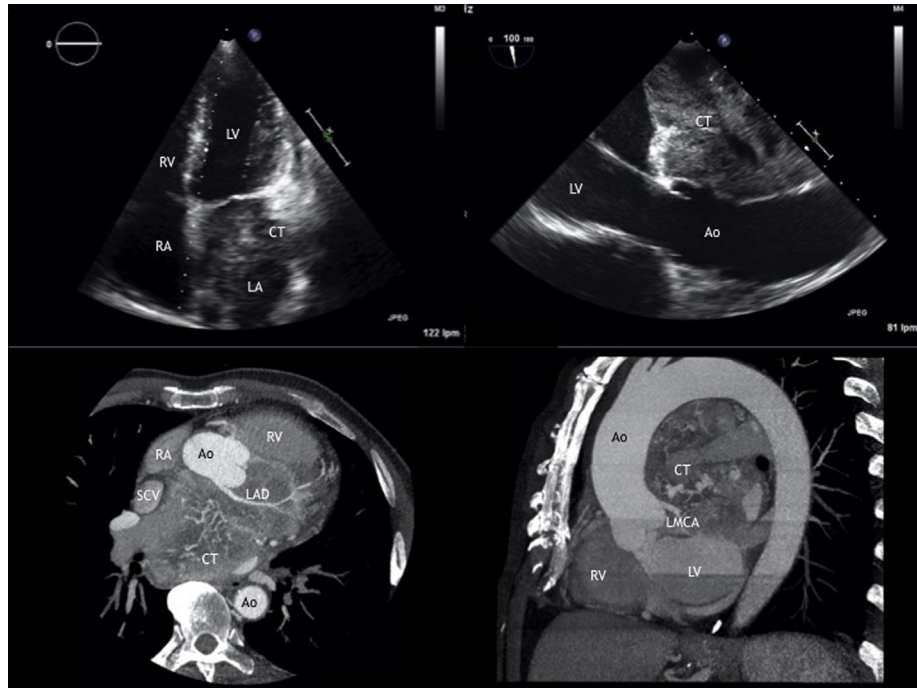
principally dependent on the anterior descending coronary artery, intermediate branch, and right coronary artery and less importantly on the left circumflex coronary artery (Figure 2).

In further interventions, we proceeded to implant multiple embolization coils on the coronary fistulae (Figures 3 and 4).

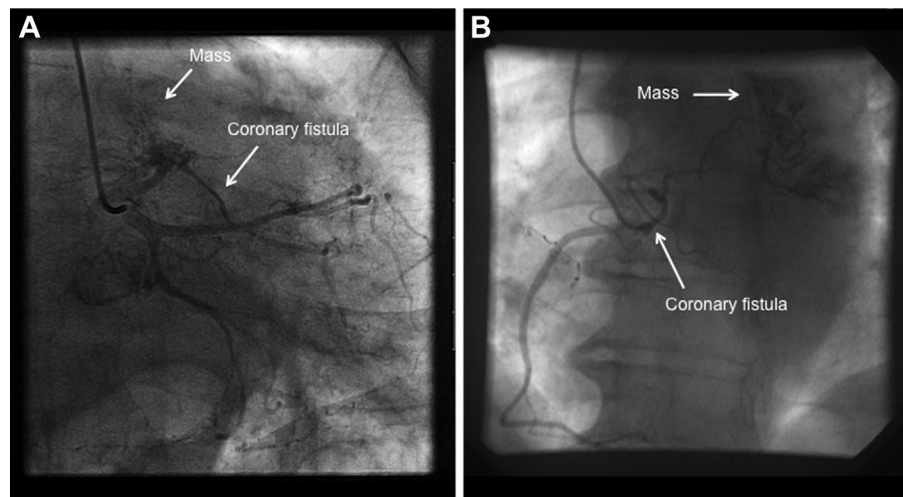
High vascularization and adherence to surrounding structures are characteristic of paragangliomas, making fatal hemorrhagic complications a serious risk during surgery. Pre-operative embolization has a proven role in minimizing bleeding and facilitating resection. Partial surgical excision was performed and currently is being followed up in oncology, where the patient is undergoing chemotherapy.

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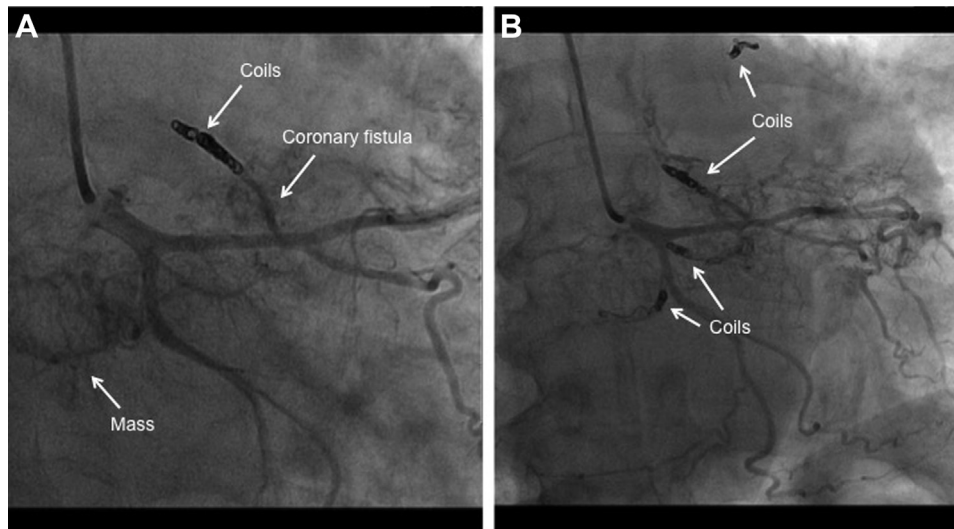
Manuscript received January 30, 2017; revised manuscript received February 14, 2017, accepted February 23, 2017.

FIGURE 1 Images of Transthoracic (Left Superior) and Transesophageal Echocardiography (Right Superior) and Cardiac Computed Tomography (Inferior)

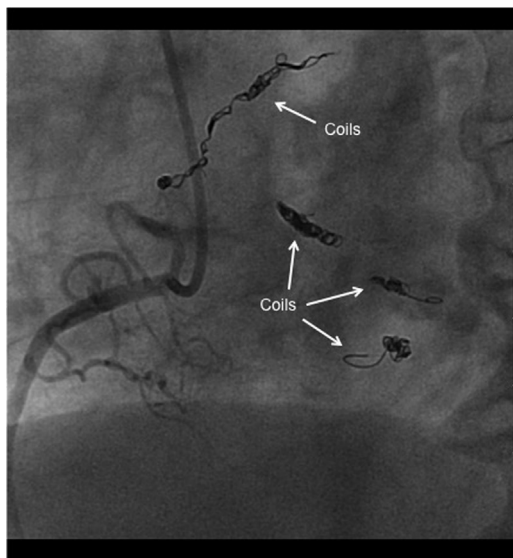
The images show a mass of 13.5 × 14.3 cm, with extensive microvasculature, extending from the upper mediastinum to the cardiac region, with invasion of the pericardium, the wall of both atria, both pulmonary arteries, and the ascending aorta. Ao = aorta; CT = cardiac tumor; LA = left atrium; LAD = left anterior descending coronary artery; LMCA = left main coronary artery; LV = left ventricle; RA = right atrium; RV = right ventricle; SCV = superior vena cava.

FIGURE 2 Coronary Angiography

Initial coronary angiography showing irrigation of tumor mass by anterior descending coronary artery, intermediate branch, circumflex coronary artery (A), and right coronary artery (B). Initial coronary angiography showing irrigation of tumor mass by anterior descending coronary artery, intermediate branch, circumflex coronary artery, and right coronary artery.

FIGURE 3 Intracoronary Coil Implantation

Embolization of fistulas by coils with origin in proximal anterior descending coronary artery (**A and B**), intermediate branch, and proximal circumflex (**B**). Multiple fistulas persist. Embolization of fistulas by coils with origin in proximal anterior descending coronary artery, intermediate branch, and proximal circumflex. Multiple fistulas persist.

FIGURE 4 Coronary Angiography

Complete embolization of fistula with origin in the right coronary artery.

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KEY WORDS cardiac surgery, coronary fistulae, paraganglioma, percutaneous coronary intervention