

CASE REPORTS IN INTERVENTIONAL CARDIOLOGY

Successful Percutaneous Closure of a Well-Developed Arteriovenous Coronary Fistula With a Giant Aneurysm

A 43-year-old woman without previous cardiovascular history presented with exertional dyspnea and palpitations for a period of 6 months. An echocardiogram showed moderate dilatation of right atrium and ventricle, with moderate pulmonary hypertension (confirmed with right heart catheterization). A spherical and nonechogenic structure (40×45 mm) with well-defined borders was identified between the aortic root and the left atrium (Figure [A], letter F).

Thoracic angiogram (Figure [B]) showed a large arteriovenous fistula connecting an ectopic anomalous branch of left circumflex coronary artery with a large spherical aneurysm that finally drains in the superior caval vein. Left anterior descending artery was not involved in the fistula.

The diagnosis was confirmed with a coronary angiography that was performed through right femoral access (Movie I in the [Data Supplement](#)).

After Heart Team discussion, the decision was to seal the fistula, with closure of the entry and the exit points to prevent possible rupture.

A left to right loop was performed through right femoral arterial and right internal jugular venous approaches. A XB-6F guiding catheter (Cordis Corporation, FL) with a Runthrough NS Floppy hydrophilic-coated 0.014" wire (Terumo Interventional Systems, Somerset, NJ) with manual performed curved-tip was passed through the fistulous tract connecting the proximal circumflex to the superior caval vein, where it was snared with a 6F Amplatz goose neck snare (EV3, Nathan Lane North, MN) performing the loop (Movie II in the [Data Supplement](#)). Subsequently, the guide was exchanged for a strong support guide with a multipurpose 4F Glidecath hydrophilic catheter (Terumo Interventional Systems, Somerset, NJ).

Using the looped wire, a dedicated guiding catheter for the deployment of Amplatzer Vascular Plugs (Abbot Vascular, CA) was placed crossing the fistula tract from the superior caval vein. Then, the looped wire was removed. An Amplatzer Vascular Plug II 16 mm device (Abbot Vascular, CA) was deployed through the fistulous tract facing the proximal segment of circumflex (Figure [C], number 1). An Amplatzer Vascular Plug 12 mm device was then deployed in the venous end of the aneurysm facing the superior caval vein (Figure [C], number 2).

After deployment of both devices, a complete sealing of the fistulous tract was achieved (Movie III in the [Data Supplement](#), Figure [C]).

The patient was treated with acetylsalicylic acid 100 mg/d, and after 4 months of follow up, she reports resolution of dyspnea and palpitations. The echocardiogram showed normalization of pulmonary pressure and right ventricular dimensions.

We illustrate a successful percutaneous closure of a well-developed arteriovenous coronary fistula with a giant aneurysm, a very rare entity in a mildly symptomatic female.

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The Data Supplement is available at <http://circinterventions.ahajournals.org/lookup/suppl/doi:10.1161/CIRCINTERVENTIONS.118.006829/-/DC1>.

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Disclosures

None.

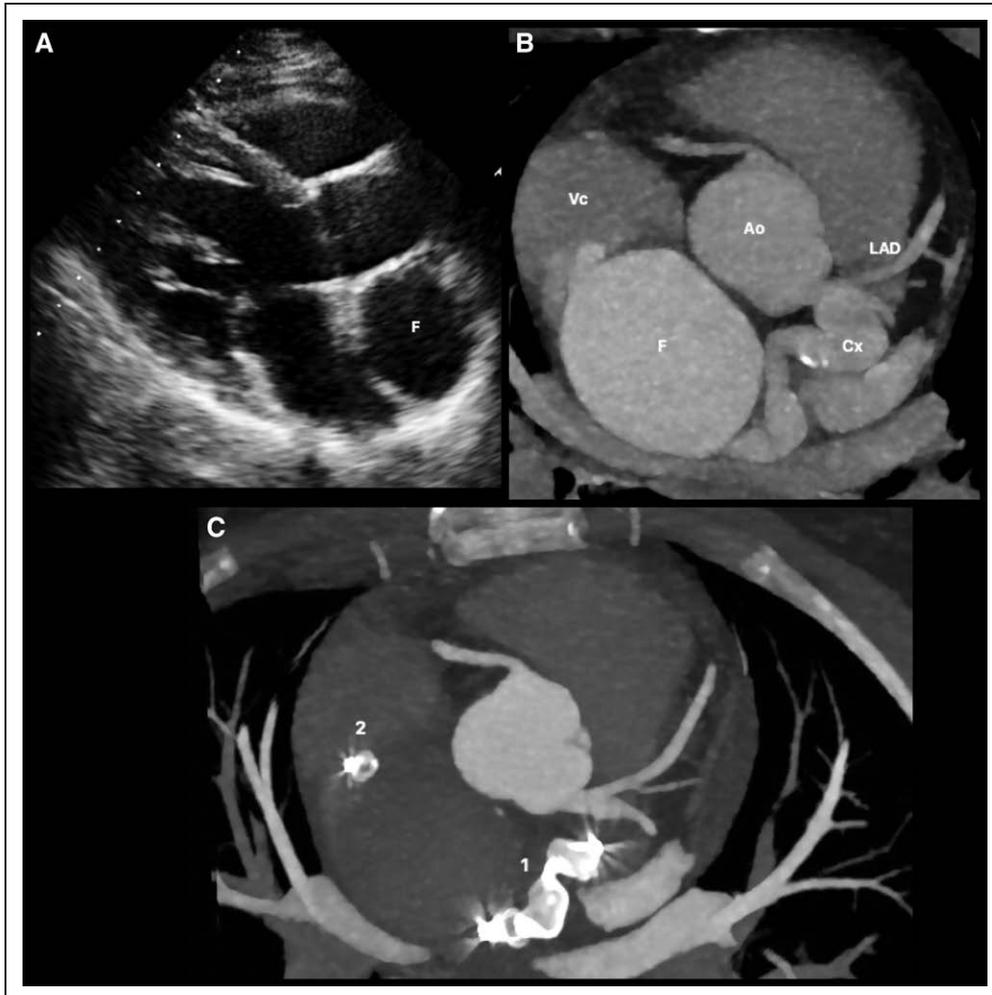


Figure. Multimodal cardiac imaging.

A, Echocardiogram showing the aneurysm (F). **B,** Angiotomography. Coronary arteriovenous fistula with origin in an anomalous ectasic branch of circumflex (Cx) connected with a giant aneurysm (F) and finally with superior cava vein (Cv). **C,** Final result with complete sealing of the fistula with the occlusion devices (1, 2).

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