Endovascular Coil Embolization of Behçet Disease–Related Giant Aneurysm of the Right Coronary Artery After Failure of Surgical Suture

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A 69-year-old man with Behçet disease (BD) was referred for treatment of a rapidly growing giant aneurysm (38 × 31 mm) of the right coronary artery (RCA), as detected by computed tomography (Fig. 1A). The patient initially underwent surgery for single coronary artery bypass grafting and RCA

Figure 1. Endovascular Coiling of Behçet Disease–Related Giant Coronary Aneurysm After Successful Bypass Grafting But Failure of Ligature

Computed tomography demonstrating a giant aneurysm of the right coronary artery (RCA) (arrowheads, A). Intravascular ultrasound (IVUS) displays a heavily calcified vessel wall (arrows, B), rendering proximal and distal surgical sutures inefficient. On follow-up angiography, remaining flow into the aneurysm (black arrow, C), level of previous IVUS image (dashed arrow, C), and a mild, but calcified, stenosis (white arrow, C) are shown. The final angiogram displays only mild leakage through the coil and stent struts (arrow, D). Ao = aorta.
ligature. However, by reason of a heavily calcified vessel wall (Fig. 1B), probably related to chronic inflammation, the RCA remained patent (Fig. 1C). Consequently, percutaneous placement of a covered stent graft (CSG) followed by coil embolization (CE) was planned to seal the aneurysm orifice and avoid occlusion of the arterial bypass graft. Considering the orifice length of 32 mm, a long bare-metal stent (BMS) was implanted first to prevent migration of the CSG (our maximal length for CSG is 19 mm). However, the following CSG delivery failed due to friction in a mild, but calcified, stenosis (Fig. 1C) and resistance at the proximal edge of the previously implanted BMS. Ultimately, CE was performed. The final angiogram displayed only mild leakage through the coil and stent struts (Fig. 1D). Alternative percutaneous strategies involve additional stenting of the proximal stenosis to facilitate CSG placement or multiple-layer BMS along with CE to further enhance sealing of the aneurysm ostium. However, the remaining mild leakage is expected to be self-limiting as a result of thrombus formation. Because data on coronary involvement of BD are scarce, treatment of coronary aneurysm is controversial. Reports of rupture and thromboembolization-related myocardial infarction suggest prophylactic invasive treatment.

Conversely, vascular complications after interventional treatment have been reported (1). Thus, invasive treatment should be considered in case of aneurysm growth, massive size, and recurrent ischemia. For conservative treatment, close monitoring and suppression of underlying vasculitis should be warranted. Additionally, antiplatelet or anticoagulant therapy has been suggested to prevent thromboembolic complications (2).

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REFERENCES

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