

Endovascular coil treatment of a right coronary artery aneurysm related to atherosclerosis

Ateroskleroza bağlı sağ koroner arter anevrizmasının endovasküler koil ile tedavisi

Ali Rıza Akyüz¹

Sinan Şahin¹

Ayşegül Karadeniz²

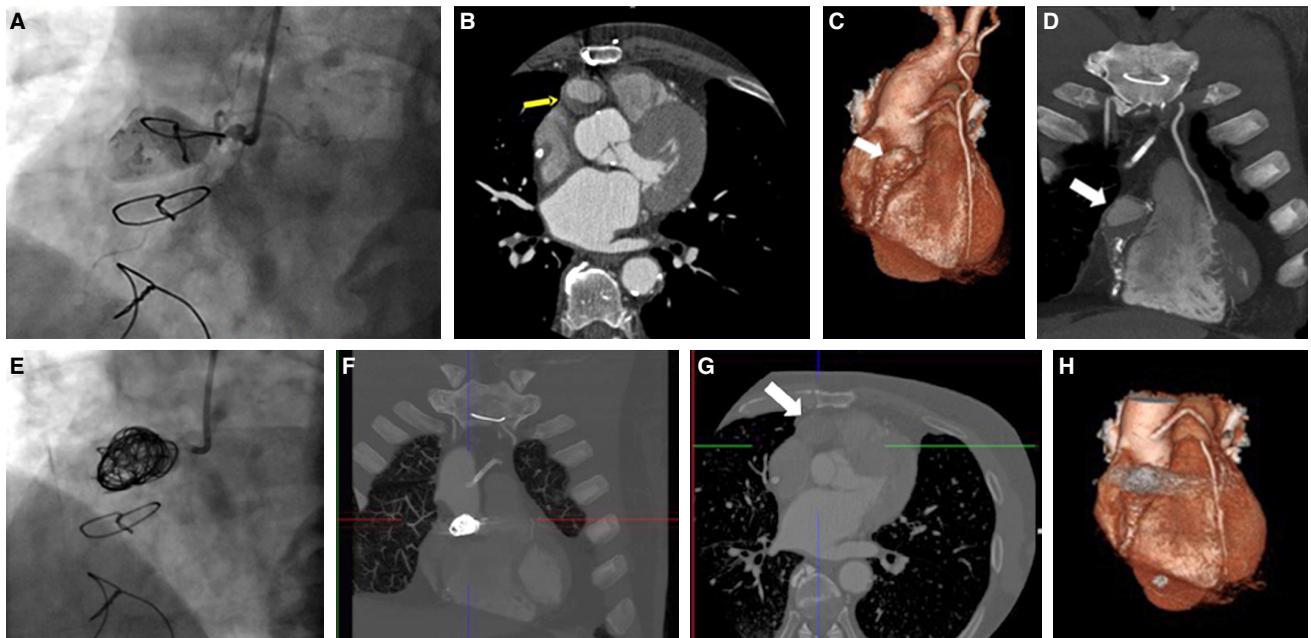
¹Department of Cardiology, University of Health Sciences, Trabzon Ahi Evren Cardiovascular and Thoracic Surgery Training and Research Hospital, Trabzon, Turkey

²Department of Radiology, University of Health Sciences, Trabzon Ahi Evren Cardiovascular and Thoracic Surgery Training and Research Hospital, Trabzon, Turkey

A 68-year-old male with a history of prior coronary artery bypass graft surgery presented with stable angina pectoris. A coronary angiogram demonstrated chronic total occlusion of the right coronary artery (RCA) with a huge coronary artery aneurysm (CAA) (Figure A, Video 1*). The coronary angiogram also illustrated severe two-vessel disease with a patent left inter-

nal mammary artery to left anterior descending artery graft and an occluded saphenous vein graft to the right coronary artery. Severe (90%) stenosis was observed in

the ostium of the saphenous venous graft to the circumflex artery, which was revascularized with a 3.0x33-mm drug-eluting stent. To further observe the CAA, coronary computed tomography was performed, which demonstrated a 27x30-mm contrast-filled CAA arising from the proximal segment of the RCA (Figure B–D). A CAA is uncommon; it represents a localized dilatation of a coronary artery segment more than 1.5-fold the normal size of contiguous normal segments. A CAA may lead to lethal events, such as acute coronary syndrome or rupture of the CAA leading to cardiac tamponade. After discussion with the cardiothoracic surgery team, a decision was made to perform percutaneous treatment of the aneurysm. The CAA was coiled successfully with 25 mmx50 cm, 20 mmx50 cm, and 18 mmx40 cm coils (Ev 3 Axium; Covidien Ltd./Medtronic, Inc., Minneapolis, MN, USA) (Figure E, Videos 2-4*). The procedure was completed without any complications. A control tomographic angiography performed 4 weeks later revealed complete occlusion of the CAA (Figure F–H).



Figures– (A) Coronary angiography showing coronary artery aneurysm; (B) Axial section of computed tomography (CT) image revealing mural thrombosis of the aneurysm (yellow arrow); (C) Three-dimensional heart reconstruction of CT images (white arrow); (D) Multiplanar reformation CT image of a giant coronary artery aneurysm at the proximal segment of the right coronary artery (white arrow). (E) Coronary angiography showing the coiled coronary artery aneurysm; (F) Multiplanar reformation computed tomography (CT) image of the coiled aneurysm; (G) Axial section of a CT image indicating a completely thrombosed aneurysm (white arrow); (H) Three-dimensional heart.

*Supplementary video files associated with this presentation can be found in the online version of the journal.