A combination of coronary artery stenosis, coronary aneurysm, fistula, and a rudimentary Thebesian sinusoid

A 56-year-old male patient was referred to our institution with a suspected diagnosis of Brugada syndrome. The electrocardiogram showed intermittent ST-segment elevation in leads V1-3, together with chest pain episodes. Electrocardiographic pattern of ST elevation was quite different from either typical or atypical Brugada patterns. Association of ST-T wave changes with chest pain was suggestive of coronary artery disease. There was no rise in cardiac markers. Emergency coronary angiography disclosed a significant stenosis in the right coronary artery (RCA) and an aneurysmal dilatation of the posterior descending artery (PDA) (Fig. A). This aneurysmal dilatation was connected with a fistulous tract to a poorly defined cavity. ECG-gated contrast enhanced 64-slice multidetector computed tomography (CT) revealed that the cavity (1.5 x 1 cm) was located in the inferoapical portion of the interventricular septum. A distal aneurysm was draining into this cavity through a macro fistulous tract and several additional microfistulas (Fig. B). There was another connection between the cavity and the proximal PDA. No connection existed between the cavity and any of the cardiac chambers. The cavity was thought to be an enlarged and rudimentary Thebesian sinusoid without a distal connection or coronary steal physiology. Direct stenting of the critically narrowed RCA was planned, but the patient refused any further intervention. Cardiac CT may provide a more detailed evaluation of unusual coronary abnormalities, where conventional coronary angiography may not suffice.

Figures. (A) Right coronary angiography and (B) computed tomography images. Arrowhead indicates the stenosis in the mid-segment of the right coronary artery and arrows denote an enlarged Thebesian sinusoid.