

Imaging in Cardiovascular Interventions

Limitation of coronary angiography in the evaluation of a coronary aneurysm

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This case involves a 43-year-old asymptomatic male with systemic arterial hypertension, diabetes mellitus and chronic renal dialysis. Transthoracic Doppler echocardiography was performed to assess left ventricular function, and a mass adjacent to the right ventricle on the diaphragmatic surface was noted. Magnetic resonance imaging revealed a right coronary artery aneurysm located in

the distal segment, with a diameter of 3.9 x 3.5 cm in its major axes, covered by an eccentric circumferential mural thrombus (Figure 1). Coronary angiography revealed diffuse dilatation of the entire luminal segment of the right coronary artery with a maximum diameter of 8.02 mm that did not allow the angiographic diagnosis of coronary aneurysm (Figure 2).

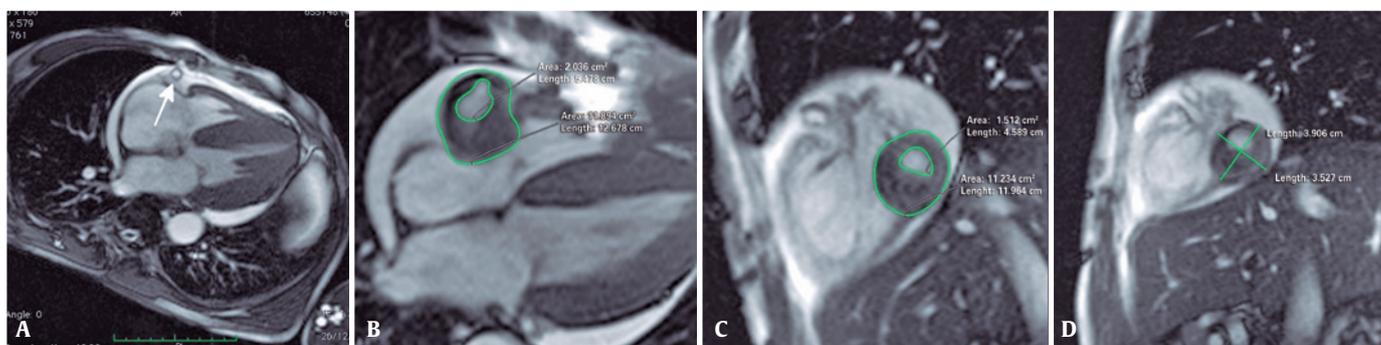


Figure 1. Magnetic resonance imaging. (A) Middle segment of the right coronary artery with dilatation but without thrombus (arrow, four chamber view). (B) Distal segment of the right coronary artery revealing the aneurysm (the light gray lumen contrasts with the dark gray mural thrombus). (C and D) Sagittal section demonstrating that the lumen represents only 13% of the vessel area, and the remainder (87%) is filled by the mural thrombus with a diameter of 3.9 x 3.5 cm on its major axes.

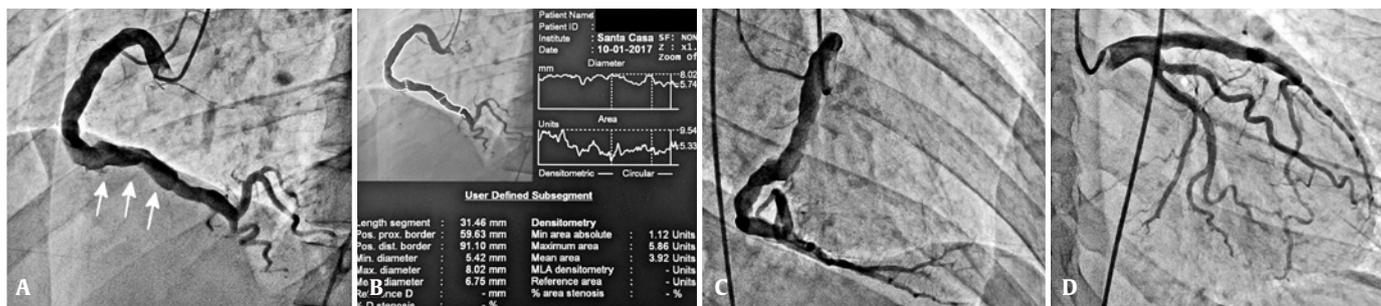


Figure 2. Coronary angiography. (A) Right coronary in left anterior oblique projection (arrows indicate the aneurysmatic portion). (B) Quantitative coronary angiography revealing a maximum diameter of 8.02 mm. (C) Right coronary artery in the right anterior oblique projection. (D) Left coronary artery in the caudal right oblique projection, revealing ectasia in the left anterior descending artery.

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The present case reinforces the limitation of coronary angiography as a method of diagnostic imaging in the evaluation of coronary artery aneurysms, especially in the presence of mural thrombosis, as it underestimates its actual dimensions.

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Conflicts of interest

The authors declare that they have no conflicts of interest.

