



## LETTER TO THE EDITOR

### Giant right coronary artery aneurysm and fistula into the coronary sinus



### Aneurisma gigante da artéria coronária direita e fístula para o seio coronário

We thank Drs. Yalta, Otzurk, and Yetin for their interest in our article.<sup>1</sup> Their letter raises relevant points regarding the natural history and management of coronary artery fistulae (CAF) which could not be addressed due to the size constraints of an 'Image in Cardiology' case.

The authors infer correctly that this presentation is likely due to a congenital coronary artery fistula (CAF) and resulting coronary artery aneurysm which is far more common than secondary CAF.<sup>2,3</sup> There was no history of trauma or prior coronary artery intervention. Moreover, physical examination, after investigations and imaging findings did not support a diagnosis of a multisystemic disease, such as vasculitis or connective tissue disorders. Notably, detailed imaging of the vascular tree with three-dimension reconstruction failed to identify any arterial wall abnormalities, stenosis, or aneurysms.

A coronary steal phenomenon may indeed lead to myocardial ischemia; other important clinical sequelae include heart failure due to volume overload, thrombosis, embolism, bacterial endocarditis, rupture of a dilated coronary artery aneurysm and cardiac tamponade.<sup>2,3</sup> None were present — the CAF was an incidental finding. The electrocardiogram did not reveal any signs of ischemia and there was no mandate for stress testing. The size of the coronary artery aneurysm and significant left-to-right shunt were the main determinants of surgical intervention.

Lastly, we agree that there is lack of consistency in the literature regarding giant coronary artery aneurysm criteria. However, the maximum diameter on computed tomography was 58 mm which is consistent with both definitions provided (>20 mm or >50 mm). Other reference measurements suggested were developed and validated in patients with Kawasaki Disease to account for the growing vasculature in a pediatric population. Nakano et al.<sup>4</sup> put forward the criteria of an internal lumen diameter >8 mm or >4 times

that of the adjacent segments, which was replaced by Z-scores to take into account body surface area.<sup>5,6</sup> Both rely on accurate measurement of normal adjacent segments which, as the readers will appreciate from the published images, was technically challenging due a combination of a proximal aneurysm and an ectatic coronary artery and thus likely to be inaccurate and non-informative.

### Conflicts of interest

The authors have no conflicts of interest to declare.

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