Letter by Sardovski et al Regarding Article, “Searching for the Culprit Vessel in Acute Myocardial Infarction Beyond Angiography: Role of Cardiac Magnetic Resonance”

To the Editor:

We read with great interest the article by Méndez et al. However, we would like to add our own considerations in decision making on the very interesting case presented in their article.

First, a right bundle-branch block, ST-segment elevation in V1 >2.5 mm, probably also ST-segment elevation in aVR, absence of ST-depression in III and aVF revealed from ECG have very high specificity and positive predictive value of left anterior descending artery occlusion distal to the first diagonal branch and proximal to the first septal branch (S1), which supplies the basal part of the interventricular septum, including the bundle branches corresponding with leads aVR and V1. However, the echocardiogram in this scenario should also have shown akinesis in anterior-apical segments with impaired left ventricular systolic function, abnormalities that are absent, so that an isolated S1 occlusion could be suspected as infarct-related artery.

Second, the coronary angiogram reveals that left anterior descending artery is not occluded and there are no septals, so it is obvious that S1 is occluded. Furthermore, in the first angiogram, a more contrasting segment along the midleft anterior descending artery is visible, probably ending with a small stump before a thin diagonal. This segment is probably the beginning of S1 that overlaps the left anterior descending artery, an interference that could be overcome by inspection of different angiographic views, providing a better differentiation of septals and diagonals like anterior posterior and left anterior oblique views with cranial angulation. In the absence of a stump, the infarct-related artery could still be identified by retrograde contrast filling via collaterals from prolonged contrast injection in the right coronary artery. If it fails and one decides that the infarct-related artery is an important vessel, an attempt could be made to probe with a wire the area suspected to be the possible origin of the invisible infarct-related artery. Finally if that also fails, a thrombolysis could be performed as another treatment option.

Third, the cardiac magnetic resonance performed thereafter was only, as the authors reported, “instrumental in confirming the confined septal infarction.”

Fourth, the coronary angiography repeated 4 days later, together with the optical coherence tomography and thrombaspension, though perhaps not beneficial to the patient because the authors wrote, “Two months after…an echocardiogram was made demonstrating… persistence of akinesis,” these imaging procedures were exceptionally useful from a research perspective.

Finally, we think that the article by Méndez et al is of importance because it illustrates cardiovascular imaging as a mainstay of contemporary practice, which plays a valuable role in patient management decisions.

Disclosures

None.

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