

Is Coronary Angiography Still Valuable for Assessing Intermediate Left Main Coronary Artery Lesions When Compared With Intracoronary Diagnostic Techniques?

To the Editor:

It was with great interest that we read the excellent article by de la Torre et al¹ demonstrating the use of

intravascular ultrasound (IVUS) in evaluating intermediate truncal lesions and suggesting that a cut-off value of 6 mm² for the minimum luminal area (MLA) is safe in the long term.

The prognostic importance of left main trunk disease (LMT) is unquestionable. For this reason, the need arose to find a useful tool, whether physiological with a pressure guide wire, or anatomical using IVUS, which would permit us to adequately evaluate the severity of the defect and predict cases of future coronary events. Our team communicated the results of using the fractional flow reserve (FFR) in evaluating moderate LMT lesions in the short term.² We studied 27 consecutive patients with 30%-50% apparent angiographic stenosis; of these cases, 20 did not undergo LMT revascularisation due to having a negative FFR. These patients presented a minimum luminal diameter (MLD) of 2.21 (0.61) mm, and a mean FFR of 0.88 (0.04). The MLD of the patients with a positive FFR was 1.8 (0.46) mm. After a follow-up period of 3.5 years, there were no cardiovascular events apart from that described in our article²; only 3 patients died, from non-cardiovascular causes. This data confirms the long-term safety of postponing revascularisation with the additional information provided by the pressure guidewire.

Our study, like that of de la Torre et al,¹ describes a subgroup of patients from daily clinical practice for which intracoronary diagnostic techniques are necessary to provide a more reliable diagnosis, given the obvious prognostic implication for LMT lesions. A small number of complications have been described for new treatments, such as the pharmacoactive stent or minimally invasive surgery, but it will always be higher if the treatments are unnecessary.

Both studies present similar clinical and angiographic characteristics, particularly a lesion MLD <2 mm in patients with a positive FFR and an MLA of ≤6 mm². This could indicate that in patients with a MLD <2 mm, regardless of the stenosis percentage, one may opt for intervention rather than obtaining additional information using intracoronary diagnostic techniques. Similar results are described in studies by Beche et al³ and Jasti et al⁴ on evaluating intermediate lesions using intracoronary diagnostic techniques; all of these studies show that patients with coronary stenosis of the LMT and a MLD <2 mm are the ones with severe anatomical or functional stenosis. Even Abizaid et al⁵ state that patients with cardiovascular events and moderate LMT lesions are those with a MLD of 2 mm.

In conclusion, for moderately severe LCO defects, we are able to gather more information by physiological examination with a pressure guide wire or by anatomical examination with IVUS, both of which are complementary, safe techniques for postponing intervention. An MLD <2 mm would indicate a severe

case in which it would be unnecessary to use either of the above techniques.

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Response

To the Editor:

We thank Muñoz García et al for their interest in our article.¹ I found their contribution to be timely and interesting, as it reports the experiences of a centre using the pressure guidewire to evaluate intermediate trunk lesions. This group possesses recognised experience in using this diagnostic technique.

I would like to highlight a few aspects related to this study and our own, beginning with the applicability of these strategies. An angiographic reading of an intermediate degree of stenosis is not sufficient; rather, there should be no doubt as to the "guilt" of the lesion (resolved by the ECG and ischemia testing).

Secondly, it is essential that the study be well-elaborated, whether using intracoronary ultrasound (ICUS), which guarantees proper visualisation of the entire trajectory up to the aortoostial union, or with a pressure guidewire, preferably using intravenous

adenosine in the ostial lesions, and in sufficiently high doses if by the intracoronary method. Some studies have shown that intracoronary adenosine infusion does not attain the maximum hyperaemic state^{2,3} and that, as the team in Murcia has shown,⁴ only doses much higher than those initially recommended (>60 µg) achieve that effect.

Finally, with respect to the technique to be used, one should use that with which he or she is most familiar and experienced. According to publications, the cut-off value for the ICUS would be 6 mm² of the luminal area. Nevertheless, there are particular situations in which one technique or another might be preferable, such as cases of morphologically complex defects or those in which "artefacts" are suspected (bifurcations, ostium, calcifications) where ICUS might be more useful, or when percutaneous revascularisation is considered in the case of a significant defect, given that ICUS is of considerable help in guiding the process and assessing its results.

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