

Ambiguity of Medina 0.0.1 Bifurcation Disease Without Intravascular Imaging

To the Editor,

We have recently read with great interest the article by Akin et al¹ entitled "Safety Profile of Drug-Coated Balloon Angioplasty for Isolated Side Branch Lesions: A Single-Center Experience."¹ This study highlights that drug-coated balloon (DCB) angioplasty offers a significant clinical benefit in optimizing Medina 0.0.1 bifurcation disease. However, we believe there are several key points that need to be addressed.

Coronary lesions affecting only the side branch (SB) ostium, classified as Medina 0.0.1, are exceedingly rare, comprising roughly 3-5% of total bifurcation lesions. From the perspective of most interventional cardiologists, they have been considered "non-true" bifurcations, assuming they possess diminished clinical relevance due to their infrequency, lack of main vessel (MV) involvement, and the restricted myocardial region supplied by the afflicted SB.^{2,3} Consequently, they are generally considered less clinically relevant and routinely omitted from key trials and guidelines. Recent registry-based analysis indicates that this assumption may be erroneous. Isolated SB lesions have been linked to unfavorable clinical outcomes that are equivalent to or exceed those of genuine bifurcation lesions following percutaneous coronary intervention (PCI), despite their seemingly straightforward angiographic presentation.³ In isolated Medina 0.0.1 bifurcation lesions, angiography-based diagnostic and treatment strategies raise some concerns, especially in the current era of intravascular imaging: 1) an angiographically "simple" appearance leads to underestimation of disease severity; 2) foreshortening, an eccentric plaque, and an elliptical ostium can lead to an inaccurate severity assessment; 3) subclinical plaque extensions into the proximal MV are often missed without intravascular imaging. In the present study, although the authors acknowledge the lack of intravascular imaging in the limitations section, we believe that concluding the current analysis of isolated ostial SB disease without performing intravascular evaluation in any patient may mislead clinicians. Additionally, in the present study, 27.1% of patients had isolated ostial left circumflex artery (LCX) lesions.¹ Ostial LCX disease (left main 0, 0, 1 lesion) has traditionally been viewed as undesirable for PCI due to its technical complexity and the potential for severe complications. A recent study indicated that 66% of patients presented with continuous plaques extending from the left main to the LCX, and 62% had plaques involving both the left main and the LCX.⁴ In the present study,¹ we suggest that in some patients, DCB angioplasty might have been conducted without addressing the diseased section of the MV. Moreover, ostial SB disease is marked by significant calcification, elastic fibrils, and fibrous components. As a result, these lesions require the use of adjuvant lesion preparation tools, such as cutting/scoring balloons and rotoablation. This study does not provide details about the lesion preparation methods used.

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LETTER TO THE EDITOR

Ezgi Gültekin Güner

Ahmet Güner

Department of Cardiology, Mehmet Akif Ersoy Thoracic and Cardiovascular Surgery Training and Research Hospital, Istanbul, Türkiye

Corresponding author:

Ahmet Güner
✉ ahmetguner488@gmail.com

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