VOL. 3, NO. 4, 2023
ISSN 2772-3747

Letters

TO THE EDITOR

Ischemia With Nonobstructive Coronary Artery Disease

We read with interest the State-of-the-Art Review by Hwang et al[1] on the treatment of patients with myocardial ischemia in the absence of obstructive coronary artery disease (INOCA). Although the authors have recognized extrinsic vascular compression as a potential cause of structural microvascular disease, we believe it is important to point out that also extrinsic compression caused by a myocardial bridge (MB) over an epicardial coronary artery is a known cause of myocardial ischemia, inasmuch as it impairs coronary blood flow during systole and reduces the early hyperemic diastolic flow.[2] As such, MB has been recently recognized as a cause of INOCA.[3]The presence of an MB has been associated with various clinical presentations, including acute coronary syndromes and ventricular arrhythmias.[2] Therefore, proper identification of the presence and hemodynamic significance of MBs is mandatory to guide the therapeutic approach and improve prognosis. Morphologic assessment of MBs can be performed with coronary angiography, adjunctive intravascular imaging, and cardiac computed tomography. The hemodynamic evaluation should include chronotropic and inotropic stimulation because stenoses in the context of MBs are dependent on the degree of extravascular compression and intramyocardial tension. Distal pressure overshooting and systolic pressure gradient inversion may lead to an underestimation of the functional impact of the MB when it is assessed with conventional fractional flow reserve.[4] Thus, the use of diastolic-only indexes (eg, diastolic fractional flow reserve, instantaneous wave-free ratio) during dobutamine challenge or after intracoronary adenosine administration has been shown to be a better alternative approach to test MB functional significance.[2,4] Beta-blockers or non-dihydropyridine calcium channel blockers are first-line therapy in symptomatic patients, whereas surgical or percutaneous treatment should be considered only for severely symptomatic patients who are refractory to optimal medical therapy.[2]

Alberto Barioli, MD
***Giuseppe Tarantini, MD, PhD**

*Department of Cardiac, Thoracic, and Vascular Science
Padova University Hospital
Via Giustiniani 2
35128 Padova, Italy
E-mail: giuseppe.tarantini.1@gmail.com

https://doi.org/10.1016/j.jacasi.2023.05.008

The authors have reported that they have no relationships relevant to the contents of this paper to disclose.
The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the Author Center.

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