

LETTER TO THE EDITOR: RESPONSE

A good assist is followed by a goal

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Ischemia with no obstructive coronary artery disease (INOCA) has been identified as an important clinical condition apart from obstructive coronary artery disease [1]. Despite a growing interest, INOCA remains difficult to diagnose and manage, leading to a poor quality of life and an unfavorable and heterogeneous outcome. The symptoms occur with all degrees of ischemia on stress testing, and they seem to be independent of the extent and severity of nonobstructive atherosclerotic lesions but due to microvascular dysfunction or vasospasm reactions. Therefore, an accurate identification of different disease endotypes is crucial in order to provide optimal therapy and a truly tailored treatment. These concepts have been confirmed and emphasized in our study [2], testing the role of cardiac positron emission tomography/computer tomography (PET/CT) imaging in INOCA patients. From our results, the prognosis was found to be heterogeneous and independent of the severity of coronary calcifications but closely related to the presence of perfusion abnormalities. Recently, Akşit et al. [3] highlighted from our report [2] the concept that INOCA patients with myocardial perfusion abnormalities have a risk of future cardiovascular events similar to those with

significant coronary stenosis, imposing several considerations. INOCA patients need a comprehensive evaluation of their entire vascular status, considering that the identification of microvascular impairment is able to improve risk stratification even in the absence of structural abnormalities. Accordingly, the possibility of choosing an optimal treatment strongly related to the heterogeneous pathological mechanism of the disease should be desirable. In this contest it is important to consider the combination of different parameters related to both atherosclerotic burden and coronary vascular function in one examination by PET [4] and potentially by cadmium zinc telluride-single-photon emission computer tomography (CZT-SPECT) with significant savings in terms of costs and radiation doses [5].

Currently, less than half of INOCA patients are appropriately treated [1]. However, the identification of microvascular impairment has the potential to modify patient's management, leading to an exceptional opportunity to improve outcomes. It's obvious that many questions have to be still elucidated. The match is open, the "assist" is done, and further studies are needed to score the "goal."

ABBREVIATIONS

INOCA	Ischemia with no obstructive coronary artery disease
PET/CT	positron emission tomography/computed tomography
CZT-SPECT	cadmium-zinc telluride-single-photon emission computed tomography

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REFERENCES

- [1] Hansen B, Holtzman JN, Juszczynski C, Khan N, Kaur G, Varma B, et al. Ischemia with No Obstructive Arteries (INOCA): A Review of the Prevalence, Diagnosis and Management. *Curr Probl Cardiol* 2023;48:101420.
- [2] Zampella E, Mannarino T, D'Antonio A, Assante R, Gaudieri V, Buongiorno P, et al. Prediction of outcome by ⁸²Rb PET/CT in patients with ischemia and non-obstructive coronary arteries. *J Nucl Cardiol* 2023;30:1110–7.
- [3] Akşit E, Krlmaz B, Özdemir S. The importance of myocardial perfusion imaging in patients with ischemia and nonobstructive coronary arteries. *J Nucl Cardiol* 2023;22:101791.
- [4] Assante R, Acampa W, Zampella E, Arumugam P, Nappi C, Gaudieri V, et al. Coronary atherosclerotic burden vs. coronary vascular function in diabetic and nondiabetic patients with normal myocardial perfusion: a propensity score analysis. *Eur J Nucl Med Mol Imaging* 2017;44:1129–35.
- [5] Acampa W, Assante R, Mannarino T, Zampella E, D'Antonio A, Buongiorno P, et al. Low-dose dynamic myocardial perfusion imaging by CZT-SPECT in the identification of obstructive coronary artery disease. *Eur J Nucl Med Mol Imaging* 2020;47:1705–12.