

## Letters to the Editor

### Reply to Madias—The Case of Takotsubo and Myocardial Infarction Without Obstructive Coronary Disease



#### To the Editor:

We thank Dr Madias<sup>1</sup> for the interest and comments on our recent analysis of the clinical and angiographic characteristics, as well as 12-month outcomes, of patients with premature myocardial infarction (MI) enrolled in the **Gender and Sex Determinants of Cardiovascular Disease: From Bench to Beyond Premature Acute Coronary Syndrome (GENESIS-PRAXY)** study.<sup>2</sup>

The author raised many interesting questions concerning the association between clinical manifestation of MI and the underlying reason for myocardial ischemia, specifically Takotsubo syndrome (TTS)<sup>3</sup> in patients with no obstructive coronary artery disease (MINOCA). We agree that cardiac arrest might be related to underlying etiological factors of ischemia in the absence of obstructive disease. Among 82 patients with MINOCA, including 6 patients with TTS, 8 patients experienced a cardiac arrest: 2 patients exhibited myocardial bridging and 1 spontaneous coronary artery dissection. However, none with TTS experienced a cardiac arrest.

Indeed, TTS is increasingly recognized in the differential diagnosis of acute coronary syndrome without obstructive coronary artery disease, predominantly in postmenopausal women.<sup>3</sup> Interestingly, we found that approximately half of women (47%) in the MINOCA group reported having had menopause and all except 1 in the TTS subgroup were postmenopausal.

We confirm that in our cohort of premature MINOCA, a lower prevalence of diabetes (7.3%) was observed with no sex difference (men 6.2% vs women 8.8%;  $P = 0.66$ ) and that only 1 woman with TTS had diabetes. The reported prevalence of diabetes in the general Canadian population (younger than 55 years) at the time of the GENESIS-PRAXY study was 10.9% in men vs 7.9% in women<sup>4</sup> suggesting a different pathophysiology of ischemia in TTS.

Finally, recent findings showed that TTS is not a benign condition in terms of clinical outcomes.<sup>3</sup> We showed that among 6 patients with MINOCA and TTS, 2 experienced a readmission for a cardiac cause during the 12-month follow-up. In this context, we agree with Dr Madias that prompt

investigation of the underlying cause of ischemia in MINOCA patients is crucial to correctly stratify the risk of adverse clinical outcomes and to improve the management of this vulnerable yet neglected category of MI patients.

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#### Disclosures

The authors have no conflicts of interest to disclose.

#### References

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