

COMMENTARY

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Coexistent spontaneous coronary artery dissection and takotsubo syndrome: does one cause the other?

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To the Editor,

I read with interest the paper by Saleemi et al., reporting on two women, 80- and 65-year old, who suffered both spontaneous coronary artery dissection (SCAD) and takotsubo syndrome (TTS) [1]. Although their gender and the emotional stress precipitants are in keeping with what is typical for both SCAD and TTS, their ages were atypical for SCAD, which usually is encountered in younger women [2], than the ones described herein [1]. In both patients SCAD affected the left anterior descending coronary artery, the vessel most often involved with SCAD [2]. In their second patient [1], the authors discuss the possibility that TTS could have been precipitated by the SCAD-induced chest pain; there is no much doubt that we will be witnessing more cases of simultaneous occurrence of SCAD and TTS in the future, and the authors' point that it is important, when patients are diagnosed with TTS, that coronary angiograms are carefully scrutinized to exclude underlying SCAD [1] cannot be overemphasised. In addition, consideration should be given to the previously advanced hypothesis that TTS could potentially precipitate SCAD by an "excessive vigorous contraction of the left ventricle (LV) base in conjunction with the adjacent akinetic/dyskinetic systolic "ballooning" of the LV midmyocardium and

apex", which in predisposed individuals, "could form a prerequisite anatomic/functional substrate for the causation of SCAD [3]. Also, in exploring whether patients with diagnosed or suspected SCAD have also suffered a TTS, we should try, to implement early and frequently point of care ultrasound [4], following coronary angiography, to evaluate whether more patients with SCAD have also suffered TTS. Thus, pathophysiologically one should consider an amphidromic association between TTS and SCAD [1, 3, 5] at play.

Abbreviations

LV	Left ventricle
SCAD	Spontaneous coronary artery dissection
TTS	Takotsubo syndrome

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Competing interests

The author declares that he has no competing interests.

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References

1. Saleemi SA, Teng LE, Dick RJL (2023) Combined spontaneous coronary artery dissection (SCAD) and Takotsubo syndrome (TTS): a case series. *Egypt Heart J* 75(1):35. <https://doi.org/10.1186/s43044-023-00361-6>
2. Saw J, Humphries K, Aymong E, Sedlak T, Prakash R, Starovoytov A, Mancini GBJ (2017) Spontaneous coronary artery dissection: clinical outcomes and risk of recurrence. *J Am Coll Cardiol* 70(9):1148–1158. <https://doi.org/10.1016/j.jacc.2017.06.053>
3. Madias JE (2015) On a plausible association of spontaneous coronary artery dissection and takotsubo syndrome. *Can J Cardiol* 31(11):1410.e1. <https://doi.org/10.1016/j.cjca.2015.07.720>
4. Madias JE (2021) COVID-19, POCUS, and Takotsubo. *Am J Cardiol* 141:157. <https://doi.org/10.1016/j.amjcard.2020.12.004>
5. Madias JE (2017) A possible amphidromic relation between spontaneous coronary artery dissection and takotsubo syndrome. *Am J Cardiol* 120(3):e69. <https://doi.org/10.1016/j.amjcard.2016.10.008>

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