

## Rare etiological causes of Takotsubo cardiomyopathy

### *Regarding "Takotsubo cardiomyopathy after treatment of pulmonary arterial hypertension"*

Editor:

I read with great interest the recent article by Cork et al.<sup>[1]</sup> Takotsubo cardiomyopathy (TTC) may occur secondary to a number of rare causes.

For instance, emotional stress may initiate TTC.<sup>[2]</sup> This is especially more likely in females. The patients may present with chest pain and dyspnea that on further evaluation turns out to be TTC. Severe burns may also result in TTC.<sup>[3]</sup> Physiological stress secondary to the burn results in left ventricular dysfunction characteristic of TTC. Rarely, migratory TTC may occur secondary to intra-abdominal infections like acute cholecystitis.<sup>[4]</sup> Inverted TTC has also

been reported secondary to adrenal masses as well as secondary to pharmaceutical agents like chloroquine.<sup>[5,6]</sup>

Rarely, TTC may occur as a complication of intra-cerebral hemorrhage.<sup>[7,8]</sup> In this case, electrocardiogram (ECG) changes as well as brain natriuretic peptide determination help in diagnosing the TTC. Similarly, TTC may result secondary to an intra-cerebral infarction. Rarely, status migrainosus may result in cardiac changes including TTC.<sup>[9]</sup> Most patients make a complete recovery after resolution of the stressor.

TTC has also been reported following organ transplantation. For instance, Tachotti et al. have recently reported two cases of TTC that occurred following hepatic transplantation.<sup>[10]</sup> Typical apical ballooning was seen on echocardiographic examination in both the cases. Surgery like thyroidectomies may also result in TTC as a post-surgical complication.<sup>[11]</sup> Similarly, rarely, induction of general anesthesia may result in TTC.<sup>[12]</sup> Diagnostic tests like dobutamine stress echo can also result in TTC.<sup>[13]</sup>

The above examples clearly illustrate that TTC may occur secondary to myriad causes ranging from burns to anesthesia induction. There is a clear need to increase awareness about this syndrome among physicians, especially cardiologists.

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