

## COMMENTARY

# Regional wall motion abnormalities in patients with pheochromocytoma

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The correlation between pheochromocytoma and cardiovascular ventricular wall motion abnormalities, similar to those seen in Takotsubo cardiomyopathy, has recently been well established.<sup>1–4</sup> Although the exact mechanism by which pheochromocytoma causes these motion abnormalities has not yet been established, it has been mainly attributed to the effect of catecholamines on the  $\beta$ -receptors of the myocytes.

The most common regional wall motion abnormality seen in Takotsubo cardiomyopathy is apical akinesis with a hypercontractile base (that is, apical ballooning). However, three additional types of Takotsubo cardiomyopathy were recently reported.<sup>5</sup> The inverted (or reversed) type, which has an akinetic or hypokinetic base and mid-ventricular segment but normal or hypercontractile apex;<sup>6</sup> the mid-ventricular type, which has a normal apex and base but a dyskinetic mid-ventricular segment; and the localized type, which shows contractile

dysfunction in the distribution of an epicardial coronary artery.

In the case described in the manuscript entitled 'Asymmetric blood pressure caused by extremely rapid cyclic fluctuations and reversible cardiomyopathy in pheochromocytoma',<sup>7</sup> the authors describe regional wall motion abnormalities in the distribution of a single coronary artery. After ruling out coronary artery disease as the etiology of these abnormalities, it is safe to say that these findings are consistent with the localized type of Takotsubo cardiomyopathy. The resolution of these changes after treating the primary problem (pheochromocytoma) further confirms the diagnosis in this case.

Although  $\beta$ -blocking agents are the most commonly used medications in the management of Takotsubo cardiomyopathy, caution should be considered in this case as  $\beta$ -blockers might have detrimental effects on patients with pheochromocytoma if not preceded by adequate blockade of alpha receptors.

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