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Letters to the editor

"Takotsubo"-shaped cardiomyopathy manifesting as perioperative T-wave inversion

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To the editor: We read with great interest the study published by Ide et al. [1] in issue number 2 of the *Journal of Anesthesia* in 2003. The study presented detailed findings with regard to spontaneous T-wave inversion after noncardiac surgery. These postoperative T-wave abnormalities have been described as "a common recovery-room phenomenon" [2]. Our particular interest is in whether or not these T-wave changes are attributable to myocardial ischemia. It seems that not even cardiologists can properly identify the causes of the altered T-wave morphology. Recently, a new entity: acute, reversible, and myocardial infarction-like cardiomyopathy that exhibits a giant negative T-wave has been reported [3,4]. We think that some, but not all, of the cases that Ide et al. [1] reported are compatible with this newly presented "takotsubo"-shaped cardiomyopathy—named after its unique left ventriculogram, which shows left ventricular apical ballooning reminiscent of a short-necked, round fiask, or a takotsubo (a Japanese octopus trap).

The clinical features of this cardiomyopathy are as follows: (1) reversible balloon-like left ventricular wall motion abnormality at the apex, with hypercontraction of the basal segment; (2) ST-T segment abnormalities on the electrocardiogram, similar to those in acute myocardial infarction; (3) minimal evidence of coronary circulation abnormality; (4) most often induced by physical or emotional stress; and (5) common among elderly women. Specifically, a giant negative T-wave is the most common feature, and it is long lasting. Although most cases of takotsubo-shaped cardiomyopathy have been reported by Japanese institutions, similar cases of reversible apical motion abnormality with a giant negative T-wave have been reported in the Western literature [5]. The etiology has not been clearly defined; however, catecholamines, released during physical and emotional stress, are presumed to play an important role in the pathophysiology. Perioperative periods are highly stressful to patients, and substantial numbers of cases have developed in association with certain surgical and medical procedures [4]. We also recently experienced three cases of takotsubo-shaped cardiomyopathy that developed during the perioperative period (unpublished data). In these patients, cardiac symptoms were minimal, except for T-wave inversion, and we may have failed in the diagnosis if we had not known of the disease entity. Although specific treatments for takotsubo-shaped cardiomyopathy have not been elucidated yet, accurate diagnosis of the disease is indispensable for the proper management of patients.

It is expected that this disease will be increasingly noticed by anesthesiologists, whose specialty is directed to the perioperative period. Takotsubo-shaped cardiomyopathy was uniquely named by Japanese physicians, and we hope that this disease will be recognized as an established disease entity in the same manner as was "moya-moya disease", which was also defined by a Japanese physician.

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