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# Correspondence

Long-term outcomes in patients with Takotsubo syndrome

## To the editor:

Long-term clinical outcome in patients with Takotsubo syndrome remains uncertain. Gaede and colleagues demonstrated that a 4-year mortality in patients with Takotsubo syndrome was approximately 40%, nearly half of the surviving patients showed persistent symptoms, and its recurrence rate was approximately 10% [1].

The authors found that anemia, which was defined by hemoglobin values <12 g/dL for women and <14 g/dL for men according to the WHO criteria, was independently associated with the longterm mortality [1]. Anemia would have a considerable association with Takotsubo syndrome not only as a marker of severe background as the authors speculated but also as a cause of worse clinical outcomes as often discussed in the literature of heart failure [2]. Further studies are warranted to investigate the clinical impact of anemia in patients with Takotsubo syndrome. Also, clinically significant cutoff of hemoglobin might be different from those of WHO criteria.

The Italian group recently demonstrated that male sex and ventricular arrhythmias were associated with in-hospital mortality in patients hospitalized for Takotsubo syndrome [3]. Data of arrhythmias would further strengthen the implication of their study.

In their study, myocardial injury in the acute phase was worse in the patients with typical contraction pattern than those with atypical contraction pattern [1]. In addition to the outcome comparison that the authors did, a comparison of echocardiographic cardiac function would be of great interest. The long-term cardiac function might also be worse in patients with typical contraction pattern.

Approximately 10% of the patients experienced the recurrence of Takotsubo syndrome [1]. Such a cohort would be a specific group to whom we should pay special attention during the follow-up period. Several risk factors such as a female gender are identified as risk factors of the recurrence [4], but further investigations are warranted. Also, prophylactic strategies for the recurrence remain the next concern.

#### Disclosure

None.

#### **Declaration of Competing Interest**

The authors report no relationships that could be construed as a conflict of interest.

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