

## INTRODUCTION

- While Takotsubo Cardiomyopathy (TC) is a rare form of cardiomyopathy, Recurrent Takotsubo Cardiomyopathy is more so, occurring in only 4% among patients with one episode of TC (1).
- Current therapeutic management is based on expert opinion alone and includes standard heart failure treatment using Beta Blockers (BB) and Angiotensin Converting-Enzyme inhibitors (ACEI).
- Despite experts acknowledging that emotional stress is a trigger for TC, there is not an accepted or proposed treatment that aims to control emotional stress in the treatment and prevention of recurrent TC.
- Here, we present a case of recurrent stress cardiomyopathy and how the concomitant use of a selective serotonin reuptake inhibitor (SSRI) and Cognitive Behavioral Therapy (CBT), added to standard medical therapy, successfully prevented another recurrence of TC.

## CASE

- A 64yo female initially presented to the hospital with chest pressure, and emergent heart catheterization demonstrated non-obstructive coronary artery disease and apical hypokinesis with preserved function of the basal wall, consistent with stress cardiomyopathy. She reported multiple emotional stressors at home.
- The patient was started on BB and ACE, and five months later repeat imaging showed resolution of her TC.
- Later, approximately one month after documented resolution, the patient was admitted to the hospital for chest pressure in the setting of emotional stress. Imaging again demonstrated stress cardiomyopathy.
- This time, in addition to continued BB and ACE therapy, she was started on an SSRI and was referred to a clinical psychologist for CBT.
- Nearly 6 months later, her TC has resolved and she reports significant improvement in her chest pain and mood.

## IMAGING

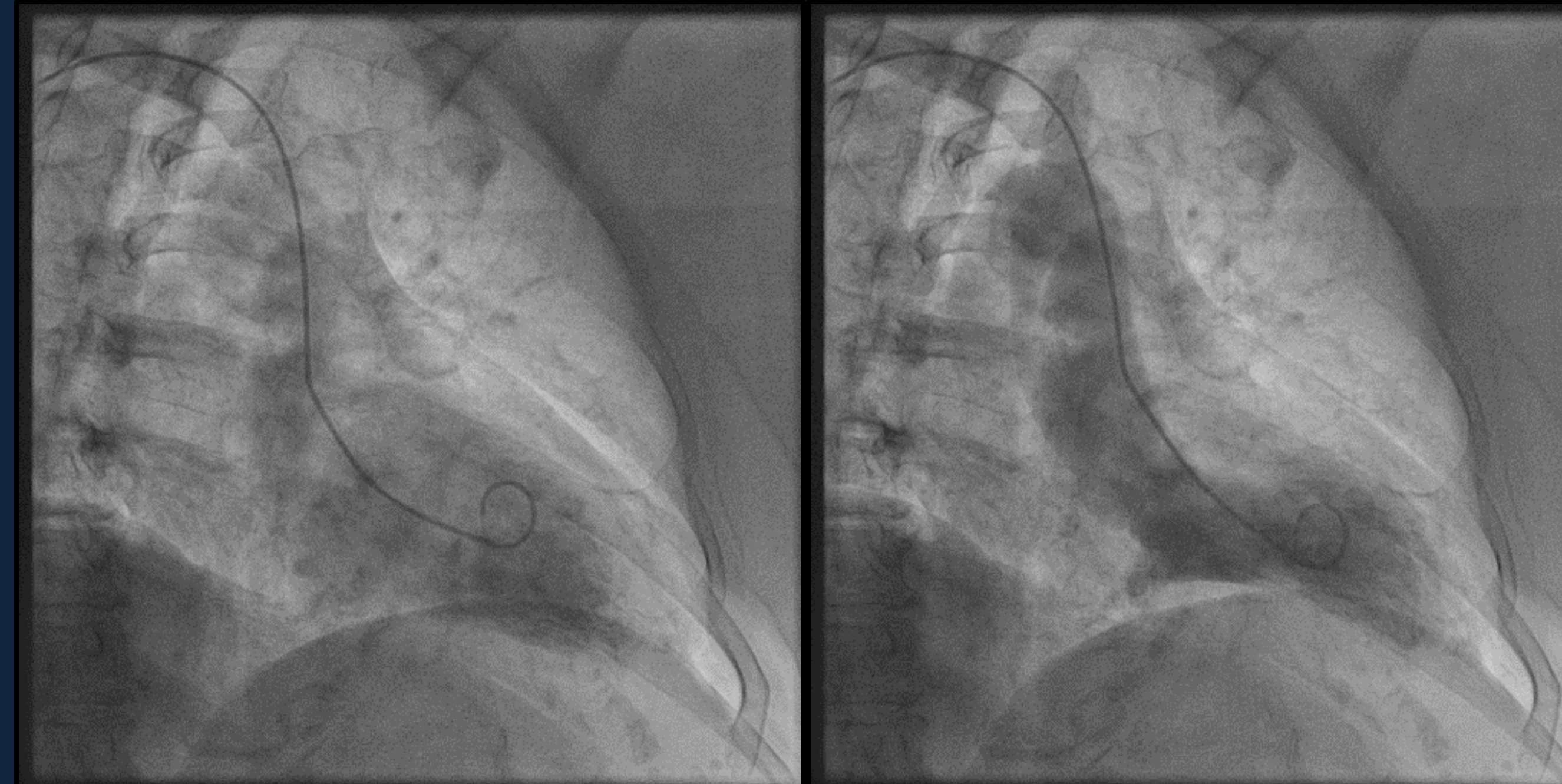


Figure 1. Left ventriculogram in diastole (left) and systole (right) demonstrating the classic appearance of stress cardiomyopathy with basilar hyperkinesis and “ballooning” of the apical wall segments.

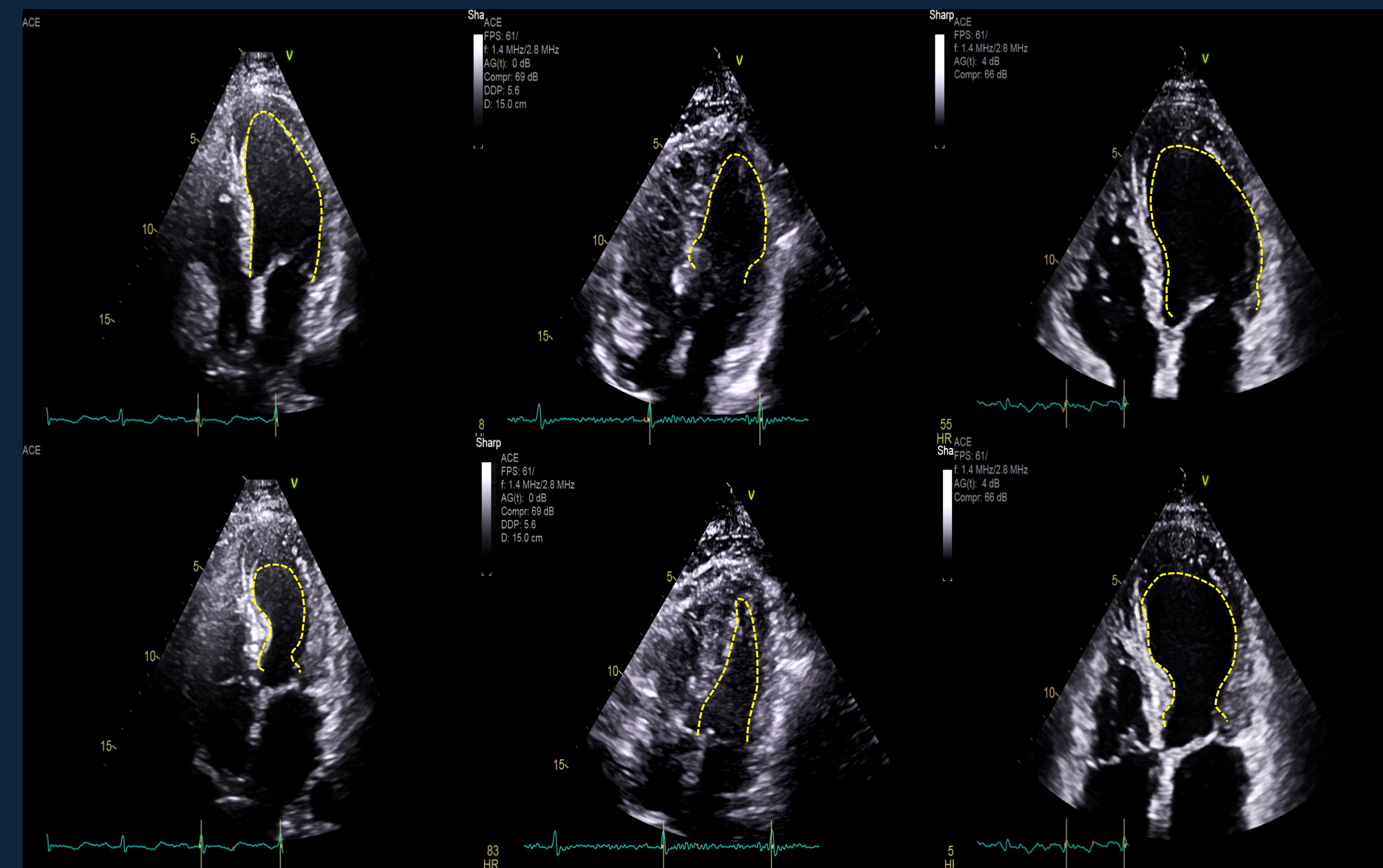


Figure 2. Transthoracic echocardiogram performed at initial presentation (A), at five month follow-up (B), and on readmission for recurrence of symptoms (C). Apical four-chamber in diastole (top row) and in systole (bottom row) demonstrating apical hypokinesis and basilar hyperkinesis on initial presentation (A) and again on readmission (C) with transient recovery and normalization of LV function between the hospitalizations (B). Endomyocardial border is outlined (yellow line) to help visualize wall motion abnormality and LV function.

## DISCUSS

- Anxiety and depression are more common in patients with TC than in both healthy patients and those with STEMI (2) but there is little in the literature regarding the use of SSRI and CBT in TC treatment.
- In fact, SSRIs are controversial, as they may increase catecholamine concentration, which may contribute to the development of TC.
- However, despite this theory of pathogenesis, the use of Beta-Blockers, which should theoretically blunt catecholamine action on the beta receptors, have not been shown to have any benefit in clinical trials and meta-analyses for treatment of TC or prevention of recurrent TC (3).
- The positive response of our patient to the addition of CBT therapy, however, suggests that CBT should be conducted on the use of beta-blockers for prevention and treatment of recurrent TC.

## FUTURE RESEARCH

- The link between the brain and heart in TC needs additional research in order to improve the care of patients with TC and prevent future episodes.
- It would be beneficial to perform clinical trials that investigate groups of patients who receive treatment with GDMT with SSRIs, SNRIs, or not an SSRI is being used.

## REFERENCES

1. El-Battrawy, Ibrahim, et al. "Incidence and Clinical Impact of Recurrent Takotsubo Cardiomyopathy: A Single-Center Registry." *Journal of the American Heart Association* 8.9 (2019): 1-10.
2. Ghadri, Jelena-Rima, et al. "International expert consensus document on Takotsubo cardiomyopathy: characteristics, diagnostic criteria, and pathophysiology." *European Heart Journal* 39.12 (2018): 2920-2940.
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4. Zvonarev, Valeriy. "Takotsubo Cardiomyopathy: Medical and Psychological Treatment of Adults with “Broken Heart” Syndrome." *Cureus* 11.12 (2019): 1-10.