



Reflections from a Psychologist Who Experienced Two Episodes of Takotsubo Cardiomyopathy (Broken Heart Syndrome)

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Abstract

Takotsubo Cardiomyopathy (TCM) often referred to as Broken Heart Syndrome is a condition resulting from a traumatic event resembling a cardiomyopathy heart attack. The incidence rates, including in-hospital mortality for TCM, are on the rise. The article describes a psychologist's first-hand experience having a TCM attack. Symptomology of the condition and causes triggering TCM are discussed. Recommendations for educating future healthcare and mental healthcare students on recognizing and diagnosing TCM in patients and clients are discussed. Time is of the essence for learning both the physical and psychological symptoms to teach clients/patients how to respond if TCM is suspected. Too many people ignore the warning signs of a TCM attack which can, in some cases, be fatal.

History of Takotsubo

What does the word Takotsubo mean?

Originally described in Japan in 1990, the condition is named after the takotsubo pot, a traditional basket used in Japan to catch

octopi. In TCM, apical dyskinesia and subsequent ballooning create a left ventral appearance remarkably similar to the octopus's basket (or pot) (Figure 1).

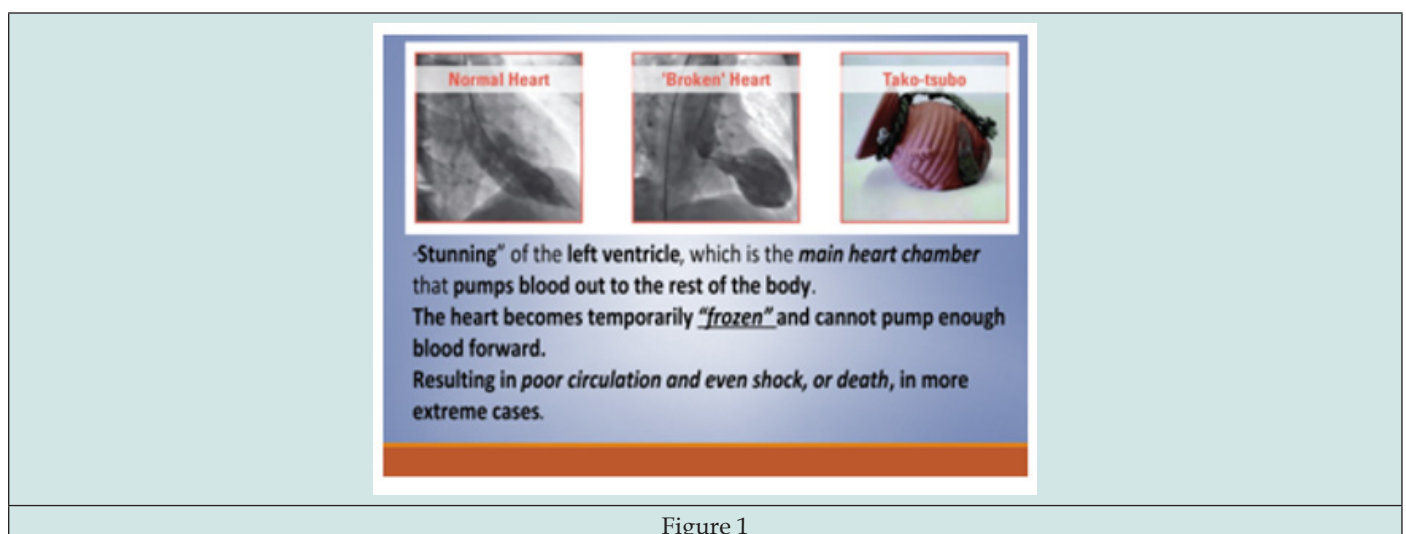


Figure 1

What is Takotsubo Cardiomyopathy-Symptomology?

Takotsubo Cardiomyopathy (TCM), also known as “broken heart syndrome” or stress-induced cardiomyopathy, is characterized by the “presence of characteristic ventricular regional wall motion abnormalities (RWMA), most commonly apical ballooning, in the absence of attributable coronary artery disease (CAD)” [1]. Diagnostic criteria for TCM include transient left ventricular dysfunction, the absence of obstructive coronary artery disease, and

the presence of an identifiable trigger [2]. What this means in layman’s terms is when a traumatic event occurs (physically or psychologically) stress hormones, such as adrenaline and noradrenaline, that are meant to help cope with the stress are released. The influx of stress hormones can result in a temporary weakening of the heart muscles [3]. Excess adrenaline can cause narrowing of the small arteries that supply the heart with blood, causing a temporary decrease in blood flow to the heart. When this occurs, the person may experience similar symptoms of someone suffering from an acute coronary myocardial infarction. Myocardial infarction (MI) is an acute clinical manifestation of ischaemic heart disease, which is the leading cause of death worldwide. Symptoms can include chest, arm, or jaw pain were more common in both sexes, but females presented on average with more atypical symptoms such as nausea, vomiting, and shortness of breath. Females with MI also presented with more prodromal symptoms such as fatigue in the days leading up to MI. These symptoms are also seen in people who have had a TCM attack. For example, a person who is in a hostile work environment harassed or bullied at work, or physically attacked (e.g. raped, mugged, injured in the line of duty) will show the same symptoms. Someone experiencing extreme fear, anger, anxiety, or being surprised by something unexpected (good or bad) can result in triggering TCM. The main difference cardiologists find between TCM and MI patients is that those suffering from TCM show little to no plaque in the coronary artery walls: whereas those suffering from an MI will often show plaque inside the coronary walls.

Takotsubo Cardiomyopathy can be fatal. A study in 2020 found that “in-hospital mortality increased from 8.1% in 2016 to 11.1% in 2020 for male patients with TCM, whereas for female patients with TCM, in-hospital mortality increased from 4.3% in 2016 to 6.0% in 2020” [4]. The current lack of knowledge by both medical and mental health providers (including psychiatrists, psychologists, and psychiatric nurse practitioners) on TCM is alarming. I can speak from experience as I have had two TCM attacks. My first attack was in 2013 due to a hostile work environment resulting in extreme stress and anxiety accumulating to one event that led to a TCM attack. I collapsed in the hallway after teaching an Experimental Psychology class. Everyone said I was having a heart attack. My symptoms started a few hours before teaching my class, but as many people do, I ignored the signs. At first, my heart was racing extremely fast, and I thought I was having a panic attack. Next, I had a strange sensation as if someone with warm hands was choking me, followed by pain in my jaw. I calmed down some and went to class

but noticed I was short of breath while I was teaching as well as feeling light-headed. I dismissed class early, and when walking out the door of my classroom I recall feeling nauseated. I noticed I was getting very dizzy and next I collapsed on the floor. An ambulance was called, and everyone said I had a heart attack! It would not be until the following morning after a heart catheterization, I was told my left ventricle had atypical ballooning. The cardiologist said my heart had been stunned due to a surge of stress hormones (e.g. adrenaline and norepinephrine). My heart rate dropped to dangerously low levels as well as my blood pressure. The results showed no plaque buildup in my artery walls. The cardiologist, not long out of medical school, remembered learning about Takotsubo Cardiomyopathy, however, he and no other cardiologist in the city where I lived had ever seen an actual case. At that time, I was an anomaly. Most people recover after a few months at most; however, my journey would be much longer. The attack occurred on Feb 21, 2013, and I did not return to work until Jan 2015 due to extreme PTSD, anxiety, depression, and fear of dying. Due to the beta blocker, I was prescribed to protect my heart from another attack, my heart rate slowly decreased until it reached 19 bpm (I was wearing a heart monitor at the time). I was told I would not be able to return to work for the rest of the semester and that I would be scheduled for an emergency pacemaker. Almost 10 years later I suffered a second TCM attack after learning through a Google search of my brother’s name that he had passed away from COVID-19 three weeks prior, and no one had contacted me of his passing. The shock of learning of his death in this manner caused another TCM attack. The second attack occurred in a different state and the cardiologists had heard of TCM, but they were not convinced I had had the attack until after the heart catheterization.

As a result of suffering from two TCM attacks, I have made it a mission to educate as many people as possible about TCM, what it feels like as a patient, and what survivors need from their healthcare providers, including mental health professionals. Psychological counselling needs to be part of the treatment team. Healing the body, without healing the mind is counterproductive. Below I will discuss different types of psychological interventions that rely heavily on resilience. Resilience can serve as a protective factor in heart health by buffering the negative effects of emotional stress on the cardiovascular system. By effectively managing stress and maintaining a positive outlook, resilient individuals can reduce the physiological impact of stress hormones on the heart and lower the risk of stress-induced conditions such as Takotsubo Cardiomyopathy. Additionally, resilience can promote healthier lifestyle choices and coping behaviour, further contributing to improved heart health and overall well-being.

Effective Techniques for Psychological Counseling

Perhaps the most successful type of therapy for TCM survivors is *Cognitive Behavioral Therapy (CBT)*. CBT is a well-established, evidence-based psychological intervention that focuses on identifying and modifying maladaptive thoughts and behaviour. By helping patients develop more adaptive thought patterns and coping

strategies, CBT can improve resilience and reduce the impact of emotional stress on heart health. CBT will help TCM survivors deal with stress and anxiety as well as Post Traumatic Stress Disorder (PTSD). When looking for a trained Cognitive Behavioral therapist, make sure the therapist knows what TCM is before being treated. This means you, as a survivor of TCM must be well-read on the subject. Since 2013 I have read as many articles to follow the mortality rates (which are increasing) following a TCM attack, as well as new ideas on treating patients who have suffered from a TCM attack. Therapists need to be knowledgeable about TCM for them to grasp the urgency of reducing stress and anxiety in the surviving TCM patient. I have suggested that there should be specific training for therapists, and counselors, as well as graduate programs for nurse practitioners, clinical and counseling psychology programs, and doctoral programs such as Ph.D. and Psy.D. programs on educating the students on the causes of TCM, the symptoms of a person have a TCM attack, and then invite a survivor of TCM (if possible) to come to class and tell their story. I have presented my story to several graduate programs as well as a physician assistant (PA) program explaining how my life drastically changed after experiencing two TCM attacks. The following are suggestions to share with such programs to use with clients who have survived TCM.

Focus on mindfulness and stress reduction techniques

Mindfulness practices, such as meditation, deep breathing exercises, and progressive muscle relaxation, can help patients cultivate present-moment awareness and reduce stress levels. These techniques can promote emotional regulation, enhance resilience, and improve overall well-being. Using this technique following both of my TCM attacks helped me learn to read my body and mind. Once you learn what causes the stressor the next step is to reduce as soon as possible the sympathetic nervous system's response to stress. Although these symptoms are natural responses to danger or threat of danger, they can lead to a TCM attack.

Seek out social support groups

Participating in support groups or engaging in peer counselling can provide emotional and practical support for patients coping with TTC. Sharing experiences and learning from others in similar situations can foster a sense of connection, reduce feelings of isolation, and enhance resilience. There are also support groups on social media that are helpful. Being part of a group that understands exactly what you are going through can be liberating. This also gives you a chance to "pay it forward" by sharing what works for you.

Lifestyle modifications

Exercise and physical activity: Regular physical activity can promote heart health, improve mood, and reduce stress levels [5]. Patients should consult with their healthcare providers to determine an appropriate exercise regimen tailored to their specific needs and physical capabilities. Preventive care in general is a good idea, but if you have had or think you could be vulnerable to having a TCM attack, research shows that having a healthy lifestyle will

decrease your chances of having all types of heart-related attacks, including TCM.

A healthy diet and weight management: A balanced diet rich in fruits, vegetables, whole grains, lean protein, and healthy fats can support heart health and contribute to overall well-being. Weight management is also an essential factor in reducing cardiovascular risk and promoting resilience.

Adequate sleep and stress management: Ensuring sufficient sleep and practicing effective stress management techniques can help patients maintain emotional balance and enhance their resilience. Establishing a consistent sleep schedule and creating a relaxing bedtime environment can improve sleep quality, while stress management techniques such as deep breathing exercises and time management can reduce daily stress.

Social support and connections

Importance of strong relationships: Strong, supportive relationships with family, friends, and community members are essential for promoting resilience and coping with emotional stress. Emotional and practical support from loved ones can buffer the negative effects of stress and encourage during difficult times.

Building and maintaining a supportive network: Patients can actively work to build and maintain a supportive network by reaching out to existing connections, joining community groups, or engaging in activities that align with their interests. Nurturing relationships and maintaining open communication can strengthen social bonds and enhance resilience.

Community resources and programs: Local resources and programs, such as support groups, wellness workshops, and stress reduction classes, can offer valuable tools and information for enhancing resilience and improving heart health. Patients can benefit from seeking out these resources and participating in community-based initiatives to foster resilience and support their recovery from TTC.

Conclusion

Takotsubo Cardiomyopathy syndrome is increasing in incidence and becoming more widely recognized in the medical community. The diagnosis can be challenging, and clinicians must look for signs distinguishing takotsubo syndrome from other causes of acute myocardial injury. The use of multimodality imaging may help in this regard and improve our understanding of its underlying pathogenesis and pathophysiology. At present, takotsubo syndrome remains a poorly understood condition with substantial morbidity and mortality without proven or effective treatments that urgently need to be addressed. Preparing the next generation of medical and psychological healthcare providers to recognize TCM symptomology, both physical symptoms, as well as psychological trauma that their clients or patients have experienced, could have led to past episodes of TCM, as well as preparing at-risk patients/clients on what TCM is, the symptoms to be aware of (and not to ignore the

symptoms), as well as healthy living suggestions regarding seeking therapy, eating healthier, healthy exercising, and using preventive activities when under stress such as resilience, mindfulness, journaling, and seeking support groups both in their community as well as online support groups. Together we, as mental health care providers owe this to our patients/clients.

Conflict of Interest

No conflict of interest.

Acknowledgement

None.

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