Relationship Between Anxiety Disorders and Takotsubo Cardiomyopathy

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Key points:

- What is an anxiety disorder, and its types
- What is Takotsubo Cardiomyopathy
- How are anxiety disorders and Takotsubo Cardiomyopathy related

Anxiety Disorder

When discussing anxiety disorder, professionals refer to a variety of disorders that are highly stress-inducing. These common conditions limit significantly the ability of an individual suffering from an anxiety disorder to perform daily functions.[1] Anxiety disorders as mentioned are a variety of disorders and range between types like: Generalized Anxiety Disorder (GAD), Social Anxiety Disorder (SAD), and panic disorder.

Generalized anxiety disorder is one of the most common psychiatric disorders.[2] It is identified in patients showing constant and uncontrollable worry with fear of unpleasant events taking place.[3] Furthermore, social anxiety disorder is a chronic mental disorder characterized by fear of rejection in social situations as well as heightened feeling of shame. Patients suffering from social anxiety disorder often go undiagnosed and have lasting impacts in personal life.[4] Lastly, panic disorders entail the occurrence and repetition of panic attacks without a due cause and happen in light of intense fear. [5]

Takotsubo Cardiomyopathy

Takotsubo cardiomyopathy is an acute cardiac condition that can present as a medical emergency, characterised by a sudden and significant decline in left ventricular function. It is a form of transient heart failure in which abnormal regional wall motion extends beyond the area supplied by a single coronary artery. The condition is typically categorised into four main types - apical, basal, mid-ventricular, and focal - based on the pattern of ventricular involvement.

The underlying mechanism is thought to involve excessive sympathetic stimulation and a surge of catecholamines which play a central role in its development. Although most patients experience a favorable and reversible course, Takotsubo cardiomyopathy can occasionally lead to serious, potentially life-threatening complications. Some ways to enhance recovery post Takotsubo cardiomyopathy include cognitive behavioral therapy and physical exercise training[6]

Relationship between TTC and AD

We see in stress cardiomyopathy the most prime example of the mind-body connection. It is here that a purely emotional occasion becomes increasingly fatal.[7]

While anxiety remains a psychological condition, it is incorrect to ignore its impact on cardiopulmonary structures whereby symptoms like palpitations, dizziness and syncope occur. Extreme anxiety like those seen in anxiety disorders can lead to serious cardiac events such as Takotsubo cardiomyopathy.[8] The overlap in mechanisms, specifically the involvement of stress-induced sympathetic activation supports the hypothesis that anxiety disorders may

contribute to both the onset and progression of stress-related cardiomyopathies.

TTC occurs more frequently in women and is commonly associated with preceding emotional and physical stressors. This gender predominance is particularly in postmenopausal women. Evidence from published case reports further support this association. For example, one report describes a 44-year old Caucasian woman who was admitted to the emergency department following the intentional ingestion of 20 tablets of flecainide (150 mg each) in a suicide attempt. During her hospitalisation in the cardiac intensive care unit, she later developed features consistent with Takotsubo cardiomyopathy.[9]

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