

ASSOCIATION OF PANIC DISORDER (PD) AND ATRIAL FIBRILLATION (AF)

Dr.Ashish Shrivastava, Dr.Tammineni Morini Samaikya, Dr.Chandrarupini Premkumar, Dr.Sanyukta Savant, Dr.Nikhila Chadalawada, Dr.Mounika M Peethala, Dr.Sithara Vemuri, Dr.Neelima Gaddam, Dr.Zunera Moeen

Abstract: Atrial fibrillation is a common yet life-threatening cardiac arrhythmia which not only has its own risks but is also associated with other arrhythmias and disorders. Panic disorder, on the other hand, is one of the underdiagnosed disorders and has symptoms mimicking a number of other disorders making this disorder a tough one to diagnose. Several previous studies have shown similarity in the clinical presentation of the two disorders and also an association of the co-existence of the two. We conducted this review to understand and conclude the association between atrial fibrillation and panic disorder. Review of previous studies and literature review showed an increased stimulation of the sympathetic pathway and release of a number of catecholamine's leading to symptoms of both panic attacks and atrial fibrillation. Inflammatory biomarkers level were also associated with both the disorders. Summarising the common symptoms and mechanism of pathogenesis of the two disorders it can be assumed that there might be an association between the two disorders, although further studies are required to conclude the signing of the association.

Keywords: Panic disorder, Atrial fibrillation, symptoms, panic attacks.

1. INTRODUCTION

Panic Disorder: When Fear Overwhelms

Panic disorder is a type of anxiety disorder. It causes panic attacks, which are sudden feelings of terror when there is no real danger [1].

Common symptoms for anxiety disorders are feelings of stress and apprehension, irritability, trouble concentrating, fearfulness, sweating and dizziness, shortness of breath, irregular heartbeat, headaches and frequent upset of stomach or diarrhea [5].

Panic attacks can happen anytime, anywhere, and without warning. Panic disorder is more common in women than men. It usually starts when people are young adults [1].

Many people have just a few panic attacks in their lifetimes, and the problem goes away, perhaps when a stressful situation or the triggering factor ends. But if you've had recurrent, unexpected panic attacks and spent long periods in constant fear of another attack, you may have a condition known as a panic disorder [2].

Etiology of panic disorder is usually idiopathic. Factors that may play a role includes-genetics, major stress, a temperament that is more sensitive to stress or prone to negative emotions and certain changes in the way parts of your brain function [2].

Factors that may increase the risk of developing panic attacks or panic disorder include family history of panic attacks or panic disorder, major life stress, such as the death or serious illness of a loved one, traumatic event, such as sexual assault or a serious accident, major changes in your life, such as a divorce or the addition of a baby, smoking or excessive caffeine intake and history of childhood physical or sexual abuse [2].

Treatment for AFib can include:

- Antiarrhythmics
- Atrial Fibrillation Medications
- Cardioversion
- Catheter Ablation
- Maze Surgery

Treatment Guidelines of Atrial Fibrillation (AFib or AF) [8].

The close proximity of signs and symptoms of panic disorder and atrial fibrillations makes differentiation of the two disorders tough. A thorough history, physical examination, and appropriate investigations are necessary to reach the correct diagnosis.

Some studies also show that not only there exist a similarity in the symptoms but there is also an association between the two disorders [9].

Atrial fibrillation stands as one of the most common supraventricular arrhythmias [12]. Panic disorder is not only associated with atrial fibrillations but also with other arrhythmias like PSVT (paroxysmal supraventricular tachycardia) [10].

Inflammation and oxidative stress are supposed to be key factors in the development and stimulation of atrial fibrillations. In relation, patients with anxiety express enhanced levels of acute phase reactants like C-reactive proteins, pro-inflammatory cytokines, and decreased levels of anti-inflammatory molecules.

Symptoms are quite similar in atrial fibrillations and in panic disorders:

Atrial Fibrillations	Panic Disorder
<ul style="list-style-type: none"> • Palpitations, which are sensations of a racing, uncomfortable, irregular heartbeat or a flip-flopping in your chest • Weakness • Reduced ability to exercise • Fatigue • Light-headedness • Dizziness • Confusion • Shortness of breath • Chest pain 	<ul style="list-style-type: none"> • Sense of impending doom or danger • Fear of loss of control or death • Rapid, pounding heart rate • Sweating • Trembling or shaking • Shortness of breath or tightness in your throat • Hot flashes • Nausea • Abdominal cramping • Chest pain • Headache • Dizziness, light-headedness or faintness • Numbness or tingling sensation • Feeling of unreality or detachment

The anxiety patients are more likely to have increased activity of sympathetic nervous system and catecholamine release due to the psychic stress is a provocative factor among paroxysmal AF patients making the association of the two disorders more related [12].

In summary, the increased sympathetic tone lessened vagal tone, and the cardinal symptoms of anxiety could be major inductive factors of atrial fibrillation [12].

2. METHODOLOGY

In this review article, the data is pooled from various kinds of literature referring the web to understand the existence of an underlying association between atrial fibrillation and panic disorder if any.

To understand this medically relevant and fascinating association, we collected information from the studies done in the past globally throughout the world.

We included studies done in the past decades and got some relevant correlation listed below in the results and conclusion.

Although, a hypothetical conclusion can be made from the pooling of the data from the past literature a definite association and a proof of correlation might need further research and studies.

3. RESULTS & CONCLUSION

Atrial fibrillations and panic disorders frequently present with similar symptoms. Especially in cases without unambiguous electrocardiographic documentation, it can be difficult to discriminate between these entities [13].

The interaction between heart and brain becomes increasingly important as the underlying mutual mechanisms become better understood [11]. Similar studies are done in the past as well for various associations between heart and brain mechanisms like the association of long-standing uncontrolled hypertension and Alzheimer's disease [14].

The clinical characteristics of patients with arrhythmias like PSVT referred for electrophysiologically guided therapy can mimic panic disorder [10].

From the data available and the studies conducted so far, it can be concluded that panic disorder is independently associated with a higher incidence of atrial fibrillations to be diagnosed in the future. Larger prospective studies or Meta-analysis are suggested to confirm this association and findings [9].

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