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Panic Disorder Versus Thyroid Medication Overuse: A Case Report

Putri Rosmina[1*], Samuel Timothy[1]

[1]Abepura General Hospital, Jayapura, Indonesia

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***Corresponding author:**
Putri Rosmina

E-mail address:
putri.rosmina@gmail.com

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A B S T R A C T

Introduction: Panic disorder is defined as the occurrence of spontaneous panic attacks that are not triggered by any specific stimulus. The symptoms of panic disorder include panic episodes that occur frequently and unexpectedly, as well as anxiety about the possibility of experiencing further panic attacks, the repercussions of panic attacks, or a change in behavior as a result of panic attacks. This study presented the diagnosis and treatment of panic disorder comorbid with thyroid medication overuse. **Case presentation:** A 36-year-old female patient presented to the emergency room with a primary concern and symptoms consistent with panic disorder, including experiencing a sense of losing control or impending death, chest pain, difficulty breathing, rapid heartbeat, excessive perspiration, trembling, and dizziness. The patient experienced significant periods of anxiety between episodes, preoccupied with the anticipation of the next occurrence. Each episode had a duration of roughly 15 minutes. The patient refutes any history of alcohol or drug misuse, and her sole medical condition is hypothyroidism. Subsequently, we perform a comprehensive analysis of the thyroid profile and make a referral to an internal medicine specialist for collaborative treatment. We treated the patient with a combination of a selective serotonin reuptake inhibitor (SSRI) fluoxetine 20 mg/day and a course of cognitive-behavioral therapy**. Conclusion:** Repeated episodes of intense panic attacks, accompanied by feelings of anxiety and observable alterations in behavior, distinguish panic disorder as a medical illness. The treatment involves the use of selective serotonin reuptake inhibitors, antidepressants, and cognitive behavioral therapy.

1. Introduction

The symptoms of panic disorder include panic episodes that occur frequently and unexpectedly, as well as anxiety about the possibility of experiencing further panic attacks, the repercussions of panic attacks, or a change in behavior as a result of panic attacks. It's crucial to exclude any potential medical disorders, drugs, or substance addiction as potential causes of panic attacks. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V) stipulates that in order to be diagnosed with panic disorder, a person must have experienced at least one panic attack, which was then followed by either fear of the implications of the attack, fear of another attack, or a change in behavior connected to the attack.[1,2]

There are two diagnostic criteria defined for this illness by the DSM-V.[2] The first is a panic disorder with agoraphobia, which is anxiety about being in places or situations from which escape would be difficult. The second is a panic disorder without agoraphobia. There is a theory that agoraphobia originates from the fear of having a panic episode at a location from which it would be impossible to flee. In most cases, an individual will experience their first panic attack on their own initiative, but it is also possible for it to occur after experiencing excitement, exercise, or an emotional incident.[3,4] The attack starts within a ten-minute period of rapidly developing symptoms (great panic or a sense of impending doom), and it can last anywhere from twenty to thirty minutes. It is important for patients who suffer from agoraphobia to avoid situations in which it would be difficult to receive assistance from friends or loved ones. When these people are traveling or are in

enclosed locations (such as tunnels or elevators), they often require the assistance of a companion. Severely affected individuals rarely leave their homes. The lifetime prevalence rate of panic disorder in the general population ranges from 1.5% to 5% of the population during their lives.[5,6] Estimates suggest that the average age of presentation is 25 years old, and women are two or three times more likely to suffer from it than men.[7-9] Agoraphobia is a condition that affects around one-third of people who suffer from panic disorder. This study presented the diagnosis and treatment of panic disorder comorbid with thyroid medication overuse.

2. Case Presentation

A 36-year-old female patient presented to the emergency department expressing concerns about her mental state, stating, "I believe I am experiencing a loss of sanity." She reported enduring recurring episodes of palpitations, sweating, shaking, shortness of breath, chest pain, dizziness, and a sense of impending doom for the past 3 months. According to her, the initial occurrence took place while she was casually strolling along the street, without any specific thoughts occupying her mind. The incident had a duration of around 15 minutes; however, the patient perceived it as being far longer. Since then, she has experienced such incidents once or twice daily, which have happened unexpectedly in various contexts. Consequently, she experienced nearly continual anxiety around the timing of her next episode. She denies experiencing any other symptoms. She has visited the emergency department on two occasions during the last two weeks, firmly believing that she is experiencing a myocardial infarction.

However, the results of all of her physical and laboratory tests have fallen within the normal range. She refutes any allegations of drug consumption and restricts her alcohol intake to a few occasions. Her alcohol consumption has dropped since the episodes commenced. She has a single medical issue; a one-year duration of hypothyroidism that she manages with levothyroxine. The patient was diagnosed with panic disorder versus medication-induced anxiety disorder. Subsequently, we perform a comprehensive analysis of the thyroid profile and make a referral to an internal medicine specialist for collaborative treatment. We treat the patient with a combination of a selective serotonin reuptake inhibitor (SSRI) fluoxetine 20 mg/day and a course of cognitive-behavioral therapy. Therapies were assessed on a weekly basis to determine the advancement of treatment and the amelioration of symptoms.

3. Discussion

This individual exhibited typical manifestations of a panic attack. The attacks emerged suddenly and have been happening once or twice daily, consistently, over the past few months. Each episode has a brief runtime of approximately 15 minutes. The patient has significant periods of anxiety between episodes, which is a characteristic hallmark of the disorder. The patient exhibits no symptoms indicative of any other psychological condition. She denies any drug or alcohol consumption, with the exception of her infrequent alcohol intake, which requires accurate measurement. She is currently undergoing treatment for hypothyroidism with levothyroxine, a medication that has been associated with the occurrence of panic attacks when the dosage is excessive. We should conduct thyroid investigations to rule out this potential cause. If the amount of thyroxine is excessively elevated, the appropriate diagnosis would be substance-induced anxiety disorder rather than anxiety disorder resulting from hyperthyroidism, which can be mistakenly assumed. For patients diagnosed with panic disorder, the recommended treatment is a combination of a selective serotonin reuptake inhibitor (SSRI) and cognitive-behavioral therapy.[10,11] Additionally, doctors may prescribe a short-acting benzodiazepine (alprazolam) to provide immediate relief from symptoms. We recommend discontinuing the benzodiazepine after the initial few weeks. If the substance (such as thyroid medicine) is causing the patient to experience an anxiety illness, we recommend reducing the medication's dosage. By

doing so, the feelings of panic should subside.

After at least one panic attack, the Diagnostic and statistical manual of mental disorders, 5th edition (DSM-V) states that there must be worry about another attack, fear of what the attack means, or a change in behavior associated with the attack.[2] The DSM-V lists two types of panic disorder: panic disorder with agoraphobia (anxiety about being in places or situations from which it would be hard to escape) and panic disorder without agoraphobia. Some people believe that agoraphobia stems from being afraid of having a panic attack in a place where it would be difficult to get out of. The first panic attack most people have happens on its own, but it can also happen after being excited, working out, or going through a stressful event. The attack begins within 10 minutes, with symptoms worsening very quickly, like great fear or a feeling that bad things are about to happen. It can last up to 20 to 30 minutes. People with agoraphobia try to stay away from places where it would be hard to get help from friends or family. People with this condition usually need to be with someone when they're moving or in small spaces (like tunnels or elevators). Severely harmed individuals do not even venture outside their homes. In the general community, between 1.5% and 5% of people will have panic disorder at some point in their lives.[12-14] Most people who get it are 25 years old, and women are two or three times more likely than men to get it. About one-third of people who have panic disorder also have agoraphobia. The criteria for panic attack according to DSM-V are; (1) recurrent, unexpected panic attacks; (2) attacks followed by 1 month of one of the following: concerns about having additional attacks,worry about the consequences of attacks, or a change in behavior as a result of attacks; (3) attacks are not caused by substance abuse, medication, or a general medical condition; (4) Attacks are not better accounted for by another mental illness; (5) can occur with or without agoraphobia.[13]

Table 1. Medical conditions causing panic attacks.

Cardiac	Angina, arrhythmias, congestive heart failure, infarction, mitral valve prolapse
Endocrine	Cushing disease, Addison disease, hyperthyroidism, hypoglycemia, hypoparathyroidism, premenstrual dysphoric disorder
Neoplastic	Carcinoid, insulinoma, pheochromocytoma
Neurologic	Seizure disorder, vertigo, Huntington's disease, migraine, multiple sclerosis, transient ischemic attacks, Wilson disease
Pulmonary diseases	Asthma, obstructive pulmonary disease, hyperventilation, pulmonary embolus
Other diseases	Anaphylaxis, porphyria

Table 1 presents a list of various medical disorders that can potentially trigger panic attacks, which are considered the primary possibilities when diagnosing panic disorder. Panic disorder can be mimicked by intoxication from amphetamines, cocaine, hallucinogens, or withdrawal from alcohol or other sedative-hypnotic medications. Medications such as steroids, anticholinergics, and theophylline are recognized for their ability to induce anxiety. It is important to take into account any underlying endocrine abnormalities. If a person experiences challenging hypertension along with physical symptoms including rapid heartbeat, perspiration, anxiety, headache, muscle tension, chest pain, and stomach discomfort, it is advisable to consider the possibility of pheochromocytoma. Hyperthyroidism is characterized by symptoms such as tachycardia, heat sensitivity, weight loss, and anxiety. These symptoms

can sometimes be confused with those of an anxiety condition. To gain a comprehensive understanding of the situation, it is typically necessary to collect a detailed medical history, including information about alcohol and substance use, perform a physical examination, and request relevant laboratory tests such as TSH and plasma metanephrine. During the evaluation, no abnormalities are observed, save for the heightened blood pressure and pulse rate associated with nervous states. If any notable abnormal findings are detected, it is advisable to do additional investigations to determine a cause that is not related to psychiatric conditions. Addressing the root causes, modifying drugs, and/or implementing a detoxification procedure are all probable methods to alleviate the symptoms of anxiety.[14,15]

It might be challenging to differentiate panic disorder from other anxiety disorders. Panic attacks may manifest in several other anxiety disorders, as well as in cases of depression. Indeed, there is a substantial comorbidity between major depressive disorder and panic disorder. Panic disorder is defined as the occurrence of spontaneous panic attacks that are not triggered by any specific stimulus. This syndrome is separate from other anxiety disorders, in which panic episodes occur as a result of being exposed to a specific stimulus. A car backfiring, for example, could trigger a panic attack in an individual diagnosed with posttraumatic stress disorder, whereas being in close proximity to a dog could trigger a panic attack in an individual with a specific phobia of dogs. It is crucial to note that in panic disorder, the fear is specifically related to experiencing an attack rather than being afraid of a particular situation (such as contamination in the case of obsessive-compulsive disorder or performance in the case of social phobia) or a range of activities (as seen in generalized anxiety disorder).[16,17]

Antidepressants, including SSRIs, tricyclic antidepressants, and monoamine oxidase inhibitors, have shown significant efficacy in the treatment of panic disorder.[18] Administering medication in conjunction with a regimen of cognitive behavioral therapy (CBT) yields optimal outcomes. Similar to depression, it may take several weeks to observe a noticeable therapeutic impact. Short-term administration of a benzodiazepine may be necessary to promptly alleviate symptoms. To minimize the risk of addiction and considering the high occurrence of alcohol abuse in panic disorder, it is advisable to administer benzodiazepines in the lowest effective dose and for the shortest duration possible. The aim is to discontinue this medication once the antidepressant has achieved its maximum therapeutic effect. Cognitive behavioral therapy educates the patient about the problem, aids in diminishing or eradicating fundamental concerns, and specifically targets the lifestyle limitations experienced by people with this condition.

4. Conclusion

Panic disorder is characterized by recurrent, unexpected panic attacks associated with worry about having additional attacks, the consequences of attacks, or a change in behavior as a result of attacks. Any medical conditions, medications, or substance abuse that can cause panic attacks should be ruled out. Selective serotonin reuptake inhibitors or other antidepressants, in combination with cognitive behavioral therapy, are used in the pharmacologic treatment of panic disorder. If benzodiazepines are also administered, they should be used in as low a dose and for as short a time as possible.

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