Panic Disorder — Clinical Features and Management

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A panic disorder is when recurrent and episodic panic attacks occur abruptly without a trigger. Diagnosing a panic disorder may become challenging because panic attacks can also occur with other anxiety and mental disorders. However, by following the correct approach, which first includes ruling out other disorders (by taking a thorough history and performing relevant investigations) and then following the proposed diagnostic criteria for panic disorder, one can reach a diagnosis. The pathogenesis of the panic disorder is a combination of an underlying predisposition that triggered by life stress (e.g. separations during childhood or interpersonal loss in adulthood). Management includes both psychological treatments, as well as medical treatment.

Definition

Defining panic disorder means understanding the definitions and classifications of anxiety disorders. Anxiety dominates clinical symptoms in anxiety disorders, which can be persistent or episodic. Episodic anxiety disorders are further classified according to whether the episodes are regularly triggered by a stressor (*phobia*) or not *(panic disorder)*.

Patients are said to have panic disorders when they experience recurrent panic attacks that are not triggered by a stressor. The exact diagnostic criteria for panic disorder are described below under the "diagnostic criteria of panic disorder."

A panic attack is not a mental disorder. It is a discrete period of heightened anxiety that

affect much of the general population. Panic disorder is characterized by the experience of panic attacks accompanied by a persistent fear of having additional attacks.

Definition of a panic attack

A panic attack is defined as an abrupt surge of intense fear that reaches an apex within minutes, during which time four or more of the following 13 symptoms occur:

1. Palpitations, a pounding heart, or increased heart rate
2. Sweating
3. Trembling or shaking
4. A sensation of shortness of breath
5. A sensation of choking
6. Chest pain or chest discomfort
7. Nausea or abdominal distress
8. Feeling dizzy, unsteady, light-headed, or faint
9. Chills or heat sensation
10. Paresthesias
11. De-realization (feelings of unreality) or depersonalization (being detached from one's own self)
12. Fear of losing control or 'going insane'
13. Fear of dying

Note: The abrupt surge of intense fear can occur from a calm state or an anxious state.

Diagnostic Criteria for Panic Disorder

If a person has just panic attacks, s/he does not necessarily have a panic disorder. Panic attacks are also seen with other anxiety disorders, other mental disorders, and some medical disorders. Therefore, to diagnose an actual panic disorder, the following criteria must be met:

1. **Recurrent, unexpected panic attacks**
2. **At least one attack has been followed by at least one month of one or both of the following:**
   A. Persistent worry about further panic attacks, or their expected consequences (e.g., losing control, having a heart attack, going insane).
   B. A significant adaptive behavioral change related to the attacks (e.g., behaviors designed to avoid having panic attacks, such as avoiding the precipitating factors of a panic attack, like exercise or ***agoraphobia***).
3. **Panic disorder symptoms are not due to the physiological effects of a substance (e.g., medication or illicit drug) or another medical condition (e.g., hyperthyroidism or cardiopulmonary disorders).**
4. **The panic attacks are not attributable to another mental disorder. For example, panic attacks do not occur only in response to:**
   - Feared social situations, as in social anxiety disorder
   - Specific phobic objects or situations, as in a specific phobia
   - Obsessions, as in obsessive-compulsive disorder
   - Reminders of traumatic events, as in post-traumatic stress disorder
   - Separation from family members, as in separation anxiety disorder

Agoraphobia: Agoraphobia occurs commonly with panic disorder. It is defined as the fear or avoidance of places from which escape would be difficult if panic symptoms occur.

Such places include public places, public transportation, crowded places, or being outside alone. Agoraphobia is more common in women. It often leads to severe restrictions on the individual’s travel and daily routine.

Pathogenesis of Panic Disorder

The pathogenesis of the panic disorder is a combination of an underlying predisposition (probably genetics making the patient have a sympathetic nervous system over-activity, increased muscle tension, and hyperventilation) interacting with or triggered by life stress (e.g., separations during childhood or interpersonal loss in adulthood). Many patients with panic disorder have panic symptoms in response to ‘panicogens’ (lactate carbon dioxide, caffeine, and other substances).

Neurobiology

There are differences in the brains of those with panic disorders. Many intricate neuronal pathways and various areas of the brain are involved. Specific receptors and neurotransmitters are altered.

A proposed neuroanatomical model for panic disorder focused on specific areas in the amygdala or hypothalamus as potential sites of neural triggers for panic attacks. This suggests that individuals may inherit specifically hyperexcitable areas. Yet another theory suggests that exposure to internal or external stressors lights up the excitable parts of the brain.

Brain areas involved include:

- Amygdala
- Prefrontal cortex
- Temporal cortex
- Anterior cingulate
- Insular cortex
- Hippocampus
- Hypothalamus

Their involvement suggests that the human panic response is more complex and involves a broad set of neural circuits and processes.

Alterations in the GABA-benzodiazepine receptor and serotonin receptor systems show that panic disorder patients have increased fear of generalization.

Clinical Features of Panic Disorder

Patients with continuing, frightening panic disorder symptoms are often dissatisfied after a negative general medical workup and repeatedly seek medical care. The diagnosis of panic disorder can take as long as 10 years.

The patient experiences recurrent panic attacks that are not triggered by a stressor. The episode is followed by one month or more of either worry about future attacks or their consequences, or a significant adaptive change in behavior because of the attacks (as described above).

The episodes are accompanied by at least four symptoms of autonomic hyperactivity, as mentioned above. Such autonomic symptoms, especially cardiorespiratory,

gastrointestinal, and otoneurologic symptoms, often predominate in the patient's clinical presentations. This causes many patients to seek health care from a general medical doctor, rather than a psychiatrist, and the dramatic and paroxysmal nature of panic may lead to more emergency room visits.

Some patients present with panic attacks but do not otherwise feel fear or anxiety, a condition known as a 'non-fearful' panic attack. The absence of subjectively experienced fear in some patients may make the recognition of panic attacks more difficult.

Panic disorder prevalence is increased in patients with alcohol abuse disorders and a variety of other anxiety disorders. Evidence suggests that this association is due to both self-medication as well as alcohol's progressive anxiogenic (anxiety-causing) effect over time. Patients use alcohol or sedative hypnotics in an attempt to control panic disorder symptoms. These agents have a short anxiolytic (anxiety-ceasing) action. However, when blood levels of these agents decline, rebound exacerbation of anxiety and panic attacks occurs.

Spontaneous episodes of fear

- Begin abruptly
- Last minutes to an hour
- Can lead to agoraphobia (i.e., anxiety about and avoidance of situations where help may not be available or where it may be difficult to leave the situation in the event of developing panic-like symptoms or other incapacitating or embarrassing symptoms)
- Are often accompanied by somatic features (faster breathing, heartbeats, sweating, etc.)
- Are sometimes associated with agoraphobia (not leaving the house for months on end, avoiding social contact and situations which patient perceives as causative)

Investigations of Panic Disorder

Panic disorders are usually diagnosed clinically based on the previously mentioned criteria. The following investigation modalities are typically carried out to rule out other diagnoses.

Electrocardiogram

This test will rule out myocardial infarction, which might come with severe pain and feelings of panic.

Thyroid profile

This blood test will rule out hyperthyroidism, which may present with psychiatric manifestations, such as anger and panic attacks.

Chemistry panels

These blood tests will rule out metabolic derangements and drugs in the system. Some addicts may use certain drugs, such as sympathomimetics, which may cause panic attacks.

Management of Panic Disorder

Psychological treatments

Cease anxiogenic drugs

Initial treatment should include weaning the patient off anxiogenic drugs, such as caffeine and alcohol, which can cause rebound anxiety.

Relaxation techniques

Relaxation techniques can be effective for mild to moderate anxiety. They include complementary techniques such as meditation and yoga. Conventional relaxation training involves slowing breathing rate, muscle relaxation, and mental imagery.

Anxiety management training

Anxiety management training involves two stages.

1. In the first stage, verbal cues and mental imagery are used to arouse anxiety to demonstrate the link with symptoms.
2. In the second stage, the patient is trained to reduce anxiety through relaxation, distraction, and reassuring self-statements.

Biofeedback

Biofeedback is useful for showing patients that they are not relaxed, even when they fail to recognize it because they have become accustomed to anxiety.

Behavior therapies

Behavior therapies are treatments meant to change behavior and thus symptoms. The most common and successful behavior therapy (with 80% success in agoraphobia) is *graded exposure*, otherwise known as *systematic desensitization.*

Firstly, the patient rates the phobia into a hierarchy or ladder of worsening fears (e.g., in agoraphobia: walking to the front door with a coat on, walking out into the garden, walking to the end of the road).

Secondly, the patient practices exposure to the least fearful stimulus until no fear is felt. The patient then moves ‘up the ladder’ of fears until they are cured.

Cognitive behavior therapy (CBT)

Cognitive behavior therapy is the standard treatment for panic disorder because the therapist and patient need to identify the mental cues (thoughts and memories) that may subtly provoke exacerbations of anxiety or panic attacks. CBT also allows identification and alteration of the patient’s “schema,” or way of looking at themselves and their situation, that feeds anxiety.

Drug treatments

Prescribed drugs used to treat anxiety can be divided into two groups:

1. Drugs that act primarily on the central nervous system.
2. Drugs that block peripheral autonomic receptors.

Benzodiazepines

Action mechanisms: Benzodiazepines are centrally-acting anxiolytic drugs. They are agonists of the inhibitory transmitter gamma-aminobutyric acid (GABA).

Drugs: Diazepam, alprazolam, and chlordiazepoxide have relatively long half-lives (20–40 hours) and are used as short-term anti-anxiety drugs.

Side effects: Side effects include sedation and memory problems. Patients should be advised not to drive while on treatment. These drugs can cause dependence and tolerance within 4–6 weeks, particularly in patients with dependent personalities. Withdrawal syndrome can occur after just three weeks of continuous use and is particularly severe when high doses have been given for a longer time. Thus, if a benzodiazepine drug is prescribed for anxiety, it should be prescribed in as low a dose as possible, preferably on an “as needed” basis, but for no more than 2–4 weeks.

Withdrawal symptoms with benzodiazepines:

1. Insomnia
2. Perceptual distortions
3. Anxiety
4. Hallucinations (which may be visual)
5. Tremulousness
6. Hypersensitivities (light, sound, touch)
7. Muscle twitching
8. Convulsions

Selective serotonin reuptake inhibitors (SSRIs)

Most SSRIs (e.g., fluoxetine, paroxetine, sertraline, escitalopram, citalopram) are useful symptomatic treatments for panic disorders.

Treatment response is often delayed several weeks; a treatment trial should last three months.

Antipsychotics

Antipsychotics, such as aripiprazole or olanzapine, can be useful for more severe or refractory cases of panic disorder.

Beta-blockers

Beta-blockers are effective in reducing peripheral symptoms. Many anxiety symptoms are due to an increased or sustained release of adrenaline and noradrenaline from the adrenal medulla and sympathetic nerves.

Beta-blockers, such as propranolol, are useful for reducing peripheral symptoms, such as palpitations, tremor, and tachycardia, but they do not help central symptoms such as anxiety.

Differential Diagnosis of Panic Disorder

Somatic disorders

Patients with both panic disorder and somatic symptom disorder present with multiple physical symptoms. Many patients with somatic symptom disorder also have comorbid

panic disorder. However, somatic symptoms last longer in somatic symptom disorder and more episodic panic disorder.

Anxiety disorders

Illness anxiety disorder is defined as an intense fear of acquiring a serious illness. Many patients with panic disorder can also develop concerns of acquiring a severe medical illness, such as HIV or cancer. However, patients with panic disorder can be differentiated from patients with illness anxiety because patients with panic disorder also have multiple somatic symptoms.

Substance abuse

Overuse of caffeine, as well as abuse of stimulant drugs, such as cocaine and amphetamines, can precipitate panic attacks. Withdrawal from sedative-hypnotics, alcohol, and opiates can also precipitate panic attacks.

Other mental disorders such as acrophobia (fear of heights)

Symptoms of panic disorder must be distinguished from panic-like symptoms that occur as part of other mental disorders such as acrophobia.

General medical conditions

The possibility of organic etiologies should be considered before diagnosing panic disorder. Several conditions can mimic panic attack symptoms, including angina, arrhythmias, chronic obstructive pulmonary disease, temporal lobe epilepsy, pulmonary embolus, asthma, hyperthyroidism, and pheochromocytoma.

Treatment side effects

Treatment side effects, like hypoglycemia, in patients with diabetes and toxic serum aminophylline concentrations in patients with asthma, can also mimic panic disorder symptoms.

Medical Comorbidity

Anxiety disorders can increase the risk of multiple medical disorders. Studies have shown that patients with panic disorder have a higher prevalence of other medical disorders than controls. **These include:**

1. Asthma
2. Coronary artery disease
3. Hypertension
4. Ulcer
5. Interstitial cystitis
6. Migraine headaches
7. Sleep apnea

Mitral valve prolapse also occurs in patients with panic disorder but is unlikely to cause panic symptoms. In such instances, the panic disorder should be treated.

There is evidence that panic attacks are also associated with an increased risk of mortality due to vascular causes, like stroke and coronary heart disease.

Panic disorder is also seen to worsen the course of asthma if the patient already has it.

References

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