

The Sequence of Panic Symptoms

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Although much research has focused on the pathophysiology of panic attacks, little work has been done to describe the phenomenon itself. Twenty-one patients with panic attacks were asked to sequence the panic-related symptoms during an attack in an attempt to clarify the phenomenon. Overall, panic symptoms could be grouped into three categories: early symptoms—consisting of dyspnea, palpitations, chest discomfort, and hot flashes; intermediate symptoms—including shaking, choking, feelings of unreality, sweats, faintness, and dizziness; late symptoms—consisting of fear and paresthesias. Based on symptom clustering and temporal relationships, this study describes the panic phenomenon.

The pathophysiology of panic attacks has received a great deal of attention in the literature, but little has been reported on the panic phenomenon itself.

Frequently presenting with cardiac or neurologic symptoms, pain is a common complaint in panic sufferers.¹ The frequency of these symptoms during attacks is similar among studies, with palpitations, trembling, and sweating occurring most commonly, and chest pain, faintness, and feelings of unreality occurring less frequently.²⁻⁴

Previous studies often combine case findings from patients with panic disorder and those with agoraphobia with panic attacks. These studies assume a certain degree of uniformity of the panic experience. Generally patient characteristics are similar between panic disorder and agoraphobia⁵ as well as between panic disorder and depression.⁶ In addition, the frequency of panic-related symptoms among patients with depression and panic, panic disorder, and agoraphobia appears similar,⁷ and the severity of these symptoms is consistent between panic disorder and agoraphobia with panic attacks.⁸

This study was undertaken in an attempt to sequence the individual panic symptoms presented in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)*.⁹ It was hypothesized that by ordering these symptoms for each patient's panic attacks, an overall symptom sequence could be developed, which would, by

its nature, improve understanding of the panic phenomenon.

METHODS

This study was conducted while the author was in private practice in Taylorville, Illinois, a rural community of 11,000 population. All patients presenting with panic attacks between January 1983 and July 1984 were included in the study. All patients complaining of any panic-related symptoms, anxiety, or any of the known conditions associated with panic attacks were interviewed for the presence of panic attacks in a semistructured manner. Using strict application of DSM-III criteria (Table 1), 22 patients were identified as having panic attacks, but one patient left the practice before completion of the study. Of the 21 remaining patients, 2 had agoraphobia with panic attacks, 4 had panic disorder, and 15 had depression with panic attacks.

Once included in the study, each patient was asked to sequence the symptoms occurring during his or her attack and to indicate the pattern in which such attacks usually abated. When ranking ties occurred, the mean rank was assigned to tied symptoms. In addition to demographic data, consisting of age, sex, marital status, occupation, and level of education, the frequency of attacks and a positive family history for panic were also recorded.

Each patient underwent a complete history and physical examination, including such laboratory tests as deemed necessary to evaluate the patient for conditions known to be associated with panic attacks (Table 2). No routine testing was performed if the history and physical examination were not suggestive of an associated condition.

Submitted, revised, October 20, 1987.

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TABLE 1. DSM-III CRITERIA FOR DIAGNOSIS OF PANIC DISORDER*

At least 3 panic attacks within a 3-week period in circumstances other than during marked physical exertion or in a life-threatening situation. The attacks are not precipitated only by exposure to a circumscribed phobic stimulus.

Panic attacks are manifested by discrete periods of apprehension or fear, and at least 4 of the following symptoms appear during each attack:

1. Dyspnea
2. Palpitations
3. Chest pain or discomfort
4. Choking or smothering sensations
5. Dizziness, vertigo, or unsteady feelings
6. Feelings of unreality
7. Paresthesias (tingling in hands or feet)
8. Hot and cold flashes
9. Sweating
10. Faintness
11. Trembling or shaking
12. Fear of dying, going crazy, or doing something uncontrolled during an attack

Not due to a physical disorder or another mental disorder, such as major depression, somatization disorder, or schizophrenia.

The disorder is not associated with agoraphobia.

* From the DSM-III⁹

Panic attack induction using lactate infusion was considered but rejected for two reasons. First, panic attacks cannot be induced with lactate infusion in all patients with panic attacks.¹⁰ Second, the purpose of the study was to describe the phenomenon of naturally occurring attacks. There is evidence that those who suffer panic attacks and who do not respond to lactate differ from those who do respond.¹¹ Hence, it was decided to collect the data from those who experience naturally occurring as opposed to induced panic attacks.

There are important limitations to this study. In addition to the small sample size, the data were collected by the investigator, thereby possibly introducing bias. Also, symptom ranking and abatement patterns were determined through patient recall at a time after an actual panic attack. The reliability of these recall data may be questioned.

RESULTS

Patient characteristics are summarized in Table 3. All of the patients were white. In general, the demographic features of the sample appear to be similar to those of other studies.

Sixty percent of the patients had at least one attack per day. Analysis of the abatement pattern showed that 50

TABLE 2. CONDITIONS ASSOCIATED WITH PANIC ATTACKS

Type of Disorder	Condition
Cardiovascular disorders	Mitral valve prolapse Arrhythmias—paroxysmal atrial tachycardia*
Psychiatric disorders	Depression Agoraphobia Somatization syndrome* Schizophrenia* Simple or social phobia Panic disorder
Sleep disorders	Narcolepsy Sleep apnea Excessive drowsiness
Endocrine disorders	Hyperthyroidism Hypoglycemia* Menopause* Pheochromocytoma* Carcinoid syndrome*
Neurologic disorders	Temporal lobe epilepsy Cerebral tumor Parkinson's disease
Drug-related disorders	Antidepressant withdrawal Sedative-tranquilizer withdrawal* Stimulant use Metronidazole use
Miscellaneous	Wilson's disease* Acute intermittent porphyria* Hyperventilation syndrome*

* Association suspected but unproven

percent of the attacks resolved all at once, or following a key symptom. Because of the ordinal nature of the data, symptom rankings were described using medians, quartiles, and extremes. The distribution and median symptom rankings for each panic symptom are displayed in Figure 1.

DISCUSSION

When considering the symptomatic course of panic attack, there is a general symptom pattern (Figure 1). This pattern can be divided empirically into three groups of symptoms: early symptoms consist of dyspnea, palpitations, chest pain, and hot or cold flashes; intermediate symptoms include shaking, choking, feelings of unreality, sweats, faintness, and dizziness; and late symptoms are fear and paresthesias.

Cameron et al⁸ found that, based on symptom severity, (1) twitching was associated with feelings of unreality, (2) faintness was associated with dizziness, and (3) palpitations, sweating, and respiratory changes all clustered to-

TABLE 3. DATA SUMMARY OF PATIENT CHARACTERISTICS (n = 21)

Characteristic	No. (%)
Sex	
Male	4 (19)
Female	17 (81)
Age (years)	
≤25	5 (23.8)
26-35	5 (23.8)
36-45	5 (23.8)
46-55	3 (14.3)
≥56	3 (14.3)
Marital status	
Single	2 (9.5)
Married	13 (61.9)
Divorced	4 (19.0)
Widowed or separated	2 (9.5)
Education (years)	
<12	3 (15.8)
12	6 (31.6)
>12	10 (52.6)
Occupation	
Professional	3 (14.3)
Clerical	3 (14.3)
Housewife	9 (42.9)
Unemployed or retired	3 (14.3)
Other	3 (14.3)
Family history for panic	
Negative	16 (80)
Positive	4 (20)
Panic frequency	
1-2 per month	1 (5)
1 per week	3 (15)
≥2 per week	4 (20)
≥1 per day	12 (60)
Abatement pattern	
Reverse order as onset	4 (22.2)
Same order as onset	3 (16.7)
All at once	4 (22.2)
Unrelated to onset order	2 (11.1)
Sudden after key symptom	5 (27.8)

* For those categories in which the sum does not equal 21, the remainder represents missing data

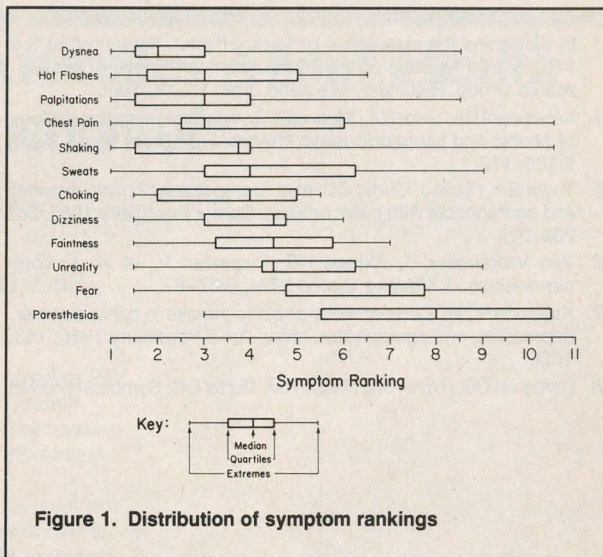


Figure 1. Distribution of symptom rankings

induce attacks without the fear component seen in those occurring naturally suggests that the fear is a learned response.¹³

The early onset of dyspnea in the panic sequence again raises the question of a relationship between panic and hyperventilation. Biochemical evidence supports the existence of acute and chronic hyperventilation in these patients.¹⁴ The early onset of dyspnea may support a causative role for this hyperventilation.

Symptom sequencing may have further implications in the pathophysiology of panic attack. Future study will use goodness-of-fit testing to compare different pathophysiologic models with observed symptom sequences.

SUMMARY

This study presents the relative rankings of panic symptoms. Based on intersymptom associations and intersymptom rank differences, these data provide for a better understanding of the phenomenon of panic. Only through such study can there be an understanding of both the personal devastation caused by panic attacks and of the factors leading to the development of agoraphobia.

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gether. This study supports these clusters. It appears that clustering based on symptom severity is similar to clustering based on symptom sequence.

To date, little has been done to investigate the sequence or clustering of symptoms. Ley¹² confirmed that fear tends to be the last symptom in the panic sequence. Ley's observation certainly agrees with the results of this study, which suggests that fear develops as a consequence of the panic attack.

Recent evidence has further suggested that the fear component occurring in panic attacks is unique from the other panic-related symptoms. That lactate infusion can

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