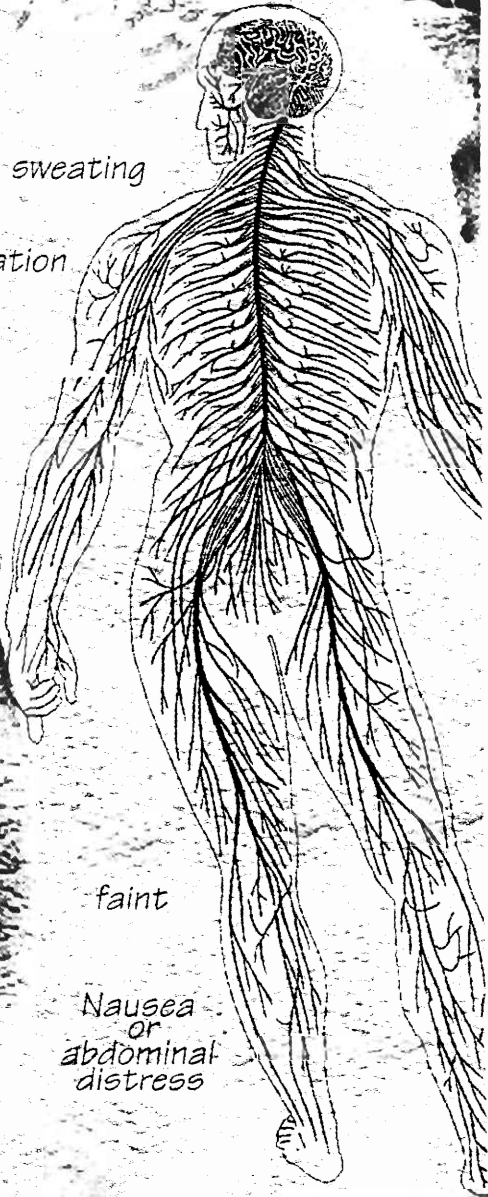
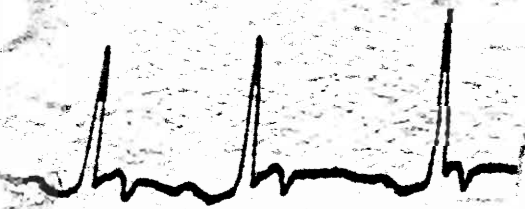


Part 1

REASSESSING PAIN

Diagnosing panic attacks in chest pain patients



chest pain
or discomfort

fear of losing
control

fear of dying

hot
flashes

chills

accelerated
heart rate

This research suggests that half of your patients who present with chest pain may be suffering from panic attacks. The author describes ways to avoid inappropriate tests and ineffective treatment.

A panic attack is a specific type of anxiety that presents a diagnostic challenge because one of its common symptoms, chest pain, can also signal life-threatening coronary disease. Panic attacks are a common cause of chest pain, which, in turn, is a notable symptom of panic disorder.

The medical setting that patients suffering from panic attacks visit most frequently is the family physician's office.¹ A study by the South Texas Ambulatory Research Network (STARNET) found that about 50 percent of patients who presented to their family physician with chest pain were suffering from either panic disorder or infrequent panic.² But relatively few of these cases were recognized by the

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TABLE 1
Criteria for a panic attack

A panic attack is a short period of intense fear or discomfort during which FOUR* or more of the following symptoms develop abruptly and reach a peak within 10 minutes:

1. Palpitations or accelerated heart rate (tachycardia)
2. Sweating
3. Trembling or shaking
4. Sensations of shortness of breath or smothering
5. Feeling of choking
6. Chest pain or discomfort
7. Nausea or abdominal distress
8. Feeling dizzy, unsteady, lightheaded or faint
9. Derealization (feelings of unreality) or depersonalization (being detached from oneself)
10. Fear of losing control or going crazy
11. Fear of dying
12. Paresthesia (numbness or tingling sensations)
13. Chills or hot flashes

* Attacks involving fewer than four symptoms are defined as limited symptom attacks.

Source: Adapted from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*, Washington, D.C.:American Psychiatric Association, 1994.

physicians during the first visit.

Primary care physicians can both provide relief for patients and help contain costs by giving serious consideration to panic states as a probable diagnosis for chest pain. This article reviews the diagnostic criteria for panic attacks and provides suggestions to physicians for treatment of patients who have them.

A common, costly health problem

About 15 percent of primary care patients suffer from current anxiety or depressive disorders.³ These disorders are a source of considerable morbidity and disability to patients and a reason for higher costs to payers. In a study using data from an HMO, the six-month average health-care cost for primary care patients

with anxiety or depression was \$2,390, compared to \$1,397 for patients who were not diagnosed with anxiety or depression. The cost difference was mostly a result of greater utilization of general medical services rather than of mental health services; mental health costs were less than 10 percent of the total.³

If more intensive mental health treatment in primary care could reduce morbidity from anxiety disorders and reduce utilization of general medical services, the resultant cost savings could be substantial. But this potential "cost offset" has not been subjected to a randomized trial.

Patients suffering from panic attacks often misinterpret their symptoms as caused by physical illness.⁴ In one study, 34 percent of patients who had undergone catheterization and were found on angiography to have normal coronary arteries met the criteria for panic disorder. Also, many patients who have chest pain continue to experience pain and disability after an angiogram has shown no evidence of coronary artery disease.⁵

Several studies indicate that physicians oftentimes don't recognize panic states.^{6,7} Physicians are trained to evaluate the symptoms experienced by people with chest pain as warning signs of angina or other cardiac conditions.

There is evidence that failure to recognize panic leads to more laboratory tests, fewer mental health referrals and fewer prescriptions for psychotropic medications.⁸ The magnitude of the problem is such that the National Institute of Mental Health launched a panic disorder education program to inform the public and to educate health-care providers about the disorder.⁹

Prevalence and recognition

The results of the STARNET study are instructive. During several

TABLE 2
Diagnostic criteria for panic disorder*

- A. Both (1) and (2)
 - (1) At least two unexpected panic attacks
 - (2) At least one of the attacks has been followed by one month (or more) of one (or more) of the following:
 - (a) persistent concern about having additional attacks
 - (b) worry about the implications of the attack or its consequences (e.g., losing control, having a heart attack, "going crazy")
 - (c) a significant change in behavior related to the attacks
- B. The panic attacks are not due to the direct physiological effects of a substance (e.g., drug abuse) or a general medical condition (e.g., hyperthyroidism).
- C. The panic attacks are not better accounted for by another mental disorder, such as social phobia, obsessive-compulsive disorder or post-traumatic stress disorder.

* without agoraphobia

Source: Adapted from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*, Washington, D.C.:American Psychiatric Association, 1994.

months in 1994-1995, adult patients visiting their family physician with the chief complaint of chest pain were asked if they would participate in the study. The participants had a mean age of 42.6 years and were of relatively high socioeconomic status. Seventy-one percent were women. The

subjects completed the panic disorder section of the Structured Clinical Interview (SCID) of the Diagnostic and Statistical Manual of Mental Disorders.¹⁰ This section of SCID was shown to be reliable compared to a psychiatrist's diagnosis. The SCID results were coded without knowledge of the

physician's progress notes.

Patients defined as having panic attacks were those having spontaneous episodes that included at least four symptoms from TABLE 1 peaking within 10 minutes. Attacks that involved fewer than four symptoms were classified as limited symptom attacks. Patients who experienced panic attacks but did not meet the criteria in TABLE 2 for panic disorder were classified as having infrequent panic attacks. More than half the patients in the STARNET study were experiencing a panic state according to the SCID diagnoses (TABLE 3).

Physicians were blinded to the SCID results. TABLE 4 shows a comparison of the physician diagnoses to the SCID diagnoses. Of the 28 patients who were suffering from some type of panic state according to SCID, only eight (28.6 percent) were diagnosed by the physicians as having panic or anxiety. Physicians gave a panic diagnosis for only four patients, two of whom did not have a panic state according to SCID. The conclusion that panic states are common among patients with chest pain but are rarely recognized is consistent with findings from studies of non-primary care populations.^{6,7}

Patients with panic disorder in

TABLE 3
STARNET study: Subjects with chest pain classified by SCID diagnosis

Panic disorder	13	25.5%
Infrequent panic	12	23.5
Limited symptoms	3	6
No panic	23	45
Total	51	100%

Source: Adapted from Katerndahl DA, Trammell C. Prevalence and recognition of panic states in STARNET patients presenting with chest pain. *J Fam Pract.* 1997;45:54-63.



the STARNET sample were more likely to receive a medication for heart disease. But patients with infrequent panic had more overall testing and were more likely to be tested for thyroid-stimulating hormone.

A history of repeated attacks probably gives the physician confidence in diagnosing anxiety or panic; there is greater uncertainty if the patient has few attacks—hence the higher level of testing for infrequent panic.

Patients who had panic attacks according to SCID incurred higher costs if the physician did not diagnose anxiety or panic. Those with unrecognized panic received more testing, follow-up visits, referrals and nonpsychotropic medications and therefore had higher total costs. Clearly, missing panic as the cause for chest pain has important consequences, as it leads to inappropriate treatment and higher costs.

Practice tips

It is the rare person with chest pain who comes into the physician's office in imminent danger of a myocardial infarction. It is far more likely that the cause is anxiety-related rather than a result of coronary disease. But this does not mean that the possibility of coronary disease can be ignored. Careful history taking, a physical exam and an ECG are required to rule out an acute life-threatening condition.

Additional tests are not warranted if there are no physical findings and no indications in the patient's history of organic disease.

Assuming there are no additional findings, the possibility that the per-

TABLE 4
STARNET study: SCID diagnosis cross-classified by physician diagnosis

Of the 23 patients who had no panic according to SCID, two had panic and six had anxiety according to the physician diagnosis. But from the 28 patients who had a panic condition according to SCID, only two were diagnosed by the physicians as suffering from panic and six from anxiety.

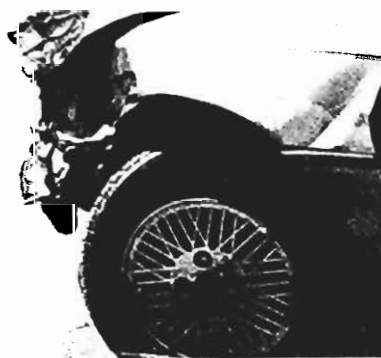
Physician diagnosis	SCID Diagnosis	
	No panic	Panic*
Panic	2	2
Anxiety	6	6
Other	15	20
Total	23	28

* Panic diagnoses include panic disorder, infrequent panic and limited symptom attacks.

Source: Adapted from Katerndahl DA, Trammell C. Prevalence and recognition of panic states in STARNET patients presenting with chest pain. *J Fam Pract.* 1997;45:54-63.

son has panic attacks should be investigated. The physician should take the patient through the DSM-IV criteria for panic attacks (see TABLE 1).

If the patient's complaints meet the criteria for a panic state, whether for a full-blown disorder or for infrequent attacks, the physician should discuss the diagnosis with the



patient. Panic attacks frequently begin at a time of increased stress in a person's life. The physician may be able to identify the source of a patient's anxiety and suggest ways to reduce it.

Panic attacks that are a direct physiological consequence of drug abuse are properly diagnosed as substance-induced anxiety disorder. But if panic attacks continue to occur after the physiological effects of substance use have ended, the diagnosis of panic disorder is appropriate. There is evidence that cocaine can trigger the onset of panic disorder. Studies also suggest that panic states can be caused by cannabis and amphetamines. While some people turn to drugs as a way of coping with panic attacks, there is also evidence of a reverse

chain of causality: substance abuse starts first and leads to panic states. It is therefore important to investigate whether the person is using mood-altering drugs.

On another front, there is increasing evidence that panic disorder may be linked to childhood sexual abuse; such cases usually require long-term counseling.

A panic disorder diagnosis does not necessarily mean the primary care physician should refer the patient to a mental health professional. Among the patients who should be referred are active substance abusers, those with a history of childhood sexual abuse and those who give indications of being suicidal. With the exception of such cases, to refer or not is a question of how comfortable the primary care physician feels in managing patients

who suffer from panic attacks.

Panic disorder responds well to a variety of medications. Selective serotonin reuptake inhibitors, high-potency benzodiazepines, tricyclic antidepressants and monoamine oxidase inhibitors have all been shown to be effective treatments. The disorder also responds to behavioral therapy, particularly cognitive and exposure therapies. While exposure therapy is relatively simple to do, cognitive therapy requires more training; but the primary care physician interested in learning to do this can certainly acquire the skill.

There is currently little evidence to show the effect of using both pharmacological and behavioral treatments for panic attack. Many factors come into play in determining the treatment choice, including patient preferences: Some don't like taking drugs, while others prefer to take medication rather than, say, attend weekly counseling sessions for 16 weeks.

Comorbidities need to be considered. For example, if the person with panic attacks is also depressed, prescribing an antidepressant can treat both the panic attacks and the depressive symptoms. Medication should be avoided, however, if the patient is pregnant.

The time the physician spends talking to the patient with chest pain helps avoid inappropriate prescriptions, tests and referrals. It can also provide relief to the patient, who otherwise may be condemned to go from one doctor to another seeking help for recurring and frightening symptoms.

Family practice research networks

Most clinical studies are conducted with patients treated by specialists in tertiary care centers. The extent to which the results of such studies can be generalized to



patients seen in primary care settings has long been questioned. In roughly the last 15 years, primary care physicians who have been concerned that much medical literature does not apply to their practice have created their own research networks, such as the Ambulatory Sentinel Practice Network. Their research studies questions of direct interest to primary care physicians and uses primary care patients as subjects.

Some of the findings reported in this article come from a study by the South Texas Ambulatory Research Network (STARNET). The network consists of 10 family practice physicians, each from a different private practice, who choose the study topic and enroll their patients in the study. The University of Texas Department of Family Practice designs and conducts the

research. Topics that have been investigated by STARNET include advanced health-care directives and the effects of exercise on the elderly. The group is now starting a study on hormone replacement therapy in postmenopausal women.

What to do when a patient complains of chest pain

- Take history carefully.
- If physical exam and ECG are normal, evaluate patient for criteria of panic attack.
- Check for substance abuse.
- Discuss the diagnosis with the patient.
- See what can be done about the sources of stress in the patient's life.
- Ask patient about preference for pharmacological versus behavioral treatment.
- Check for pregnancy before prescribing any medications for women. □

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