Epilepsy or something else?

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How would you handle this case?

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Ms. T, age 20, has a history of trauma and mood problems. She has seizure-like episodes but EEG and other tests do not find a cause. How would you treat her?

CASE Seizure-like symptoms

Ms. T, age 20, is brought to the emergency room (ER) by her father because she refuses to eat and drink, is unable to function at home, lies in bed all day, and does not attend to her activities of daily living (ADLs). Ms. T lives with her family, is not enrolled in school, and is unemployed. In the ER she initially is uncooperative and mute and then suddenly becomes agitated and has a seizure-like episode characterized by jerking of her trunk followed by random, asymmetrical movements of her legs and arms, closing both eyes, weeping, foaming at the mouth, moaning, and marked unresponsiveness. The episode lasts for >5 minutes.

What is your differential diagnosis?

a) acute epileptic seizures
b) psychogenic nonepileptic seizures (PNES)
c) conversion disorder
d) dissociative disorder

The authors' observations

Based on Ms. T's presentation, the medical team considered acute epileptic seizures. Asymmetrical jerking of the body may be seen in frontal lobe epilepsy or seizures of the supplementary sensorimotor area. Frontal lobe epilepsy can present with bilateral asynchronous motor activity with consciousness during the event and a lack of postictal confusion.[1] Seizures of the supplementary sensorimotor area—also known as the secondary motor area—are particularly problematic because typically they present with bilateral asymmetric tonic posturing followed by a few clonic movements, intact consciousness, and rarely postictal confusion. Adding to the diagnostic uncertainty, some "soft signs" thought to indicate PNES (eg, pelvic thrusting, crying) are common with frontal lobe epilepsy.[1,2]

PNES are episodes of altered movement, sensation, or experience that may be mistaken for epileptic seizures but are not a consequence of abnormal cortical discharges. Instead they are caused by physiological or psychological factors.[3] Behaviors or signs that strongly suggest PNES include:

- gradual onset or termination
- pseudosleep, when the patient appears to be asleep but electroencephalography (EEG) findings indicate he or she is awake
- discontinuous (stop-and-go), irregular, or asynchronous (out-of-phase) activity—including side-to-side head movement, pelvic thrusting, and opisthotonic posturing—stuttering, and weeping[4]
- eye closure.[5]

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Ms. T's father said his daughter had been hospitalized several times for episodes characterized by pelvic thrusting, stuttering, and pseudosleep, which raised the possibility of PNES. Definitive diagnosis of PNES comes from video EEG when a patient is observed having typical seizures without accompanying EEG abnormalities.[6]

EVALUATION Inconclusive data

Ms. T is admitted to the medical unit to rule out a seizure disorder. Physical examination is unremarkable and laboratory tests are within normal limits. The neurology service requests a head MRI, which is inconclusive. Inpatient video EEG with 24-hour monitoring does not indicate acute epileptic seizures. Ms. T's father says that she has experienced many paroxysmal motor episodes and all neurologic tests, exams, and labs have failed to find a cause for these episodes. She did not receive any antiepileptic medications. A psychiatric consult is requested to clarify the diagnosis. Ms. T is transferred to an inpatient psychiatric unit for further evaluation and management.

The authors' observations

Fleisher et al[7] suggested that traumatic events may lead to presentations similar to PNES. Because Ms. T was molested by a family friend as a child, we considered posttraumatic stress disorder (PTSD) in the differential diagnosis, although she has not reported symptoms of intrusive recollections, avoidance, numbing, or hyperarousal.

We also considered conversion disorder and dissociative disorder. Patients with conversion disorder have ≥1 symptoms or signs that affect voluntary motor or sensory function that cannot be explained by a neurologic or general medical condition.[8] Dissociative disorder is a disruption in usually integrated functions of consciousness, memory, identity, or perception of the environment.[8] The presentation of patients with PNES may resemble that of patients with dissociative disorder.[8] In a study of 45 adult PNES patients, Bowman et al[8] found that PNES often are comorbid with other psychiatric disorders, including somatoform disorders (89%), dissociative disorders (91%), affective disorders (64%), personality disorders (62%), PTSD (49%), and other anxiety disorders (47%).

How would you manage Ms. T?

a) start an antiepileptic medication
b) explore her history of trauma and sexual abuse
c) begin insight-oriented psychodynamic psychotherapy

TREATMENT Managing aggression

In the psychiatric unit, Ms. T initially is irritable and disorganized with poor oral intake and regressed behavior; she often is found in the fetal position, crying and talking in a childish manner. Throughout her admission, she receives several anxiolytics and antipsychotics—including lorazepam, up to 6 mg/d, clonazepam, up to 3 mg/d, haloperidol, up to 10 mg/d, and quetiapine, up to 200 mg/d—to help manage her aggressive behaviors after her seizure-like episodes. Further evaluation reveals that Ms. T has no psychotic symptoms, overt delusions, or perceptual disturbances and her thought process is coherent and clear. She has no history of substance abuse. Her ability to perform ADLs improves within a few days. She complains of depressed mood and engages in head banging, which requires close observation.

Ms. T has a history of mood and behavioral problems since early childhood characterized by episodic dysphoric mood, anxiety, and agitation. She has had trials of several antidepressants, including sertraline, fluoxetine, venlafaxine, and escitalopram, and anxiolytics, including lorazepam, clonazepam, and alprazolam. Her outpatient psychiatrist describes a history of physical and sexual abuse starting at age 7. At age 9, after her mother died from breast cancer, Ms. T and her siblings were moved to foster care, where she was physically abused by the staff. She remained in foster care until age 18.

continued

Clinical Point

PNES often are comorbid with somatoform, dissociative, affective, personality, or anxiety disorders

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Clinical Point

Sexual abuse, family conflicts, and death of a family member often play an important role in PNES

Table

Characteristics of psychogenic nonepileptic seizures

Characteristic	Comment
Duration	May be prolonged
Timing	Usually occur only during the day
Physical harm	Rare
Tongue biting	Rare
Urinary incontinence	Rare
Motor activity	Prolonged
Cyanosis	No
Postictal confusion	Rare
Related to medication changes	No
Interictal EEG	Normal
Ictal EEG	Normal
Presence of secondary gain	Common

EEG: electroencephalography
Source: References 4,10,11,13

The authors' observations

PNES pose a diagnostic and therapeutic challenge. Many PNES patients seek medical attention for their seizures. PNES patients misdiagnosed as having epilepsy have a worse prognosis because they do not receive appropriate treatment[9] and may experience side effects if antiepileptics are prescribed.[10] Finally, the financial burden of medical care can be significant. Ms. T had several hospitalizations, including extensive neurologic workup, intensive care unit admissions for intubation, and use of antiepileptics with almost no benefit.

Psychosocial assessments of PNES patients have revealed that sexual abuse, family conflicts, and death of a family member often play an important role.[11] It is possible that as a result of childhood trauma, Ms. T exhibited a regressed and primitive defense mechanism to deal with the trauma. PNES usually are considered when a patient presents with:

- absence of therapeutic response to antiepileptics
- loss of response (therapeutic failure) to antiepileptics
- paradoxical response to antiepileptics (worsening or unexpected responses)
- atypical, multiple, or inconsistent seizures
- seizures that occur soon after emotional stress.[12]

We concluded Ms. T had PNES because of the unusual presentations of her seizures, negative video EEG findings, failure to respond to antiepileptics, lack of risk factors for epilepsy, and aggressive behaviors before or after the seizures (***Table***).[4,10,11,13] Diagnosing PNES early allows clinicians to focus on appropriate treatment modalities (eg, psychotherapy, antidepressants), prevents costly neurologic workups and treatments (eg, routine EEGs, trials of several antiepileptics), and provides patients with diagnostic assurance.[10]

3 components of treatment

Presenting the PNES diagnosis to the patient. The neurologist and the psychiatrist should convey to the patient that they see the symptoms as "real" and not "all in your head."[14]

Withdrawing antiepileptic medications. Antiepileptic medication withdrawal is recommended when a thorough diagnostic workup shows no evidence of epileptic seizures.[15] Oto et al[16] reported 49% of PNES patients became seizure-free 12 months after discontinuing antiepileptics.

Psychotherapy and pharmacotherapy. Open-label studies of psychological treatments for PNES have demonstrated that a cognitive-behavioral therapy-based approach and brief augmented psychodynamic interpersonal therapy could reduce seizures.[17] In a pilot, randomized, placebo-controlled trial, PNES patients who received

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Related Resource

- Marsh P, Benbadis S, Fernandez F. Psychogenic nonepileptic seizures: ways to win over skeptical patients. Current Psychiatry. 2008;7(1):21-35.

Drug Brand Names

Alprazolam • Xanax
Clonazepam • Klonopin
Escitalopram • Lexapro
Fluoxetine • Prozac
Haloperidol • Haldol
Lorazepam • Ativan
Quetiapine • Seroquel
Sertraline • Zoloft
Venlafaxine • Effexor

Disclosure

The authors report no financial relationship with any company whose products are mentioned in this article or with manufacturers of competing products.

Clinical Point

A cognitive-behavioral therapy-based approach and brief augmented psychodynamic interpersonal therapy could reduce PNES

flexibly dosed sertraline reported a 45% reduction in seizures compared with an 8% increase in the placebo group.[18] Similar improvements in seizure frequency have been reported in PNES patients with anxiety or depression treated with venlafaxine.[19]

OUTCOME Support, improvement

During the next several days, Ms. T has random episodes of seizures with foaming of the mouth and unresponsiveness. These episodes last from 5 to 30 minutes and require transfer to the ER. After each episode, Ms. T is medically cleared and sent back to the psychiatric unit. The neurologist recommends avoiding antiepileptics. Ms. T responds well to the structured inpatient setting and supportive psychotherapy. Her episodes decrease and her mood becomes more stable. She refrains from self-injurious behaviors and is discharged home with outpatient follow-up.

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Bottom Line

Psychogenic nonepileptic seizures resemble epileptic seizures but are caused by psychological distress. They often are comorbid with other psychiatric disorders, including somatoform, dissociative, affective, or anxiety disorders. Patients may respond to supportive psychotherapy and antidepressants.