ONLINE EXCLUSIVE

Video of a PNES episode

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Psychogenic nonepileptic seizures: Ways to win over skeptical patients

To best help them, clearly explain the diagnosis and treat underlying disorders

Many patients with psychogenic nonepileptic seizures (PNES) dismiss the idea that their seizures are psychogenic, especially if the correct diagnosis comes after years of treatment for epilepsy.[1] In a recent study of 164 patients diagnosed with PNES, 82% were readmitted to neurologic wards within the next 10 years.[2]

Getting patients to accept the diagnosis and appropriate treatment is possible, however. Depending on the severity of PNES' nearly ubiquitous psychiatric comorbidities, you may be able to defuse patients' anger by following protocols for presenting the PNES diagnosis, as described here. You can help PNES patients by:

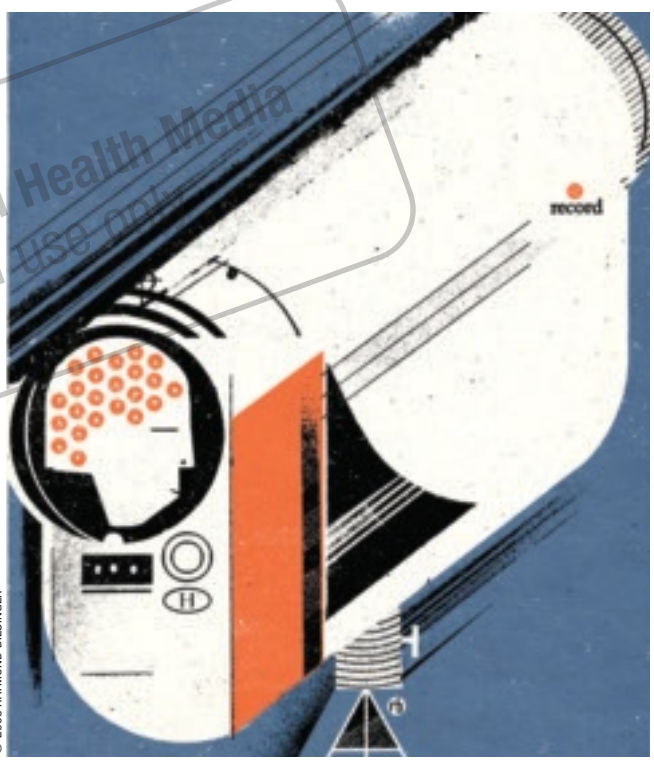
- differentiating PNES from other conditions
- educating them to accept that psychological distress, not epilepsy, is causing their seizures
- treating underlying psychiatric illness.

CASE STUDY

Is it epilepsy?

Ms. P, age 61, is referred to a comprehensive epilepsy program for evaluation of unusual spells she's had since age 7 or 8. In childhood, the spells consisted of "spacey feelings" and epigastric discomfort. In her 30s she began to have other neurologic symptoms, such as numbness and tingling all over her body. At approximately age 50 she began experiencing confusional episodes lasting 1 to 2 minutes.

A neurologist evaluated Ms. P after she had a spell while hospitalized for angiography at age 59. This spell



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Psychogenic seizures

Clinical Point

Most PNES patients have a history of psychiatric illness, usually somatoform, dissociative, affective, or anxiety disorders

Box 1

How many patients develop PNES?

Studies of patients referred to neurologic centers have reported an incidence of 1.5 to 3 psychogenic nonepileptic seizure (PNES) cases per 100,000 patients per year.[1] However, these studies counted only cases diagnosed by video electroencephalography.

Based on the overall prevalence of epilepsy and proportion of PNES in patients referred for refractory epilepsy, the estimated incidence of PNES in the general population is 2 to 33 cases per 100,000 patients per year—making PNES about as common as multiple sclerosis.[3] This estimated range is wide because of variability in estimates of intractable epilepsy, referral patterns, and PNES diagnosis, in particular.

PNES typically occur in patients age 20 to 30 but have been reported in those as young as 4 and in patients older than 70. Three-quarters of adults with PNES are women.[1] Among patients age 5 to 12, the condition is more common in boys than in girls, but by adolescence the reverse is true.[4]

Table 1

PNES: Most common comorbid psychiatric diagnoses

Diagnosis	Lifetime	Current
Any somatoform disorder	98%	89%
Conversion seizure	89%	78%
Conversion, nonseizure	82%	4%
Dissociative disorder	93%	91%
Any personality disorder	*	62%
Major depressive disorder	80%	47%
Any mood disorder	98%	64%
Posttraumatic stress disorder (PTSD)	58%	49%
Non-PTSD anxiety disorder	51%	47%

*Data were not reported
Source: Reference 5

consisted of left hand shaking and stiffness and inability to respond without loss of awareness. Her spells decreased briefly after she was prescribed topiramate, 100 mg bid, but became increasingly more frequent and severe. MRI indicated an abnormality of the right mesiotemporal lobe with subcortical cystic changes and slight atrophy. PET indicated subtle hypoperfusion of the right medial temporal lobe. She was referred to the epilepsy program with a diagnosis of temporal lobe epilepsy.

Comorbid psychopathology is the rule

Although the precise incidence of PNES is unknown (***Box 1***),[1,3,4] nearly 100% of PNES patients have a history of psychiatric illness (***Table 1***).[5] The most commonly reported Axis I diagnoses are:

- somatoform or dissociative disorders
- affective disorders
- anxiety disorders, particularly posttraumatic stress disorder (PTSD).[1]

Depression is independently associated with poor quality of life whether patients have epilepsy or PNES.[6]

Maladaptive personalities. Personality disorders frequently are associated with PNES.[1] One systematic assessment of 45 PNES patients found that the most common personality presentation is not a single disorder but a confluence of maladaptive personality traits.[5]

In addition to DSM-IV-TR criteria, researchers have used other standard psychological assessments to examine PNES patients' personality traits. Typical results on the most commonly applied instrument—the Minnesota Multiphasic Personality Inventory (MMPI/MMPI-2)[7]—show marked elevations on the hysteria and hypochondriasis scale and a less marked elevation on the depression scale, which forms the classic conversion V pattern. Nonconversion patterns also have been reported.[8]

Studies conducted with the Dimensional Assessment of Personality Pathology-Basic Questionnaire (DAPP-BQ) and the Revised NEO Personality Inventory (NEO-PI-R) seem to confirm clusters of maladaptive personality styles among PNES patients.[7,8]

Regardless of assessment technique, a PNES patient's personality tends to include emotional dysregulation and poor

coping style. Reuber et al[2] found that PNES patients' outcomes may be correlated with different personality feature clusters. Patients who scored lower on the high-order personality dimensions—inhibitedness, emotional dysregulation, and compulsivity—had fewer psychiatric hospitalizations and were more likely to be seizure-free at follow-up.

CASE CONTINUED

Distressed relationships

Ms. P's psychiatric history includes multiple sexual assaults by relatives, a former employer, and a former physician from her teens through age 40; one involuntary hospitalization for "paranoid ideation"; and a depression diagnosis. Ms. P is estranged from her parents, twin sister, and 2 children. Her only interpersonal relationship is with a live-in boyfriend with antisocial traits. Acquaintances have told Ms. P they believe she is depressed, but she denies depressive or anxious symptoms.

Ms. P undergoes comprehensive neuropsychological evaluation, including multiple cognitive measures and personality testing. Cognition is intact; MMPI responses—though somewhat defensive—are valid and reveal elevations of the hypochondriasis and hysteria scales with a lesser elevation of the depression scale. This "conversion V pattern" suggests mild emotional distress, characterized by tension and very mild dysphoria in the context of strong tendency toward somatization. Her character structure is consistent with borderline personality organization.

Differential diagnosis

Diagnostic evaluation of a patient who presents with seizure-like behaviors begins with taking a history of the illness and psychiatric history, considering the patient's medical status, and ordering baseline laboratory tests (***Table 2***).[9]

Physiologic seizures. PNES must be differentiated from physiologic nonepileptic paroxysmal events, including:

- syncopal episodes
- complicated migraines
- panic attacks
- transient ischemic events.

Table 2

Baseline exam when you suspect PNES

History of present illness

Take detailed symptom profile. Emphasize recent stressful events to differentiate diagnostic possibilities (panic, depression, dissociative disorder, posttraumatic stress disorder, etc.)

Evaluate for other primary Axis I and Axis II disorders with comorbid anxiety and depression (bereavement, adjustment disorders, borderline personality disorder, antisocial personality disorder, etc.)

↓

Psychiatric history

Ascertain past symptoms and treatments

Emphasize prior trauma

Examine drug and alcohol history

↓

Medical status

Assess for pulmonary disease, cardiac disease, endocrine disturbances, neurologic disease, etc.

Document medication history, including over-the-counter medications and herbal therapies

↓

Video EEG

Obtain adequate neurologic workup, including PNES diagnosis by an experienced epileptologist using video electroencephalography

Source: Reference 9

PNES must also be differentiated from paroxysmal events with other medical causes—such as autonomic dysfunction, cardiac arrhythmias, hypoglycemia, and drug or alcohol intoxication or withdrawal—and from movement disorders, sleep disorders, or vestibular symptoms.[10]

Epilepsy. Patients with PNES are often misdiagnosed with and treated for epilepsy.[1] Although epilepsy is considered a

Clinical Point

A PNES patient's personality tends to include emotional dysregulation and poor coping style

Clinical Point

Refer a patient with suspected PNES to an epilepsy center for video encephalography to confirm the diagnosis

Table 3

Presenting patients with a diagnosis of PNES

Review the video electroencephalography-recorded seizure with the patient and someone who has witnessed the patient's previous events to ensure the event was typical
Explain the diagnosis in positive terms ("good news"); emphasize that the seizures are not a result of the brain firing out of control
Acknowledge that the precise cause of the seizures has not yet been established and may not be found
Suggest that in many cases the seizures may be related to psychological factors such as stress or negative emotions
State that the diagnosis does not imply the patient is "crazy"
Suggest that the seizures may resolve on their own

Source: Reference 26

risk factor for PNES, epilepsy is found in only 5% to 10% of PNES patients—much less frequently than was once thought.[11,12] Among patients with refractory seizure disorder, 15% to 20% eventually are diagnosed with PNES.[13]

The psychiatric history often suggests PNES. Psychiatric disorders are more common in persons with epilepsy than those without, however, so the presence of a comorbid psychiatric diagnosis has low sensitivity or specificity for PNES.[6,14]

Classic semiologic details such as rhythmic pelvic movements, asynchronous limb movements, and side-to-side head shaking are specific to PNES but lack sensitivity.[1] A more recent retrospective study found that ictal eye closure had a sensitivity and specificity of 96% and 98%, respectively, for PNES.[15] Fifty of 52 PNES patients consistently closed their eyes during seizures, whereas 152 of 156 epilepsy patients kept them open. Not all clinicians agree, however, that any semiologic features of seizures are specific to PNES and reliable enough to establish the diagnosis.[16]

Serum prolactin levels rise after generalized tonic-clonic or partial seizures but not after other types of paroxysmal episodes. Normal serum prolactin is 2 to 18 ng/mL for men, 3 to 29 ng/mL for nonpregnant women, and 10 to 209 ng/mL for pregnant women. An elevated serum prolactin assay, when measured in the appropriate clinical setting 10 to 20 minutes after a suspected event, can be a useful adjunct for differentiating generalized tonic-clonic or partial seizures from PNES in adults or older children.[17] Serum prolactin assay does not, however, distinguish epileptic seizures from syncope, nor is it helpful in distinguishing PNES from absence, simple partial, or frontal lobe seizures.

Video electroencephalography. Ensure that any patient with a PNES diagnosis has had the diagnosis confirmed by video electroencephalography (VEEG) performed at an epilepsy center. A prospective study of VEEG and refractory epilepsy found the pre-VEEG clinical diagnosis of PNES was incorrect 22% of the time and the pre-VEEG clinical diagnosis of epilepsy was incorrect 52% of the time.[18]

During VEEG, patients are monitored by video camera and EEG for several hours to several days. If the patient experiences a typical paraoxysmal event with no corresponding EEG change, a trained epileptologist can diagnose PNES with near certainty. An epileptologist's expertise is required because while recording an episode with no epileptiform EEG discharge is necessary for a PNES diagnosis, it's not sufficient—certain types of epileptic seizures, such as simple partial seizures, will not show an ictal discharge on surface EEG.

CASE STUDY

Diagnosis confirmed

The childhood onset of Ms. P's seizures, the semiology of those spells, and her abnormal MRI strongly suggest epileptic seizure. However, her current psychologic profile, recent seizure semiology, and treatment refractoriness raise the potential for PNES. The psychiatrist refers Ms. P to an epilepsy center for VEEG. The results reveal an interictal EEG without epileptiform discharges. Monitoring captures 2 typical spells consisting of head shaking, intermittent upper body jerks, and unresponsiveness. These spells were not accompanied by EEG changes. The diagnosis is PNES, and Ms. P is referred for outpatient psychotherapy.

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from the three placebo-controlled, 6-week, fixed-dose studies based on subjects with schizophrenia who received INVEGA™ at daily doses within the recommended range of 3 to 12 mg (n = 850). Additional safety information from the placebo-controlled phase of the long-term maintenance study, in which subjects received INVEGA™ at daily doses within the range of 3 to 15 mg (n = 104), is also included. **Adverse Events Observed in Short-Term, Placebo-Controlled Trials of Subjects with Schizophrenia** The information presented in these sections were derived from pooled data from the three placebo-controlled, 6-week, fixed-dose studies based on subjects with schizophrenia who received INVEGA™ at daily doses within the recommended range of 3 to 12 mg (n = 850). Adverse Events Occurring at an Incidence of 2% or More Among INVEGA™-Treated Patients with Schizophrenia and More Frequent on Drug than Placebo Table 1 enumerates the pooled incidences of treatment-emergent adverse events that were spontaneously reported in the three placebo-controlled, 6-week, fixed-dose studies, listing those events that occurred in 2% or more of subjects treated with INVEGA™ in any of the dose groups, and for which the incidence in INVEGA™-treated subjects in any of the dose groups was greater than the incidence in subjects treated with placebo. **Treatment-Emergent Adverse Events in Short-Term, Fixed-Dose, Placebo-Controlled Trials in Adult Subjects with Schizophrenia.* Body System or Organ Class** (Dictionary-derived Term) Percentage of Patients Reporting Event INVEGA™ Placebo (N=355) first, INVEGA™ dosage once daily 3 mg (N=127) second, 6 mg N=235) third, 9 mg (N=246) fourth, 12 mg (N=242) fifth, **Percentage of subjects with adverse events** 66, 72, 66, 70, 76; **Cardiac disorders:** Atrioventricular block first degree 1, 2, 0, 2, 1; Bundle branch block 2, 3, 1, 3, <1; Sinus arrhythmia 0, 2, 1, 1, <1; Tachycardia 7, 14, 12, 12, 14; **Eye disorders:** Vision blurred 1, 1, <1, 0, 2; **Gastrointestinal disorders:** Abdominal pain upper 1, 1, 3, 2, 2; Dry mouth 1, 2, 3, 1, 3; Dyspepsia 4, 2, 3, 2, 5; Nausea 5, 6, 4, 4, 4; Salivary hypersecretion <1, 0, <1, 1, 4; **General disorders**: Asthenia 1, 2, <1, 2, 2; Fatigue 1, 2, 1, 2, 2; Pyrexia 1, 1, <1, 2, 2; **Investigations:** Blood insulin increased 1, 2, 1, 1, <1; Blood pressure increased 1, 2, <1, <1, 1; Electrocardiogram QT corrected interval prolonged 3, 3, 4, 3, 5; Electrocardiogram T wave abnormal 1, 2, 1, 2, 1; **Musculoskeletal and connective tissue disorders**: Back pain 1, 1, 1, 1, 2; Pain in extremity 1, 0, 1, 0, 2; **Nervous system disorders**: Akathisia 4, 4, 3, 8, 10; Dizziness 4, 6, 5, 4, 5; Dystonia 1, 1, 1, 5, 4; Extrapyramidal disorder 2, 5, 2, 7, 7; Headache 12, 11, 12, 14, 14; Hypertonia 1, 2, 1, 4, 3; Parkinsonism 0, 0, <1, 2, 1; Somnolence 7, 6, 9, 10, 11; Tremor 3, 3, 3, 4, 3; **Psychiatric disorders**: Anxiety 8, 9, 7, 6, 5; **Respiratory, thoracic and mediastinal disorders**: Cough 1, 3, 2, 3, 2; **Vascular disorders**: Orthostatic hypotension 1, 2, 1, 2, 4: *Table includes adverse events that were reported in 2% or more of subjects in any of the INVEGA™ dose groups and which occurred at greater incidence than in the placebo group. Data are pooled from three studies; one included once-daily INVEGA™ doses of 3 and 9 mg, the second study included 6, 9, and 12 mg, and the third study included 6 and 12 mg (see CLINICAL PHARMACOLOGY: Clinical Trials in full PI). Events for which the INVEGA™ incidence was equal to or less than placebo are not listed in the table, but included the following: constipation, diarrhea, vomiting, nasopharyngitis, agitation, and insomnia. **Dose-Related Adverse Events in Clinical Trials:** Based on the pooled data from the three placebo-controlled, 6-week, fixed-dose studies, adverse events that occurred with a greater than 2% incidence in the subjects treated with INVEGA™, the incidences of the following adverse events increased with dose: somnolence, orthostatic hypotension, salivary hypersecretion, akathisia, dystonia, extrapyramidal disorder, hypertonia and Parkinsonism. For most of these, the increased incidence was seen primarily at the 12 mg, and in some cases the 9 mg dose. **Common and Drug-Related Adverse Events in Clinical Trials** In the pooled data from three placebo-controlled, 6-week, fixed-dose studies, adverse events reported in 5% or more of subjects treated with INVEGA™ and at least twice the placebo rate for at least one dose included: akathisia and extrapyramidal disorder. **Extrapyramidal Symptoms (EPS) in Clinical Trials:** Pooled data from the three placebo-controlled, 6-week, fixed-dose studies provided information regarding treatment-emergent EPS. Several methods were used to measure EPS: (1) the Simpson-Angus global score (mean change from baseline) which broadly evaluates Parkinsonism, (2) the Barnes Akathisia Rating Scale global clinical rating score (mean change from baseline) which evaluates akathisia, (3) use of anticholinergic medications to treat emergent EPS, and (4) incidence of spontaneous reports of EPS. For the Simpson-Angus Scale, spontaneous EPS reports and use of anticholinergic medications, there was a dose-related increase observed for the 9 mg and 12 mg doses. There was no difference observed between placebo and INVEGA™ 3 mg and 6 mg doses for any of these EPS measures. **Percentage of Patients INVEGA™** Placebo (N=355) first, INVEGA™ dosage once daily 3 mg (N=127) second, 6 mg N=235) third, 9 mg (N=246) fourth, 12 mg (N=242) fifth, **EPS Group:** Parkinsonism [a] 9, 11, 3, 15, 14; Akathisia [b] 6, 6, 4, 7, 9; Use of anticholinergic medications [c] 10, 10, 9, 22, 22: [a]: For Parkinsonism, percent of patients with Simpson-Angus global score > 0.3 (Global score defined as total sum of items score divided by the number of items). [b]: For Akathisia, percent of patients with Barnes Akathisia Rating Scale global score ≥ 2. [c]: Percent of patients who received anticholinergic medications to treat emergent EPS. **Percentage of Patients INVEGA™** Placebo (N=355) first, INVEGA™ dosage once daily 3 mg (N=127) second, 6 mg N=235) third, 9 mg (N=246) fourth, 12 mg (N=242) fifth, **EPS Group**: Overall percentage of patients with EPS-related AE 11.0, 12.6, 10.2, 25.2, 26.0; Dyskinesia 3.4, 4.7, 2.6, 7.7, 8.7; Dystonia 1.1, 0.8, 1.3, 5.3, 4.5; Hyperkinesia 3.9, 3.9, 3.0, 8.1, 9.9; Parkinsonism 2.3, 3.1, 2.6, 7.3, 6.2; Tremor 3.4, 3.1, 2.6, 4.5, 3.3: Dyskinesia group includes: Dyskinesia, Extrapyramidal disorder, Muscle twitching, Tardive dyskinesia Dystonia group includes: Dystonia, Muscle spasms, Oculogyration, Trismus. Hyperkinesia group includes: Akathisia, Hyperkinesia. Parkinsonism group includes: Bradykinesia, Cogwheel rigidity, Drooling, Hypertonia, Hypokinesia, Muscle rigidity, Musculoskeletal stiffness, Parkinsonism. Tremor group includes: Tremor. **Adverse Events Associated with Discontinuation of Treatment in Controlled Clinical Studies:** Based on the pooled data from the three placebo-controlled, 6-week, fixed dose studies, there was no difference in the incidence of discontinuation due to adverse events between INVEGA™-treated (5%) and placebo-treated (5%) subjects. The types of adverse events that led to discontinuation were similar for the INVEGA™-and placebo-treated subjects, except for Nervous System Disorders events which were more common among INVEGA™-treated subjects than placebo-treated subjects (2% and 0%, respectively), and Psychiatric Disorders events which were more common among placebo-treated subjects than INVEGA™-treated subjects (3% and 1%, respectively). **Demographic Differences in Adverse Reactions in Clinical Trials:** An examination of population subgroups in the three placebo-controlled, 6-week, fixed-dose studies did not reveal any evidence of differences in safety on the basis of age, gender or race (see PRECAUTIONS: Geriatric Use). **Laboratory Test Abnormalities in Clinical Trials:** In the pooled data from the three placebo-controlled, 6-week, fixed-dose studies, between-group comparisons revealed no medically important differences between INVEGA™ and placebo in the proportions of subjects experiencing potentially clinically significant changes in routine hematology, urinalysis, or serum chemistry, including mean changes from baseline in fasting glucose, insulin, c-peptide, triglyceride, HDL, LDL, and total cholesterol measurements. Similarly, there were no differences between INVEGA™ and placebo in the incidence of discontinuations due to changes in hematology, urinalysis, or serum chemistry. However, INVEGA™ was associated with increases in serum prolactin (see PRECAUTIONS: General: Hyperprolactinemia). **Weight Gain in Clinical Trials:** In the pooled data from the three placebo-controlled, 6-week, fixed-dose studies, the proportions of subjects having a weight gain of ≥ 7% of body weight were similar for INVEGA™ 3 mg and 6 mg (7% and 6%, respectively) and placebo (5%), but there was a higher incidence of weight gain for INVEGA™ 9 mg and 12 mg (9% and 9%, respectively). **Other Events Observed During the Premarketing Evaluation of INVEGA™:** The following list contains all serious and non-serious treatment-emergent adverse events reported at any time by individuals taking INVEGA™ during any phase of a trial within the premarketing database (n = 2720), except (1) those listed in Table 1 above or elsewhere in labeling, (2) those for which a causal relationship to INVEGA™ use was considered remote, and (3) those occurring in only one subject treated with INVEGA™ and that were not acutely life-threatening. Events are classified within body system categories using the following definitions: *very frequent* adverse events are defined as those occurring on one or more occasions in at least 1/10 subjects, *frequent* adverse events are defined as those occurring on one or more occasions in at least 1/100 subjects, *infrequent* adverse events are those occurring on one or more occasions in 1/100 to 1/1000 subjects, and *rare* events are those occurring on one or more occasions in less than 1/1000 subjects. **Blood and Lymphatic System Disorders:** *rare*: thrombocytopenia; **Cardiac Disorders:** *frequent:* palpitations; *infrequent*: bradycardia; **Gastrointestinal Disorders:** *frequent:* abdominal pain; *infrequent*: swollen tongue; **General Disorders:** *infrequent:* edema; **Immune Disorder:** *rare*: anaphylactic reaction; **Nervous System Disorders:** *rare*: coordination abnormal; **Psychiatric Disorders:** *infrequent*: confusional state; **Respiratory, Thoracic and Mediastinal Disorders:** *frequent*: dyspnea; *rare*: pulmonary embolus; **Vascular Disorders:** *rare*: ischemia, venous thrombosis; The safety of INVEGA™ was also evaluated in a long-term trial designed to assess the maintenance of effect with INVEGA™ in adults with schizophrenia (see CLINICAL PHARMACOLOGY: Clinical Trials in full PI). In general, adverse event types, frequencies, and severities during the initial 14-week open-label phase of this study were comparable to those observed in the 6-week, placebo-controlled, fixed-dose studies. Adverse events reported during the long-term double-blind phase of this study were similar in type and severity to those observed in the initial 14-week open-label phase. **Adverse Events Reported With Risperidone**; Paliperidone is the major active metabolite of risperidone. Adverse events reported with risperidone can be found in the ADVERSE REACTIONS section of the risperidone package insert.

DRUG ABUSE AND DEPENDENCE

Controlled Substance: INVEGA™ (paliperidone) is not a controlled substance.

For more information on symptoms and treatment of overdosage, see full Prescribing Information.

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Voluntary symptom production

In most patients, PNES are an unconscious manifestation of psychopathology. However, a small subgroup of patients consciously produces symptoms for unconscious (factitious) or conscious (malingering) gain.[19] Symptom validity testing can help distinguish factitious disorder and malingering (see "Neurocognitive impairment: Feigned, exaggerated, or real?" Current Psychiatry, August 2007, p. 19-37).

Diagnosis is part of treatment

Outcomes in PNES are generally poor: 71% of PNES patients continue to have seizures 4 years after diagnosis, and 56% are dependent on Social Security assistance.[2] Neurologic and psychiatric factors associated with poor outcome include:[2,10,20,21]

- history of epilepsy
- abnormal MRI
- presence of a psychiatric diagnosis
- age >30 years
- duration of illness (the longer the patient has been treated for epilepsy, the worse the prognosis).

Treatment begins with a secure diagnosis and clear patient communication. Diagnosis alone may be therapeutic. Studies have found that patients have significantly fewer seizures[22] and use less medical services[23] after PNES diagnosis. One small study, however, found that substantial reductions in PNES frequency are not maintained long term.[24]

One potentially modifiable factor that appears to affect outcome is whether patients accept the PNES diagnosis.[25] Reuber et al[2] found approximately 8 out of 10 patients do not. Protocols can help you structure how you present the diagnosis to reduce patient anger and increase acceptance of the diagnosis and treatment (***Table 3, page 24***).[26] Explain a PNES diagnosis in unambiguous terms that patients will understand, such as "psychological" and "emotional."

Physician attitude might negatively impact PNES treatment. Only 18% of psychiatrists report being confident of a PNES diagnosis based on VEEG.[27]

Box 2

Successful depression treatment halts this patient's PNES

Mrs. A, age 31, is referred for psychiatric evaluation by a neurologist who suspects she is having psychogenic nonepileptic seizures (PNES). A teacher and mother of a young child, Mrs. A reports first experiencing a seizure after an argument during which she thought her husband was going to strike her. The neurologist prescribed phenytoin, 900 mg/d.

On clinical examination Mrs. A has moderately severe depressive symptoms. She is angry that the neurologist referred her to a psychiatrist and refuses to discuss the PNES diagnosis.

Mrs. A's psychiatric history includes recurrent depression that has been treated with antidepressants, although she is not taking an antidepressant at this time. Her psychosocial history is consistent with early developmental deprivation.

The psychiatrist tactfully shares the results of the psychological evaluation with Mrs. A and—at her request—her husband. Both reluctantly agree to the psychiatrist's recommendations that she begin cognitive-behavioral therapy (CBT) and resume antidepressant therapy with venlafaxine XR, titrated over several weeks to 300 mg/d. They decline couples' therapy.

Mrs. A understands and accepts the need to treat her depression but refuses to discontinue phenytoin. She doubts the need for CBT and often cancels sessions. As the focus of therapy becomes more supportive, her PNES episodes decrease but are not eliminated, even after her mood improves.

After Mrs. A has been in treatment 14 months, her husband leaves her. Her depression is greatly ameliorated, and her seizures cease. After another 2 months of treatment, the psychiatrist transfers Mrs. A's care to her primary care physician.

Scant evidence for treatments

A recent review[28] found no reliable evidence to support the use of any intervention for persons with nonepileptic seizures. Treatments are based on expert opinion, case reports, and—in some cases—open trials.

Pharmacotherapy. Based on expert opinion, psychopharmacology for patients with only PNES begins with tapering and discontinuing ineffective antiepileptic drugs (AEDs), unless a specific AED has a documented beneficial effect for that patient.[29] Treat comorbid mood, anxiety, or psychotic disorders with appropriate psychopharmacologic agents. PNES may be a manifestation of other psychiatric disorders; therefore, treating the predisposing disorder will likely improve PNES. Regardless of PNES outcome, improving comorbid disorders improves PNES patients' quality of life.[21,30]

The National Institute of Neurological Disorders and Stroke is supporting a prospective double-blind, placebo-controlled trial of the selective serotonin reuptake inhibitor sertraline for treating PNES. The pilot study of 50 patients with PNES and comorbid depression, anxiety, and impulsivity is expected to be completed in March.[31]

Psychotherapy. A recent review[28] found only 3 studies of psychotherapy for PNES treatment—2 assessing hypnosis, 1 examining paradoxical therapy—that were randomized or quasi-randomized. All 3 studies were methodologically poor, and none provided detailed data regarding PNES frequency or severity. A 6-month randomized trial of cognitive-behavioral therapy (CBT) vs family therapy is underway at Rhode Island Hospital; data from this study are not yet available (LaFrance WC, personal communication, November 2007).

Single case reports, case series, and retrospective chart reviews have reported various psychotherapies to be successful for PNES, including CBT, eye movement desensitization and reprocessing, group psychoeducation, group psychotherapy, operant conditioning, occupational therapy, and nonspecific psychotherapy.[32]

Psychotherapy for PNES is similar to the pharmacotherapy approach:

Clinical Point

Treating comorbid mood, anxiety, or psychotic disorders with appropriate pharmacotherapy or psychotherapy will likely improve PNES

Psychogenic seizures

- Evaluate the patient for comorbid Axis I or Axis II disorders.
- Provide evidence-based treatment for those disorders.

Goals of treatment. Despite a lack of systematic trials evaluating psychotherapy for PNES, patients continue to present for treatment. Seizure remission as a treatment goal is debatable and likely unrealistic.[33]

Although data supporting any specific PNES treatment are scant, very strong evidence supports treating the most common comorbid illnesses. In our experience, engaging patients in therapy and providing evidence-based treatment for psychiatric comorbidity often reduces PNES and nearly always improves patients' quality of life (***Box 2, page 33***).

Clinical Point

For PNES patients, seizure remission as a treatment goal is debatable and likely unrealistic

CASE CONTINUED

A rejected diagnosis

Ms. P's psychotherapy focuses on her tendency to isolation of affect, dysfunctional interpersonal relations, and maladaptive coping. She participates in 5 sessions but has limited insight and never accepts the diagnosis of PNES. She withdraws from therapy after the therapist shares with her results of the psychometric testing and plans for psychiatric treatment.

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Related Resources

Clinician resource

LaFrance WC Jr, Kanner AM, Barry JJ. Treating patients with psychological nonepileptic seizures. In: Ettinger AB, Kanner AM, eds. *Psychiatric issues in epilepsy: a practical guide to diagnosis and treatment.* 2nd ed. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2007:461-88.

Patient resource

Benbadis SR, Heriaud L. Psychogenic (non-epileptic) seizures. A guide for patients & families. http://hsc.usf.edu/COM/epilepsy/PNESbrochure.pdf.

Drug Brand Names

Phenytoin • Dilantin
Sertraline • Zoloft
Venlafaxine • Effexor

Disclosures

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Bottom Line

Patients with psychogenic nonepileptic seizures (PNES) almost always have comorbid psychiatric illness. Providing effective patient education can improve patient acceptance of the diagnosis and outcomes. Evaluate PNES patients for underlying psychiatric illness, and provide evidence-based pharmacotherapy and psychotherapy for those comorbidities.

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