



How to Identify Non-Epileptic Psychogenic Seizures

Here's how to get at the root of "pseudoseizures" and tailor your management approach to the case.

There is a broad differential diagnosis (see Table 1) when encountering a person who describes episodes of transient neurological dysfunction: epileptic seizures, non-epileptic physiological events and psychogenic non-epileptic seizures (NES). Of these, the most difficult type of event to confidently identify is the non-epileptic psychogenic seizure. There are many reasons for this, including the fact that there are no absolutely characteristic clinical or historical features to NES. In fact, many non-epileptic seizures may sound quite convincingly like epileptic seizures when they are described either by the patient or a witness to the event(s).

To further complicate the issue, epileptic seizures (such as those which arise from either the frontal or temporal lobes) can sometimes manifest in "bizarre" ways. In other words, when a person describes unusual movements during an epileptic seizure, the clinician may misdiagnose the event as non-epileptic. Although confusing, there are several clinical and historical items which may help to narrow the differential.

The Definition

Many terms have been applied to this disorder. Nonepileptic psychogenic seizure is the most commonly used term, replacing the older use of *pseudo-seizures*. The reason for this is simple: the prefix *pseudo-* suggests that the seizures are "fake."¹ In other words, a person who has NES is "faking it." This could not be farther from the truth in the vast majority of instances. Although true malingering is rarely encountered, most people with NES are experiencing a somatization disorder, which falls under the

broader category of conversion disorder. In other words, the person is *subconsciously* manifesting a psychic trauma in a physical way. The occurrence of NES is usually unpredictable, identical to the occurrence of epileptic seizures.

The Scope of the Problem

How often NES occur is unclear. They can occur at any age (ranges include as young as four years old to 77 years old).² The prevalence of NES is estimated to be 0.5 percent of the general population.³ In comprehensive epilepsy centers, up to 20 to 50 percent of patients will carry the diagnosis of NES, whether as a sole diagnosis or in combination with epileptic seizures.^{1,2} Fifty to 70 percent of people with NES have an associated psychiatric illness.³

The History

As with any patient encounter, when discussing seizures, a detailed account of the event(s) must be obtained. The person may recall only part of the event. Family members and friends who have witnessed the episode(s) should also provide a detailed description (see Tables 2 & 3). The problem is this: the patient and witness did not necessarily write down each component of the event, or remember accurately the evolution of its clinical features (also called the *seizure semiology*). Although important to making an appropriate diagnosis, because of this, the history often is unreliable, and can be misleading. Narrowing the differential often depends on other factors.

An important aspect of the history is a detailed questionnaire of seizure risk factors. For instance, a history of head trauma or CNS infection would support a diagno-

sis of epileptic seizures. Often, a person with NES will have a history of emotional problems (mood disorder), or describe dysfunctional relationships. One factor that seems to predispose a person to NES is a history of abuse, either physical or sexual. Bowman and colleagues found that 67 percent of patients with NES had a history of either sexual or physical abuse. In the same study, 64 percent had affective disorders, 62 percent had a personality disorder, and 49 percent had post traumatic stress disorder. Others have found similar associations between, for instance, a personality disorder and NES.

Medical Testing

Although medical tests are very useful in supporting a clinical diagnosis, there are always limitations to testing. As with all medical testing, the test results must be combined with the details of the history and examination in order to firmly establish a diagnosis. EEG is no exception. For instance, the presence of interictal epileptiform discharges supports the diagnosis of epilepsy; however, the presence of discharges does *not* mean that *all* of the person's episodes are epileptic. Remember: 20 to 50 percent of people with epilepsy may also have NES. An EEG that is without epileptiform discharges supports a diagnosis of NES; however, the same result occurs frequently in people who have proven epilepsy. In other words, a negative EEG is not synonymous with NES.

Video-EEG monitoring is much more precise. Events are recorded. This allows for accurate identification and correlation of the abnormal electrical discharge and the simultaneous clinical manifestations of the



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epileptic seizures. In NES, the clinical features occur without an abnormal electrical cerebral correlate. Of course, even video-EEG has its limitations: simple partial seizures may not be well-visualized on EEG. A person who has this type of seizure could be misdiagnosed as having NES if this limitation is not taken into account.

MRI is another example. When an abnormality is identified, it is important to decide whether the MRI lesion makes sense in regards to the type of seizures the person is experiencing. When there is concordance of information, the MRI supports the diagnosis of epilepsy. However, people with NES can also have abnormal MRI scans. In this instance, the MRI abnormality is a “red herring.” In other words, it is not the cause of the events. In most cases of NES, however, the MRI is normal.

Prolactin levels at one time were frequently obtained to distinguish between epileptic seizures and NES. The idea was simple: in epileptic seizures, the abnormal electrical cerebral discharge causes release of prolactin. The higher level of prolactin can be measured for a limited time after a seizure. In other words, a high postictal prolactin level helped to confirm the diagnosis of epilepsy. The problem was that there are many kinds of seizures. After 90 to 100 percent of generalized tonic-clonic seizures, the prolactin is elevated. This is observed in 43 to 100 percent of complex partial seizures. After simple partial seizures there is usually little or no change in prolactin.² Conversely, a high prolactin level could be a sign of another organic disease such as a prolactinoma. Finally, certain prescribed drugs increase prolactin levels, contributing to false-positive rates.

Treatment

The diagnosis of NES is usually made by the treating neurologist. Often, there is concern or reluctance to presenting a “psychiatric diagnosis.” In many instances, if the diagnosis is discussed in a straightforward manner, and is followed by a discussion of treatment options, the relationship between the patient and doctor is preserved. In addition, the neu-

Table 1. Differential Diagnosis of NES

Non-epileptic seizures can either be physiologic or psychogenic. Often, the history of the event, exam and results of medical testing will help to narrow the differential. However, in many people, video-EEG monitoring is needed in order to confidently identify the diagnosis.

Physiologic	Psychogenic
Syncope	Somatisation disorder
Cardiac arrhythmias	Conversion disorder
Epileptic seizures	Panic attacks
Movement disorders	Dissociative disorder
Migraine	Episodic dyscontrol
Transient ischemic attacks	Psychogenic seizures
Transient global amnesia	
Sleep disorders	
Night terrors (children)	
Sleepwalking	

Table 2. Features of the History Suggestive of NES

- High seizure frequency – many events each day
- Little or no response to antiseizure medications (AEDs)
or a sudden worsening after starting an AED
- Events only occur when other people are present
or they only occur when the patient is alone
- The patient seems unconcerned about his/her events
or there is an excessive emotional response to the events
- History of sexual (or physical) abuse
- The person may have experience with epilepsy – they may know someone who had seizures (and saw them have one)
- Absence of injury associated with events
- Associated psychiatric disorders

Table 3. Clinical Features that Support a Diagnosis of NES

Although some of these features can occur in seizures with frontal or temporal onset, they are encountered frequently in non-epileptic, psychogenic seizures. In other words, no single factor can be used to confidently assign the diagnosis of NES; however, if many of these are present, the diagnosis should be suspected.

- There is an emotional trigger
- There is gradual onset and/or offset to the events
- The event progresses in a way that cannot be explained by neurophysiology
- Intermittent motor activity (it starts and stops)
- Dystonic posturing
- Ability of examiner to modify the person's motor activity (whether by touch or suggestion)
- Pelvic thrusting movements
- Crying, weeping, and complex or dramatic yelling (during the event)
- Avoidance behavior during the event
- An event can be provoked by suggestion
- An event that typically lasts more than two minutes (most epileptic seizures have a duration of two minutes or less)

rologist may discuss the positives of this diagnosis: the antiseizure medication(s) may be discontinued (unless they are needed for an underlying mood disorder). Often, a multi-disciplinary approach is taken, where both the neurologist and the consulting psychiatrist discuss these issues. In people who have associated mood disorders such as anxiety and depression, this is also a point at which the psychiatrist may introduce a discussion about medications (if indicated).

In general, children and adolescents who are diagnosed with NES have a better response to therapy. Up to 81 percent will become event-free.² In adults, the results are not as promising. Although many adults will get better initially, many will relapse. Twenty-nine to 45 percent of adults with NES will remain event-free after five years.² There are many factors that contribute to the success of treatment. Social support,

short time from onset to treatment (less than one year), and the person's motivation for improvement are some of these. In one study, care through an epilepsy center correlated with a better outcome.⁴ Predictors of a poor response to treatment include the chronicity of the illness (more than two years), and the severity of the co-morbid psychiatric disease. If there are secondary gains that support the patient's dependent role, the prognosis seems to be worse.²

Conclusions

The diagnosis of nonepileptic psychogenic seizures is challenging. The diagnosis must be made on clinical grounds, with supporting data from medical testing. Once the diagnosis is made, it must be carefully presented to the patient. Following this, treatment is begun, usually consisting of a medication (for the underlying psychiatric illness) in combination with psychotherapy

(when indicated). Within a year after diagnosis, initiation of treatment is more likely to stop the events. After two years, the treatment results are less robust. Often, a multi-disciplinary approach is taken to diagnosis and treatment. Many have reported that this approach is the most successful. **PN**

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