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Frequency of panic symptoms in psychogenic nonepileptic seizures

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Abstract

This study investigates the frequency of symptoms of panic attack in a sample of adults ($n = 18$) and adolescents ($n = 21$) who were evaluated for intractable seizure disorder and diagnosed with psychogenic nonepileptic seizures (PNES). Medical records were retrospectively reviewed for symptoms associated with their typical seizure events as documented by the attending epileptologist. Adolescents, as a group, reported significantly more symptoms of panic attack than adults. Three adolescents met the full criteria for a panic attack, while no adults met these criteria. In addition, while numerous adults endorsed no panic symptoms associated with their PNES episodes, all adolescents endorsed at least one symptom. Implications of results are discussed in terms of the diagnosis and treatment of PNES in the different age groups.

Keywords: Psychogenic nonepileptic seizures; Panic attack; Psychiatric disorders

1. Introduction

Psychogenic nonepileptic seizures (PNES) are paroxysmal behavioral changes that may resemble epileptic seizures but for which no organic basis can be identified [1]. They can imitate any type of seizure event, but most often are similar to generalized tonic–clonic or partial seizures [2]. Patients with PNES are often misdiagnosed as suffering from intractable epilepsy, and are thus potentially exposed to numerous unnecessary anticonvulsant medications and iatrogenic consequences of unnecessary treatments. As many as 15–30% of those referred to comprehensive epilepsy centers have PNES [3–6].

The majority of studies investigating PNES have focused on differential diagnosis from epileptic seizures. Fewer studies have investigated the psychological factors associated with PNES, especially in adolescents. In general, more information is available regarding PNES in adults than in adolescents. The limited information that does exist suggests that a high rate of stressful experiences may be a risk factor for PNES, although findings have been inconsistent and often rely on unclear links between a person's past experiences and PNES seizure symptoms [7].

Comorbid psychiatric disturbance may exist in more than 50% of PNES patients, and more than 80% may have a history of psychiatric treatment [8–10]. Using the Structured Clinical Interview for DSM-III-R (SCID), one study identified psychopathology in 89% of the 45 patients in their study; diagnoses included anxiety, somatoform, dissociative, affective, and personality disorders [9]. Another study [11] reported that 96% of the adults with PNES met clinical criteria for a DSM-III axis I diagnosis, including mood, anxiety, dissociative,

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and adjustment disorders. The same study reported that 45% of their sample met criteria for an axis II diagnosis, which includes personality disorders and mental retardation [11]. Depression [8,10,11], anxiety disorders [8,12], and dissociative symptoms [9,11,13] have been found to be particularly common in adults with PNES. On the basis of these findings, it is proposed that targeted treatment of the comorbid psychiatric syndromes may decrease the frequency of PNES in adults [14].

Far less information is available regarding the psychological factors associated with PNES in children and adolescents. In one of the few major studies of PNES in this population, investigation of the psychiatric features of PNES in 34 children and adolescents with the disorder indicated that major mood disorders and significant environmental stress, including physical and sexual abuse, were relatively common. Several subjects in the study exhibited other psychiatric disturbances, including panic disorder, overanxious disorder, and oppositional/defiant disorder [5]. In a separate study, trauma/abuse, anxiety, and family dysfunction were found to be contributors to PNES in a group of 35 children [15].

As panic attacks may involve intense anxiety and shaking, they potentially mimic complex partial seizures and should be included in the differential diagnosis of individuals believed to have PNES [2]. This suggestion is supported by findings that anxiety disorders may be prominent in adults with PNES [16]. It should be noted that panic attacks, and anxiety disorders, in general, become a subtype of PNES only when they are first misdiagnosed as seizures. If, for example, they are misdiagnosed as a tremor, then they become a psychogenic movement disorder.

In the current study we investigate the frequency of panic symptoms occurring during the seizure event itself in adults and adolescents with PNES. Little information is currently available regarding the frequency of symptoms of panic attack during the ictus in PNES in either adults or adolescents, as most studies focus on interictal behavior. Based on our subjective observation of adolescents and adults with PNES, we hypothesized that adolescents would report a greater number of symptoms associated with panic attack during their PNES episodes.

2. Methods

2.1. Participants

We identified 21 adolescents (aged 13–18) and 18 adults (aged >18) referred for 24-hour video/EEG monitoring on the Epilepsy Monitoring Unit (EMU) of the Texas Comprehensive Epilepsy Program at Memorial Hermann Hospital for evaluation of intractable seizures. This represents a consecutive series evaluated between 1992 and 1997 for whom complete data were available.

All subjects received the diagnosis of PNES based on observations of at least three events identified by an accompanying family member or friend who had observed the patient's events in the past as typical. Behavior patterns, scalp electroencephalographic patterns, and event duration were also assessed; when no EEG correlate was found during the event, a diagnosis of PNES was made. Demographic characteristics of adult and adolescent PNES patients are summarized in Table 1. No significant differences existed between groups with respect to gender ($t = -7.54$, $P > 0.45$) or IQ ($t = -3.94$, $P > 0.65$).

2.2. Procedure

Medical history for each participant was retrospectively reviewed, and all seizure symptomatology, as documented by the attending epileptologist through interview with the patient, patient's caretakers, and examination of video tapes of the events compiled during the stay on the epilepsy monitoring unit, was extracted.

Behavioral and cognitive symptoms were tabulated and compared with the DSM-IV [17] criteria for panic attack. A diagnosis requires four (or more) of the following symptoms: (1) palpitations, pounding heart, or accelerated heart rate; (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 or depersonalization; (10) fear of losing control or going crazy; (11) fear of dying; (12) paresthesias; (13) chills or hot flushes.

3. Results

Overall, eight adolescents reported at least three symptoms, a cutoff just below the criterion of four symptoms for a DSM-IV diagnosis of panic attack, while only one adult reported this many symptoms ($\chi^2 = 5.78$, $P < 0.02$, $W = 0.39$). Three adolescents met

Table 1
Demographic variables by group

Variable	Adults ($n = 21$)	Adolescents ($n = 18$)
Mean ± SD age (range)	32.29 ± 8.27 (24–52)	16.33 ± 1.75 (13–18)
Mean ± SD (range)		
WAIS-III FSIQ	94.95 ± 13.91 (73–117)	96.76 ± 14.34 (78–138)
WAIS-III VIQ	96.71 ± 14.03 (71–118)	98.71 ± 13.14 (81–130)
WAIS-III PIQ	94.00 ± 15.68 (71–120)	95.12 ± 14.36 (69–137)
Sex		
Males	7 (33.3%)	4 (22.2%)
Females	14 (66.7%)	14 (77.8%)