

Clinical Research

A standardized diagnostic approach and ongoing feedback improves outcome in psychogenic nonepileptic seizures



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ARTICLE INFO

Article history:

Received 7 August 2015

Revised 8 October 2015

Accepted 13 October 2015

Available online 28 November 2015

Keywords:

Psychogenic nonepileptic seizures

Mental health

Outcome

Treatment intervention

ABSTRACT

Introduction: Psychogenic nonepileptic seizures (PNES) are episodic alterations in behavior presumed to reflect a physical manifestation of underlying psychological distress. Standardized treatment approaches for PNES care are lacking. We evaluated common approaches to PNES management that do not require significant commitment of time and resources.

Methodology: Patients with PNES established with video-EEG monitoring were randomized to one of the following three groups: 1) PNES diagnosis delivered per the discretion of the attending physician with advice to seek mental health assistance in the community ($n = 12$), 2) scripted PNES diagnosis provided and inpatient psychiatry consult obtained ($n = 10$), and 3) weekly follow-up phone calls made in addition to scripted diagnosis and inpatient psychiatry consultation ($n = 15$). Reduction in event frequency measured at 8 weeks following hospital discharge represented the primary outcome variable. Secondary variables analyzed included exploration of change in self-reported mood, quality of life, and healthcare utilization.

Results: No significant improvements were noted in patients simply given a PNES diagnosis and advised to seek outside care on any measure. In contrast, patients receiving a scripted diagnosis and psychiatric consultation demonstrated decreased PNES frequency accompanied by improved quality of life (QOL). Patients also receiving weekly phone calls not only demonstrated decreased PNES frequency and improvements in QOL but also exhibited improved mood.

Discussion: These findings demonstrate that providing diagnostic information regarding PNES is insufficient by itself to meaningfully affect patient outcome. Structured feedback and psychiatric consultation appeared adequate to significantly reduce PNES frequency and improve aspects of quality of life, while the addition of a weekly phone contact also led to improved mood.

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1. Introduction

Psychogenic nonepileptic seizures (PNES) are episodic alterations in behavior that are presumed to reflect a physical manifestation of underlying psychological distress. Although PNES event clinically resemble epileptic seizures, EEG changes characteristic of epilepsy are lacking. Video-EEG monitoring remains the gold standard for the diagnosis of PNES.

The percentage of patients referred to epilepsy centers and subsequently diagnosed with PNES is high, ranging from 10 to 50% [1]. Higher estimates have been recently reported and have been attributed to differences in referral patterns, increased monitoring of patients with paroxysmal events, and possibly even increased PNES rates. Despite this high rate of occurrence, evidence-based strategies for PNES treatment

are lacking. Significant variability exists in how the diagnosis of PNES is presented to patients based upon long-term video-EEG monitoring results. Follow-up care often involves either a formal mental health referral or a suggestion to the patient to seek such care. Finally, there are few professionals specializing in the care of patients with PNES with training and interest to optimally manage these patients [2]. While evidence suggests that cognitive behavioral therapy can be effective, these programs are limited to a few major university medical centers [3,4].

The effectiveness of a communication strategy for PNES has been reported to decrease PNES frequency [5–9]. For example, patients with PNES informed of their diagnosis using a structured protocol experienced fewer events over a short observational span, while those with epilepsy provided with diagnostic feedback showed no change in event frequency [5]. In another study, the use of a formal communication strategy led to decreased frequency in events at the group level, although there was no improvement in any self-report measures of psychological distress [6]. One study demonstrated that structured

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feedback and the use of a handout led to greater understanding and acceptance of a PNES diagnosis by patients [7].

While it appears that clear communication of the PNES diagnosis can at least contribute to a short-term reduction of episodes and healthcare utilization behaviors, the contribution of inpatient psychiatric consultation during hospitalization has not been characterized. Although this is a common approach used in tertiary care epilepsy centers, it is unclear if psychiatric consultation provides additional benefit as determined by episode frequency, mood, or quality of life. Furthermore, since patient contact provides the opportunity to reinforce the diagnosis, evaluate the patients' confidence in their diagnosis, and provide motivation to seek outpatient mental healthcare, follow-up telephone contact may provide the framework to improve PNES outcomes. This study evaluated the effectiveness of a standardized treatment approach including a communication script, inpatient psychiatry consultation, and distribution of written PNES educational materials with or without additional weekly phone follow-up versus an unscripted delivery of the diagnosis and suggestion to seek mental health services (standard practice).

2. Methods

2.1. Patients

All patients older than 18 years of age admitted to Emory University Hospital's Epilepsy Monitoring Unit for diagnostic evaluation of events of unclear etiology from July 2011 to May 2012 were eligible for the study. Of 92 patients admitted to Emory for a diagnostic evaluation who met inclusion and exclusion criteria during the enrollment period, 75 were recruited and provided informed consent. Patients were not considered for recruitment if they were admitted for characterization of known epilepsy or surgical evaluation. Patients who were diagnosed were also excluded if they were determined to have severe cognitive impairment or active homicidal or suicidal ideation.

Recruitment occurred prior to reaching a diagnostic conclusion in all cases in order to provide adequate time to explain the study to potential patients and for them to complete questionnaires. Additionally, this allowed us to assess mood and quality-of-life issues prior to the patient actually receiving any diagnostic information. Enrolled patients were

later excluded if their monitoring stay was inconclusive ($n = 18$) or resulted in a diagnosis of epilepsy ($n = 6$), physiological NES (non-epileptic seizures: $n = 3$), or mixed epilepsy and PNES ($n = 2$) (see Fig. 1). This resulted in 46 enrolled patients receiving a diagnosis of PNES who could potentially be randomized to one of three treatment arms. Two patients with PNES were never randomized prior to hospital discharge. An additional 5 patients with PNES were randomized but later excluded from treatment either because of an inability to obtain a psychiatric consultation while in the hospital ($n = 3$) or because of the severity of their psychiatric comorbidities ($n = 2$), which were deemed severe enough to require immediate inpatient consultation. These occurrences, along with 2 additional patients being lost to follow-up over the course of the study, ultimately led to an uneven population of the three randomized groups. This study was approved by the investigation review board of Emory University.

Ultimately, 37 patients with PNES were enrolled and completed randomization and eight-week follow-up with the following distribution: Standard Practice = 12, Structured Inpatient Feedback = 10, and Structured Ongoing Feedback = 15. Baseline characteristics of patients completing the study are included in Table 1. Age was the only baseline variable to significantly differ between groups (Standard Practice = 45.3 years [$SD = 11.5$], Structured Inpatient Feedback = 37.7 years [$SD = 10.5$], and Structured Ongoing Feedback = 34.1 years [$SD = 9.5$], $p = 0.031$).

2.2. PNES classification and study randomization

To undergo randomization, patients had to receive a diagnosis of PNES based on recognized criteria including the absence of epileptiform activity during an episode and semiology characterized by (a) a definitive motor component (e.g., shaking or writhing of the torso or limbs, convulsive or rocking movements, head shaking) and/or (b) a discrete episode of unresponsiveness and (c) the clinical impression that the event could not be explained by another physiological cause (e.g., syncope, sleep disturbance). Once diagnosed, patients were assigned to one of three treatment groups using a preset randomization chart that was based on computer generation of random numbers (simple randomization). Fig. 1 depicts the study flow.

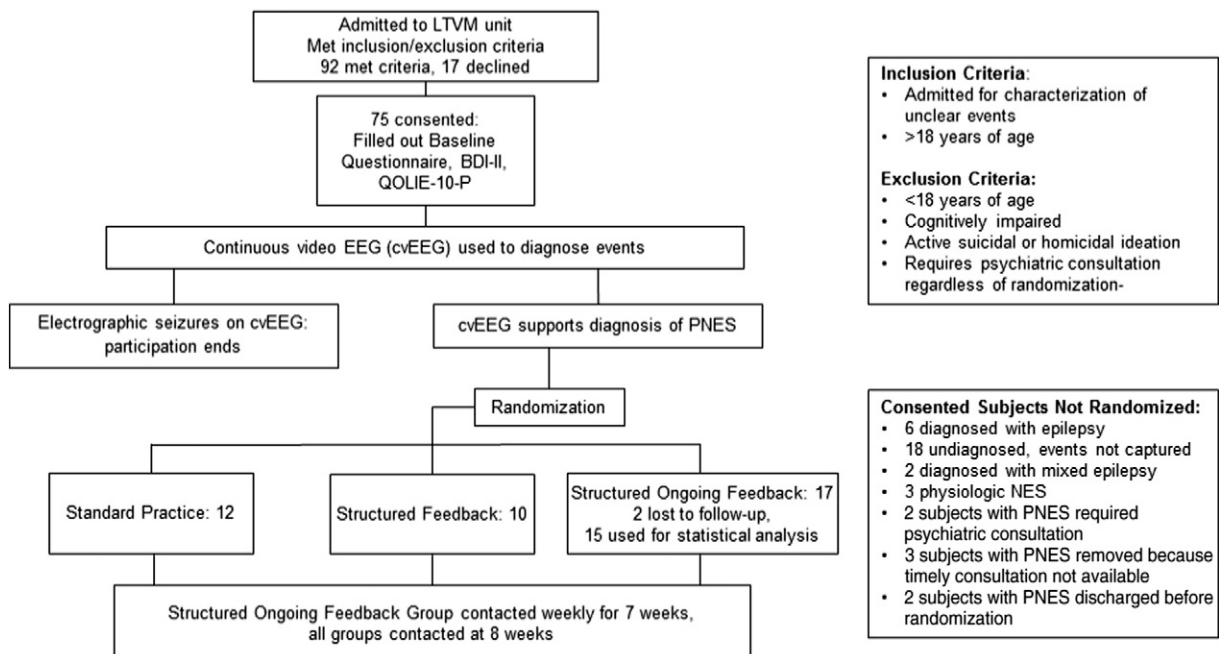


Fig. 1. Study flow and participation.

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