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Psychiatric disorders in patients with psychogenic nonepileptic seizures and drug-resistant epilepsy: A study of an Argentine population

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ABSTRACT

Epidemiological data show that up to 20–30% of patients with psychogenic nonepileptic seizures (PNESs), resembling drug-resistant epilepsy (DRE), are referred to tertiary epilepsy centers. Furthermore, both disorders present high psychiatric comorbidity, and video-EEG is the gold standard to make differential diagnoses. In this study, we described and compared the clinical presentation and the frequency of psychiatric disorders codified in DSM IV in two groups of patients, one with PNESs and the other with DRE, admitted in a tertiary care epilepsy center of Buenos Aires, Argentina.

We included 35 patients with PNESs and 49 with DRE; all were admitted in the video-EEG unit in order to confirm an epilepsy diagnosis and determine surgical treatment possibilities. All patients underwent a neurological and psychiatric assessment, according to standardized protocol (SCID I and II; DSM IV criteria). Student's *t* test was performed to compare continuous variables and Chi square test to compare qualitative variables.

In this study, 33 (67%) patients with DRE and 35 (100%) patients with PNESs met criteria for at least one disorder codified in Axis I of DSM IV ($p = 0.003$). Differences in the frequency of psychiatric disorder presentation were found between groups. Anxiety disorders (16.32% vs 40%; $p = 0.015$), trauma history (24.5% vs 48.57%; $p = 0.02$), posttraumatic stress disorder (4.08% vs 22.85%; $p = 0.009$), and personality cluster B disorders (18.37% vs 42.86%; $p = 0.02$) were more frequent in the group with PNESs. Psychotic disorders were more frequent in the group with DRE (20.4% vs 2.85%; $p = 0.019$). Depression was equally prevalent in both groups.

Standardized psychiatric assessment provides information that could be used by the mental health professional who receives the referral in order to improve quality of care and smooth transitions to proper PNES treatment, which should include a multidisciplinary approach including neurology and psychiatry.

1. Introduction

Psychogenic nonepileptic seizures (PNESs), are diagnosed in the presence of disruptive changes in behavior, thought, or emotion but are not related to ictal discharges in the electroencephalogram (EEG) [1,2].

Neurologists and psychiatrists frequently misdiagnose PNESs. Data show that up to 20–30% of patients suffering from PNESs, resembling drug-resistant epilepsy (DRE), are referred to tertiary epilepsy centers [3–5].

Following the implementation of video-EEG, recognition of PNESs has increased dramatically. During video-EEG, a patient's behavior is recorded, while electrical brain activity is detected through EEG. While its most frequent indication is presurgery assessment of patients with DRE, it is also the gold standard for the differential diagnosis between epilepsy and PNESs [1–3]. Notwithstanding, diagnostic delay remains an important issue considering the unnecessary exposure to antiepileptic drugs (AEDs) [6,7] and the time spent without adequate psychological treatment [4,8,9].

Both DRE and PNESs present high comorbidity with psychiatric disorders. Patients with DRE present high prevalence of depression, psychoses, and personality disorders [4,10–13], and most PNES cases are codified as somatoform disorders (conversion disorder in particular) and/or dissociative disorders in the DSM IV [14] and the ICD 10 [15]. Current data support its comorbidity with other psychiatric disorders, including depression, anxiety, PTSD, and personality disorders [10,16,17]. Nevertheless, other psychiatric factors such as trauma and posttraumatic stress disorder (PTSD) are often involved in the PNES etiopathogenesis [1,2,16].

To the best of our knowledge, only a few studies in Latin America have determined psychiatric characteristics of patients with either PNESs or DRE using contemporary nosography [4,18,19]. Psychogenic

Abbreviations: DRE, Drug-resistant epilepsy; PNESs, Psychogenic nonepileptic seizures.

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nonepileptic seizures in other cultures and ethnicities need to be studied to determine whether findings that have been elsewhere reported are generalizable. Furthermore, the diagnosis of psychiatric and personality disorders could be influenced by cultural variables. The findings of this study would allow us to determine similarities and differences with respect to the distribution of psychiatric disorders reported in other cultures [20–22].

In a previous report published by our group [4], we compared the prevalence of psychiatric disorders in patients with pure PNESs and in patients with both PNESs + epilepsy, using SCID I/II and DSM IV [14] criteria. In this previous study, patients with pure PNESs showed a significantly greater frequency of anxiety disorders, dissociative disorders, and PTSD compared with the group with PNESs + epilepsy [4].

The aim of the present study was to describe and compare the frequency of psychiatric disorders diagnosed with Axis I and Axis II of DSM IV in patients with pure PNESs and pure DRE, admitted in the video-EEG unit at Epilepsy Center, Ramos Mejía Hospital (ECRMH), Buenos Aires, Argentina [4,23].

2. Methods

2.1. Patient selection

The ECRMH is the major public referral center of epilepsy in Buenos Aires City, Argentina. As a tertiary referral epilepsy center, it serves a population drawn from other parts of the country, with high rates (70–80%) of DRE [23].

In this study, we included patients aged between 18 and 65 years, admitted in the video-EEG unit of ECRMH in order to confirm an epilepsy diagnosis and determine surgical treatment possibilities (the age range was determined in relation to the population admitted in the ECRMH for the epilepsy surgical program). All patients who underwent neurological assessment according to standardized clinical history (epidemiological surveillance program, VIGIA) were evaluated. Neurological evaluation, interictal EEG, MRI with a temporal lobe epilepsy protocol, and neuropsychological and psychiatric assessments were performed in all patients according to the standardized protocol performed at the video-EEG unit of ECRMH [4,23].

2.2. Video-EEG evaluation

All the patients included in this study underwent video-EEG evaluation in order to confirm the DRE/PNES diagnosis and to determine the possibility of epilepsy surgery.

For long-term EEG monitoring, a Stellate-Bioscience EEG machine at a 200-Hz sample rate was used. All ictal recordings were obtained using the international 10–20 system with the addition of temporal electrodes of the 10–10 system. Referential montages as well as longitudinal–bipolar and transverse bipolar montages were used for the analysis.

2.3. Inclusion and exclusion criteria

Two groups of patients were included: patients with PNESs diagnosed by video-EEG and patients with DRE diagnosed by video-EEG. Both groups underwent the standardized psychiatric protocol.

Diagnosis of PNES (psychogenic nonepileptic seizures) was made by epilepsy specialists based on clinical history and video-EEG monitoring, complemented by psychiatric evaluation to certify their psychogenic origin.

Psychogenic nonepileptic seizure diagnostic criteria were defined as follows: 1 — atypical paroxysmal behavioral episodes recorded by video-EEG monitoring, without electroencephalographic ictal activity (at least one attack recorded) and 2 — no existing clinical, electroencephalographic, or neuroimaging evidence suggestive of epilepsy; neither neurological nor medical disorder that explains the atypical paroxysmal behavior (exclusion criteria). Epileptic seizures were diagnosed if at least one characteristic clinical event was recorded with simultaneous ictal EEG abnormalities. The subtype of epileptic syndrome was diagnosed according to ILAE nomenclature. Finally, DRE was defined as failure to achieve sustained seizure control (no type of seizures for a period of 12 months or prolongation of three times the preintervention interseizure interval, whichever is longer), with at least two trials of well-tolerated, appropriately chosen, and adequately scheduled AEDs (irrespective of being administered as monotherapy or in combination) to achieve sustained seizure control [5].

In this study, we included a group of 35 patients with only PNES episodes admitted from March 2000 to December 2010 (a subgroup of these patients with PNESs was previously reported by our group) [4]. A second group of 49 patients with DRE confirmed by video-EEG was included. This second group was consecutively admitted in the Epilepsy Center from March 2008 to December 2010.

Exclusion criteria were the following: patients who did not complete all diagnostic tests and patients with both types of seizures (PNESs + epilepsy), paroxysmal events of other medical etiologies (e.g., transient ischemic attacks, vasovagal syncope, sleep disorders, and nonepileptic myoclonus), history of mental retardation (attending a special school), and/or IQ < 70 according to the Wechsler Adult Intelligence Scale (WAIS) [24]. Wechsler Adult Intelligence Scale was performed in all patients by a neuropsychologist.

Ten (11.9%) patients were excluded because of mental retardation, 16 (19%) had both types of seizures (PNESs + epilepsy), and 5 (5.95%) did not complete all diagnostic tests.

2.4. Psychiatric assessment

Psychiatric assessment was performed by trained psychiatrists who were blind to the seizure diagnosis during video-EEG monitoring (usually five days). Psychiatric history was obtained from each patient, complemented by information from relatives.

All patients underwent the Structured Clinical Interview for DSM IV Axis I disorders (SCID I), a semistructured interview for making the major DSM IV Axis I diagnoses and the SCID II, which is a semistructured interview for making DSM IV Axis II personality disorder diagnoses (Spanish Clinical Version of SCID I [25] and SCID II [26]). Diagnosis of dissociative disorder was based on DSM IV criteria. All patients were assessed according to the Global Assessment of Functioning (GAF). The GAF is a 100-point tool rating overall psychological, social, and occupational functioning included in the DSM IV in the section on multiaxial assessments (Axis V of DSM IV) [14]. The interviews were carried out in approximately 2 to 3 h.

Trauma history was defined as criteria A of PTSD (DSM IV), which states that the person has experienced, witnessed, or been confronted with an event or events that involve actual or threatened death or serious injury, a threat to the physical integrity of oneself or others, and a response that involved intense fear, helplessness, or horror. Trauma characteristics were classified as follows: sexual, violence (traumatic accident, theft, physical abuse), and illness or loss of a significant other.

In patients with PNESs, all types of PNESs recorded in the video-EEG were considered a “core syndrome” for making DSM IV diagnoses of somatoform (conversion) and/or dissociative disorder. Other psychiatric disorders were considered as comorbid disorders (e.g., affective disorders, anxiety disorders, PTSD, and psychotic disorders). Personality disorders were analyzed individually but presented in clusters because of the overlap between diagnoses within each cluster [20] as follows. Cluster A: paranoid, schizoid, and schizotypal; cluster B: antisocial, borderline, histrionic, and narcissistic; and cluster C: avoidant, dependent, obsessive–compulsive schizoid, paranoid, and schizotypal.

The following variables were analyzed and compared between both groups: age, gender, education, marital status, psychotropic medication,