Suicidal risk, affective dysphoric disorders, and quality-of-life perception in patients with focal refractory epilepsy

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ABSTRACT

Objectives: We aim to study the frequency of (suicidal ideation) in patients with focal refractory epilepsy and its possible association with factors such as perceived QOL (quality of life) and ASDD (affective somatoform dysphoric disorder) using the 2007 ILAE proposal to classify affective disorders of epilepsy.

Methods: A total sample of 82 patients was divided into two groups depending on the presence of suicidal risk: (A) study group — with suicidal risk and (B) control group — without suicidal risk. Questionnaires, scales, interviews, and clinical charts were evaluated by professionals with expertise in neurology and epileptology (RAM and AGA), psychiatry (AGE), and neuropsychology (FGR). Suicidal risk was evaluated with the M.I.N.I. (Mini-International Neuropsychiatric Interview) suicidal module that specifies the current suicidal risk based on scores. Quality of life was evaluated with the Quality of Life in Epilepsy Inventory − 31 (QOLIE-31) survey. Logistic regression was conducted to ascertain if ASDD and QOL significantly predicted suicidal risk. The results were considered statistically significant when the p-value was <0.05.

Results: Suicidal risk was present in 33 (40.3%) patients. It was classified as severe in 31.7% of the patients, and it was only present in cases with temporal lobe epilepsy ($p = 0.002$). More than half (52%) of patients with ASDD had risk of suicide ($p = 0.006$). The presence of ASDD was found to be a risk factor for suicidal risk (OR = 3.86; IC = 1.3–12.2). Patients with suicidal risk had a lower QOL score compared with patients without suicidal risk (57.8 ± 16.9 vs. 46.0 ± 18.2; $p < 0.05$), and an affected QOL significantly increased suicidal risk (OR = 2.9; CI = 1.3–7.8). Multivariate analysis demonstrated that an impaired QOL (OR = 2.2) and the presence of ASDD (OR = 4.1) significantly increased the probability of having suicidal risk ($x^2 = 13.6$; OR = 5.2; $p = 0.009$).

Significance: Affective somatoform dysphoric disorder and low QOL perception increase, independently, the risk of suicide.

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1. Introduction

Thirty percent of patients have epilepsy that is refractory to current available antiepileptic drugs [1,2]. In Latin American countries, an annual average of 5870 deaths from epilepsy occurs in this group of patients [3]. It is estimated that 5–7% of them are due to suicide [4–6].

Studies have demonstrated that affective disorders are a strong risk factor for suicide and predict a poor quality of life (QOL) [7]. Nevertheless, until now, QOL is not recognized as a significant predictor of suicidal ideation [4–9].

To diagnose affective disorders in patients with epilepsy, researchers have used several scales based on the ICD-10 and the DSM-IV criteria [10–14]. However, the evidence suggests that these disorders in people with epilepsy do not always fulfill the DSM-IV or the ICD-10 criteria [15–18]. In response, the ILAE proposed a classification for neuropsychiatric disorders in epilepsy [18].

Utilizing the ASDD criteria proposed by the ILAE, this study examined the relationship between (suicidal ideation), quality of life, and affective disorders in order to determine which factors may influence the suicidal risk in patients with focal refractory epilepsy. This may help develop prevention and treatment strategies.

2. Methods

A total of 273 patients were admitted to the video-electroencephalography (VEEG) department of a tertiary referral center for epilepsy and epilepsy surgery in Havana, Cuba from May 2010 to May 2013.

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2.1. Patients and data

2.1.1. Inclusion criteria

Patients were included if they met the following criteria: (1) they were diagnosed with focal refractory epilepsy; (2) they had complete medical charts that permitted the analysis of their data; (3) their cerebral images had been obtained (CT scan, high-definition MRI, and SPECT, when needed); (4) their IQ was above 85, and they independently completed the surveys; (5) they had signed the informed consent to participate in our study; and (6) they had not undergone epilepsy surgery.

This study was approved by the Institutional Review Board and ethical committee.

Patients who fulfilled the inclusion criteria were selected from the total of the evaluated patients at the VEEG department. Their records were evaluated, and a final sample of 82 patients was divided into two groups depending on the presence of suicidal risk: (A) study group — with suicidal risk and (B) control group — without suicidal risk. None of the participants was on antidepressants at the time of evaluation.

2.2. Procedures

The following procedures were carried out: (1) anamnesis — used to evaluate the sociodemographic [age, gender, schooling, marital status, and occupational situation] and clinical [age at onset, type and frequency of ESs (epileptic seizures), duration of epilepsy, use of antiepileptic drugs (AEDs), and epileptic syndrome history] data; (2) neurological clinical examination; (3) collection of data concerning the psychiatric diagnosis — carried out in the psychiatry department (the patients were assessed with a complete psychiatric interview, a structured interview using the Mini-International Neuropsychiatric Interview Spanish version (M.I.N.I.) [14,19], and the evaluation of the severity of depressive disorders using the Hamilton Depression Rating Scale (HDRS) [20]); and (4) QOLIE-31 (QOL-31 — Quality of Life in Epilepsy Inventory — 31 Survey) [21]. It measures seven dimensions: seizure worry, overall QOL, emotional well-being, energy/fatigue, cognitive function, medication effects, social function, and overall score. The scores vary from 1 to 100, with a higher score indicating a better QOL. The mean completion time was 22 min.

All patients admitted at the VEEG department were potential candidates for epilepsy surgery, and their evaluation also included a complete presurgical assessment according to our hospital protocols (video-electroencephalography monitoring, TV recording, volumetric brain MRI at 1.5 T, and neuropsychological evaluation). The neuropsychological evaluation always included an intellectual quotient (IQ) evaluation using the Wechsler Adult Intelligence Scale (WAIS) [22]. During hospitalization, AEDs were gradually suspended following the VEEG monitoring unit protocol.

The epileptologists (RAM and AGA) characterized the epilepsy type and epileptic foci based on patients' past medical history, neurological exam, neuropsychological evaluation, VEEG data, and brain MRI; the last was specifically tailored to look for hippocampal sclerosis or malformations of cortical development.

Nonprobabilistic data were retrospectively gathered from the unit's database constructed from the results of the abovementioned evaluation of patients with focal refractory epilepsy.

2.3. Evaluation

Epileptologists determined if the patient had refractory epilepsy, defined as epilepsy not controlled with two or more appropriate antiepileptic drugs at the highest tolerated dose. The seizure type was classified according to VEEG analysis and was based on ILAE's classification for epilepsy [23].

Affective somatoform dysphoric disorder was evaluated by a psychiatrist trained in epilepsy when patients were already off of AEDs or with the minimum dose. Psychiatrists clinically diagnosed the presence of an affective disorder and then applied the M.I.N.I. scale and classified the neuropsychiatric conditions in accordance with the ILAE 2007 proposal [18]. To determine if the patient fulfilled the criteria for ASDD, we evaluated each of the following 8 symptoms (irritability, depressive moods, anergia, insomnia, atypical pains, anxiety, phobic fears, and euphoric moods) with the M.I.N.I. subscales, and they were considered positive if the patients answered affirmatively to any question related to the symptom (see ANNEX 1). At the same time, neurologists and psychiatrists recognized if those symptoms were caused by the AEDs; in that case, symptoms were not registered as positive [24,25].

Affective somatoform dysphoric disorder was considered if three of the 8 symptoms were identified by the psychiatrist, and then the disorder was classified as interictal, periictal, and/or alternative, guided by parameters proposed by the ILAE 2007 classification [18].

Suicidal risk was evaluated with the M.I.N.I. (Spanish version) suicidal module that specifies the current suicidal risk based on scores. The scale scores from 1 to 33. Scores from 1 to 5 suggest low risk, scores in the range of 6–10 suggest moderate risk, and scores >10 suggest high risk [19].

The psychiatrist also administered the Hamilton Depression Rating Scale (HDRS), and results were analyzed in order to rate the severity of the affective disorder. According to the scoring, ASDD was classified as follows: mild (8–15), moderate (16–23), or severe (>23).

Quality of life was evaluated with the Quality of life in Epilepsy Inventory — 31 (QOLIE-31) survey [26] Spanish version that had been previously validated in Cuba [27]. The total score was also obtained for each patient. An adequate QOL was considered if the patient's overall QOL result was greater than 60 points and inadequate if otherwise.

2.4. Statistical analysis

Data were processed using STATISTIC software version 6.0 and were presented in tables and graphics. Study and control groups were compared by means of univariate and multivariate analyses. For comparison of categorical variables, the x^2 tests were performed; quantitatively noncontinuous variables were evaluated using the Mann–Whitney U test. Spearman's r was used to investigate the correlations between psychopathological scores and to address their collinearity. Student's t-test was also used for analysis of quantitative continuous variables. Kruskal–Wallis ANOVA by ranks was used to compare continuous variables (QOL) to variables divided by ranks (severity of depressive disorder). Logistic regression was conducted to ascertain if ASDD and QOL significantly predicted suicidal risk. The results were considered statistically significant when the p-value was <0.05.

3. Results

3.1. Determinants of suicidal risk: monovariate analysis

A total of 82 patients fulfilled the inclusion criteria. Demographic data appear in Table 1. Our study groups were comparable and did not show significant differences in sociodemographic variables (p > 0.05) (Table 1). Seventy-one out of the 82 patients were diagnosed with temporal lobe epilepsy (TLE), and the majority of patients with symptomatic epilepsy had hippocampal sclerosis (HS) (71.4% of patients with symptomatic epilepsy and 42.7% of all patients with epilepsy). Two patients with TLE had dual pathology (Table 1). Studied groups did not differ significantly by epilepsy type or etiology (p > 0.05).

Sixty-one percent of the patients had ASDD (50/82); and interictal dysphoric disorder was the most frequently diagnosed. Severe ASDD was present in 11% of the patients. The total of ASDD was greater than the number of affected patients because some of them fulfilled the criteria for both interictal and periictal disorders (Table 2).