Epilepsy & Behavior 69 (2017) 133–138

Contents lists available at ScienceDirect

Epilepsy & Behavior

journal homepage: www.elsevier.com/locate/yebeh

Clinical Research

To what extent does depression influence quality of life of people with pharmacoresistant epilepsy in Argentina?

Laura Scévola [a,c,*], Mercedes Sarudiansky [a], Alejandra Lanzillotti [a], Silvia Oddo [a,b], Silvia Kochen [a,b], Luciana D'Alessio [a,b]

[a] Epilepsy Center, Ramos Mejía y El Cruce Hospital, EnyS-CONICET, Buenos Aires, Argentina
[b] Universidad de Buenos Aires, IBCN-CONICET, Buenos Aires, Argentina
[c] Mental Health Center, Ramos Mejía Hospital, Buenos Aires, Argentina

ARTICLE INFO

Article history:
Received 21 October 2016
Revised 22 December 2016
Accepted 7 January 2017
Available online 1 March 2017

Keywords:
Epilepsy
Depression
Quality of life
Co-morbidity

ABSTRACT

Introduction: Depression is the most frequent psychiatric co-morbidity in patients with epilepsy. Lifetime prevalence of depression is reported more frequently in temporal lobe epilepsy and is estimated at 35%. This co-morbidity appears to be related with various mechanisms. The aim of this study was to determine the quality of life (QoL) of patients with pharmacoresistant epilepsy with and without co-morbid depression in an Argentinean population.

Methods: Patients admitted to the video-EEG monitoring unit during the period 2010–2013 went through a standardized psychiatric assessment using SCID-I (Structured Clinical Interview for Axis I diagnoses of DSM-IV), BDI II (Beck Depression Inventory) GAF (Global assessment of functioning), and Q LES Q-SF (for quality of life). Patients were divided in two groups: with and without depression (according to DSM-IV). Sociodemographic data, BDI II scores, GAF, and quality of life (QoL) were compared between the two groups. Comparisons were made using Student's *t*-test and Mann–Whitney *U* test. Frequency distributions were compared by Chi-square test. Spearman correlation coefficients were determined.

Results: Seventy-seven patients with pharmacoresistant epilepsy were eligible for this study, 41 patients were included in the group with depression (mean BDI II 15.93), and 36 in the group without depression (mean BDI II 3.36) ($p = 0.001$). The overall QoL was significantly lower in the group with depression compared to the group without depression ($p < 0.01$). The most affected areas were: physical health ($p = 0.013$), mood ($p = 0.006$), course activities (referring to school as well as to hobbies or classes outside of school) ($p = 0.003$), leisure time activities ($p = 0.011$), social activities ($p = 0.047$), general activities ($p = 0.042$), and medication ($p = 0.022$). Severity of depression according to BDI II had a negative correlation with overall QoL (r - 0.339, $p < 0.01$). No correlations were found between seizure frequency, QoL and BDI II.

Conclusion: Patients with pharmacoresistant epilepsy and co-morbid depression reported worst QoL. Depression disrupts daily functioning (leisure, social functioning) and is a negative influence for subjective perception of health and medication. Interdisciplinary treatment should be considered (neurology–psychiatry–psychotherapy).

1. Introduction

Depressive disorders are the most frequent psychiatric co-morbidity in patients with epilepsy. Thirty percent of people with pharmacoresistant epilepsy suffer from psychiatric disorders and the lifetime prevalence of depression is estimated at 35% [1–4].

In recent years, the existence of common pathogenic pathways between depression and epilepsy has been suggested. Different neurotransmitters and neurobiological alterations involving psychic functioning and emotional processing have been found in both conditions. Furthermore, some antiepileptic drugs (AEDs) may cause depression or intensify symptoms, while others may improve mood [1,5,6]. On the other hand, there are psychosocial factors that contribute to depression, like social stigma, family overprotection, low socio-economic level, low self-esteem, unemployment, and the chronicity of the disease [1,7–9].

There is a clear association between depression and poor quality of life (QoL) in people with epilepsy [1–10]. Increased levels of depressive symptoms were associated with lower quality of life [11]. Many studies found that QoL in people with epilepsy is lowered by epilepsy severity and poor seizure control, AED side effects, cognitive impairment, underlying neurological disease, perceived stigma, and incomplete seizure control after epilepsy surgery [12–19]. Nevertheless, co-morbid psychiatric illnesses, especially depression, represent a significant factor that negatively influences QoL, even more than seizure frequency [11, 20–23].

* Corresponding author at: Padilla 1270 d. 1414, Buenos Aires, Argentina.
E-mail address: laurascevola@gmail.com (L. Scévola).

http://dx.doi.org/10.1016/j.yebeh.2017.01.007
1525-5050/

The aim of this study was to determine the association between co-morbid depression and QoL in patients with pharmacoresistant epilepsy in an Argentinean population. Few data are available on this subject in South America, so we consider that this work is essential to cover a gap of knowledge in the region [24].

2. Methods

2.1. Patient selection

Patients consecutively admitted to the Epilepsy Center of Hospital Ramos Mejía (ECRMH) during 2010–2013 were included. Patients were admitted to confirm the diagnosis of epilepsy and to determine the possibility of surgical treatment. The ECRMH is the major public referral center of epilepsy in Buenos Aires City, Argentina. As a tertiary referral center, it serves a population drawn from other parts of the country, with high rates (70–80%) of pharmacoresistant epilepsy. All patients received AEDs according to international protocols. The Public Epilepsy Program facilitates access to major AEDs which are freely available [25,26]. Sociodemographical data (age, educational level, occupational status, marital status) were obtained from electronic medical records.

2.1.1. Inclusion criteria

Patients aged between 18 and 65 years with pharmacoresistant epilepsy with and without positive MRI findings were included. Pharmacoresistant epilepsy was defined as a failure to achieve sustained seizure control (no 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) [27].

Patients with depression were considered when depressive disorder was the principal psychiatric diagnosis (according to SCID-I) and fulfilled criteria for at least one current and/or past episode of Axis I affective (depressive) disorder according to DSM-IV [28] including: Major Depressive Disorder, Dysthymic disorder and Adjustment disorder with Depressed Mood. Only patients with primary depressive disorder were included.

2.1.2. Exclusion criteria

Patients with generalized epilepsy and/or non pharmacoresistant epilepsy were excluded.

Patients who met criteria for other main psychiatric disorder codified in AXIS I of DSM-IV (according to SCID-I) were also excluded. In these cases, depressive symptoms may be secondary to other main psychiatric disorders, such as psychotic disorders, bipolar disorders, anxiety disorders, substance abuse disorders, etc. Patients with co-morbid psychogenic non-epileptic seizures (PNES) and mental retardation (attending a special school and/or having an IQ < 70 according to the Wechsler Adult Intelligence Scale, third edition) (WAIS-III) [29] were also excluded.

2.2. Complementary studies

2.2.1. Video EEG evaluation

All patients included in this study had a diagnosis of pharmacoresistant epilepsy and underwent video-EEG evaluation in order to determine the epilepsy subtype, the epileptogenic zone, and the possibility of epilepsy surgery. For video-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.

2.2.2. Magnetic resonance imaging

All patients had magnetic resonance imaging (MRI) with a temporal lobe epilepsy protocol. The sequences used were the following: Sagittal plane T1-weighted image for the purpose of detecting the hippocampus in the parasagittal slices; inversion-recovery (IR) pulse sequence, fluid-attenuated IR (FLAIR), and three-dimensional gradient echo sequence (volumetric), perpendicular to the long axis of the hippocampus, and T2-weighted axial sequence parallel to the long axis of the hippocampus.

2.3. Psychiatric assessment

2.3.1. Psychiatric diagnoses

All patients were evaluated using a standardized psychiatric assessment – the Structured Clinical Interview for Axis I diagnoses of DSM-IV (SCID-I)– [30]. Global assessment of functionality (GAF) was determined in all patients. The GAF is a numeric scale (0 through 100) comprised in Axis V of DSM-IV [28]. This scale rates the social, occupational,

Table 1
Demographic and clinical variables in patients with pharmacoresistant epilepsy with and without co-morbid depression (n = 77).

		With depression (n = 41)	Without depression (n = 36)	p-value
		n (%)		
Sex	Women	22 (53.66)	17 (47.22)	0.573
	Men	19 (46.34)	19 (52.78)	
Employment	Unemployed	11 (27)	8 (22)	0.662
	Underemployed	9 (22)	12 (33)	
	Working	11 (27)	11 (31)	
	Student	7 (17)	4 (11)	
	Disability	3 (7)	1 (3)	
Education	Less than 12 years	20 (49)	26 (72)	**0.036**
	More than 12 years	21 (51)	10 (28)	
Marital status	Single	21 (51)	21 (58)	0.587
	Married	17 (42)	13 (36)	
	Divorced	3 (7)	1 (3)	
Epilepsy type	Temporal	38 (93)	32 (89)	0.494
	Parietal	0 (0)	1 (3)	
	Frontal	3 (7)	2 (5)	
	Occipital	0 (0)	1 (3)	
Age				
Mean (SD)		32.10 (9.63)	32.81 (13.33)	
Median (range)		32.00 (19–54)	27.50 (18–63)	0.686
Mean rank		39.96	37.90	
Sum of ranks		1638.50	1364.50	
Age at onset of epilepsy				
Mean (SD)		12.77 (9.27)	10.12 (8.63)	0.204
Duration of epilepsy				
Mean (SD)		20.30 (10.89)	22.36 (13.59)	0.465
Seizure frequency				
Mean (SD)		7.73 (9.94)	10.50 (10.98)	
Median (range)		4 (0–30)	4.50 (1–30)	0.071
Mean rank		34.74	43.85	
Sum of ranks		1424.50	1578.50	
GAF total score				
Mean (SD)		69.73 (11.68)	72.11 (7.27)	
Median (range)		70.00 (19–88)	71.50 (55–90)	0.298
Mean rank		36.96	41.32	
Sum of ranks		1515.50	1487.50	
QlesQ total score				
Mean (SD)		64.99 (15.29)	77.56 (11.70)	**0.001**
BDI–II total score				
Mean (SD)		15.93 (7.89)	3.36 (2.92)	
Median (range)		14.00 (1–36)	3.00 (0–10)	**0.001**
Mean rank		55.56	20.14	
Sum of ranks		2278.00	725.00	

Bold signifies statistical significance.