Interictal Dysphoric Disorder in drug-resistant epilepsy: association with clinical variables, cognitive function and quality of life

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Introduction

The term Interictal Dysphoric Disorder (IDD) was coined by Blumer and described as a pleomorphic affective disorder that appears in epilepsy and is characterized by labile depressive symptoms (depressive mood, anergia, pain, insomnia), labile affective symptoms (fear, anxiety), and the specific symptoms euphoria and paroxysmal irritability [1]. There is high variability in epidemiological data, but the actual prevalence of IDD is expected to be high and it is thought to be present to a higher extent in drug-resistant epilepsy (DRE) [2].
However, there is only a small body of evidence describing an association between IDD, clinical aspects and psychiatric disorders (PD), quality of life (QoL) or cognitive function in patients with epilepsy. Moreover, regarding IDD in DRE, there are even fewer studies focusing on these relationships [2]–[4].

Objectives

To investigate a possible relationship between IDD and PD, cognition and QoL in a sample of patients with DRE.

Methods

Retrospective study of 281 patients diagnosed with DRE from the Epilepsy Unit of Hospital Clinic from 2008 to 2017. Sociodemographic and clinical variables were analyzed. The presence of axis-I disorders was assessed following the Structured Clinical Interview for DSM-IV (*SCID-IV*). A battery of tests from WAIS III and WMS III, along with Trail Making Test A and B, *Rey auditory-verbal* learning test and Boston Naming Test were used for assessing cognitive function and QoL was ascertained using the Spanish version of the Quality of Life in Epilepsy Inventory-31 (*QOLIE-31*). IDD was diagnosed according to criteria and in presence of at least three of the eight following symptoms: depressive mood, anergia, pain, insomnia, fear, anxiety, irritability and euphoric mood.
To test for group differences, we used a Student t-test for continuous distributed variables and a χ^2 test for discrete categorical variables. To correct for multiple comparison, the significance threshold was set to $p < 0.05$ using Bonferroni correction. All statistical procedures were carried out using R-4.0.1 software.

Results

From 281 patients, 97 (34.3%) had a diagnosis of IDD, while 184 (65.7%) did not. In the group with IDD, the average age was 39.2 ± 12.264, and the majority (59.1%) were women. From the 98 subjects with a diagnosis of IDD, 70 had a diagnosis of PD according to the SCID-IV. Sociodemographic and clinical variables from the whole sample are shown in table 1.
IDD was significantly associated with diagnosis of mood and anxiety disorder ($p<0.05$) (Figures 1 and 2). No significant association was found with other PD. A significant association was found between IDD and the vocabulary subtest score (WAIS III) ($p<0.05$), and no association was found with the remaining neuropsychological variables. Lower scores on all the items of QOLIE-31 were significantly associated with the presence of IDD ($p<0.05$).

Figure 1. Bar plot showing differences in diagnoses of mood disorder/no disorder in patients with and without diagnosis of IDD.

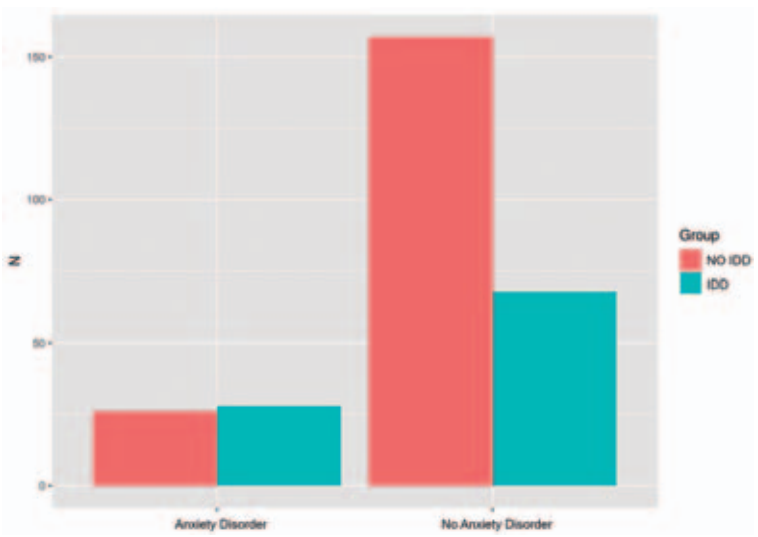

Figure 2. Bar plot showing differences in diagnoses of anxiety disorder/no disorder in patients with and without diagnosis of IDD.

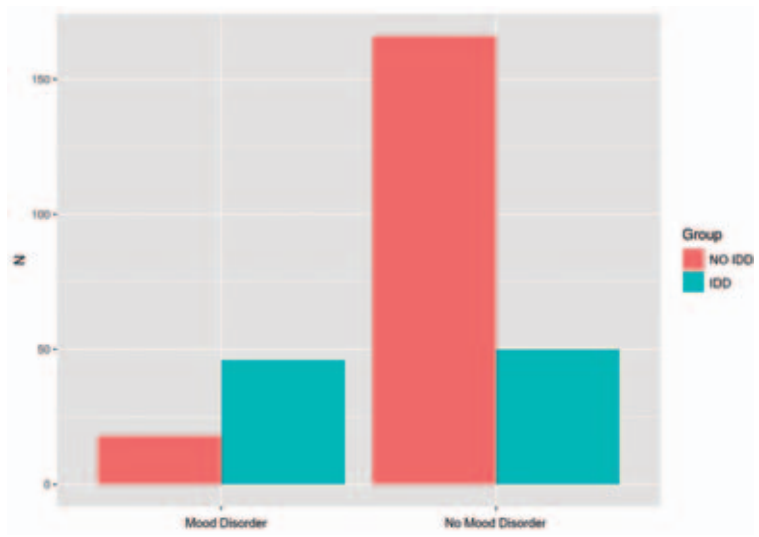

Table 1. Sociodemographic and clinical variables. [1]Diagnosis according to SCID-I

Variables	Results N (%)
Age	38,16 years (SD 11.935)
Sex	
Female	157 (55.9%)
Male	124 (44.1%)
Level of education	
Primary	119 (42.5%)
Secondary	119 (42.5%)
Tertiary	42 (15.0%)
Employment status	
Active	128 (45.6%)
Inactive	153 (55.4%)
Marital status	
Single	100 (36.0%)
Married	149 (53.6%)
Divorced/widowed	29 (10.4%)
Etiology	
Idiopathic	180 (69.2%)
Secondary	80 (30.8%)
Etiology	
Idiopathic	180 (69.2%)
Secondary	80 (30.8%)
Locus RMN	
Temporal	135 (54.2%)
Extratemporal	63 (25.3%)
Not established	51 (20.5%)
Type of seizures	
Focal Onset	194 (73.2%)
Generalized Onset	71 (26.8%)
Mood disorder[1]	
Yes	65 (23.1%)
No	216 (76.9%)
Anxiety disorder[1]	
Yes	55 (19.6%)
No	225 (80.4%)

Conclusions

Our findings suggest the presence of a strong negative impact of IDD on QoL, as previously reported in recent literature [3]. Also, as described in few previous studies [3], [4], we report an association with PD, indicating that patients with IDD are more likely to have comorbid PD, particularly mood or anxiety disorders.
We found a relationship between IDD and vocabulary function. Despite the finding in only one of the subtests from WAIS III, we consider that this correlation is worthy of further exploration.
In conclusion, the present study indicates that IDD bears relevance in major aspects in DRE. We suggest IDD should be thoughtfully assessed in patients with epilepsy.

References

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Disclosure: there are no potential conflicts of interest.

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