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Suicidality and its determinants among Polish patients with epilepsy

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ABSTRACT

Background and purpose: The aim of this study was to evaluate the prevalence of suicidal ideation among Polish patients with epilepsy and to assess the potential determinants of suicidality in this cohort.

Material and methods: The study comprised 301 patients with epilepsy seen in the tertiary epilepsy clinic. Patients' characteristics included demographic variables, epilepsy-related variables, as well as occurrence of comorbidities, ongoing use of any other medications, family history of epilepsy and/or depression. Beck Depression Inventory (BDI) was used to assess depressive symptoms, and question no. 9 of BDI was specifically used to reveal suicidality.

Results: Mean age of subjects was 35.5 years. 113 (37.5%) had frequent seizures and 96 patients (31.9%) had remission. BDI score > 11 points (suggestive for depression) was found in 127 subjects. Suicidal ideation has been revealed in 30 (10.0%) out of 301 studied patients. Patients with suicidal ideation were older and more commonly reported frequent seizures. Almost all of them (93.3%) had clinically significant depressive symptoms (BDI score > 11). Multivariate analysis revealed that severity of depressive symptoms (OR = 1.16 per one-point increase in BDI score, 95% CI: 1.10–1.22, $p < 0.001$) and the use of potentially depressogenic medication (OR = 3.04, 95% CI: 1.04–8.89, $p = 0.04$) were independent determinants of suicidality among studied patients.

Conclusions: Suicidal ideations were revealed by about 10% of studied epileptic patients who visited tertiary center for epilepsy. Independent predictors of suicidality among studied patients included depression itself and the use of potentially depressogenic medication.

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1. Introduction

The risk of suicide is about three times higher among patients with epilepsy than in general population [1,2]. Psychiatric comorbidities, such as depression or anxiety, are also more common among epileptic patients [3,4] and the association between the presence of psychiatric illness and suicide is well established [5]. It comes as no surprise, therefore, that the suicidality among patients with epilepsy is often attributed to psychiatric disorders.

Recent population-based studies suggest, however, that the risk of suicide in those patients cannot be fully explained by the coexistence of psychiatric morbidities [1]. Some other factors inherent to the epilepsy or its management can play significant role as well, as exemplified by the FDA warning about the increased risk of suicidal ideation and suicidal behavior in people treated with antiepileptic drugs (AEDs) [6]. Other potential risk factors for suicide among epileptic patients included AED polytherapy or high seizure frequency [7]. Patients newly diagnosed with epilepsy are also at higher risk of suicide while more advanced age seems to be associated with the decreasing risk of suicide [1].

Some recent studies suggest also bidirectional association between depression or suicidal ideation and epilepsy, pointing to the potential common mechanisms that both increase the risk of depression/suicidality and decrease the threshold for seizures [8] which might favor the presence of unrecognized biological determinant of the suicidality among those patients.

Suicidality in general population is related also to various sociodemographic and cultural features. Thus, the generalization of findings obtained in different countries is limited and justifies the more local approach to that issue. EZOP-Polska was the only methodologically sound epidemiological study aimed at the evaluation of prevalence of psychiatric disorders in Poland [9]. According to this survey, previous suicidal attempts were reported by 0.7% of both women and men aged 18–64 [10]. Data related specifically to epileptic patients are scarce; a single study carried out in 1970s in Poland reported that 7.3% of deaths among epileptic patients in Warsaw was due to suicide [11] but no data are available on potential risk factors related to suicide among Polish patients with epilepsy.

Accordingly, we have designed this study to evaluate the rate of suicidal ideation among Polish patients with epilepsy, and, consequently, to assess the potential determinants of suicidality in this cohort.

2. Materials and methods

2.1. Patients

This study comprised 301 consecutive patients seen in the tertiary epilepsy clinic in university hospital.

All subjects had epilepsy diagnosed and classified according to the International League Against Epilepsy guidelines and classifications [12,13]. The other inclusion criterion was brain imaging with magnetic resonance imaging (or, rarely, computed tomography if magnetic resonance imaging was contraindicated) performed within 5 years preceding the inclusion to this study. The present paper deals with the suicidality and its determinants, while data related to depression in the slightly smaller sample of those patients were published previously [14].

Patients were excluded if they were diagnosed with concomitant psychogenic non-epileptic seizures or if they suffered from tonic, atonic, clonic or atypical absence seizures. We also excluded subjects with some significant comorbidities such as malignancies, neurodegenerative diseases or other progressive neurological disorders, as well as patients with current hyper- or hypothyroidism (as suggested by the abnormal serum thyroxine). Any change in type or dose of AED(s) within one month preceding the latest visit in an out-patient clinic also precluded the participation in the study as did the drug or alcohol abuse. Finally, patients with Mini-Mental State Examination score < 24 (suggestive for cognitive impairment) were also excluded.

Our study protocol observed the principles of Helsinki Declaration and was approved by the university bioethical committee. The detailed information about the aims and methods of the study was provided to each participant. Each subject signed an informed consent to participate.

2.2. Protocol

All procedures required specifically for this cross-sectional study were performed during routine visits in out-patient clinic. Also, we have retrieved data from patients' medical files.

Medical history was obtained with the use of the questionnaire which comprised information on age, sex, marital status, vocational activity, etiology and duration of epilepsy, type and frequency of seizures, ongoing treatment with AED(s), occurrence of comorbidities, ongoing use of any other medication(s), family history of epilepsy and/or depression. Additionally, each patient underwent neurological examination to reveal any focal or global signs of brain damage.

Medical history, EEG or video-EEG and neuroimaging were all used to classify epileptic seizures and epileptic syndromes according to the International Classification of Seizures [13,15] and International Classification of Epilepsies and Epileptic Syndromes [16]. Seizures were divided into focal (with or without alterations of alertness/consciousness as well as focal seizures transformed into bilateral convulsive seizures), generalized (tonic-clonic, typical absences or myoclonic seizures) or unclassified seizures (if information from different sources was discordant in regard of seizure characteristics). Epileptic syndromes were classified into localization-related, generalized or of unknown onset.

All patients used seizure diaries before entering the study as an essential part of the management. Frequency of seizures in the year preceding the inclusion to this study was recorded from seizure diaries and dichotomized into frequent (at least one per month) or rare seizures (less than one per month). Complete remission was defined as being seizure-free for the last year.

The ongoing treatment with antiepileptic drugs (AED) was recorded according to the information provided by the patient, and supplemented with the data from medical records.

Patients self-assessed their potential depressive symptoms with the use of Polish version of revised Beck Depression Inventory (BDI); the assessment was performed at least 72 h

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