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A retrospective analysis of restless legs syndrome in epileptic patients

Epilepsi hastalarında huzursuz bacaklar sendromunun retrospektif analizi

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Abstract

Aim: Restless legs syndrome is characterized by an abnormal sensation, a difficult-to-define type of dysesthesia in the extremities, especially in the legs. In our study, we aimed to determine the frequency of restless legs syndrome in patients with chronic epilepsy.

Methods: A total of 86 epilepsy patients were included in the study. Epilepsy grading of the study patients was performed based on the International League Against Epilepsy 1981 classification. Demographic data of the patients were collected and Turkish version of the questionnaire consisting of 4 questions of diagnostic criteria issued in 2014 by International Restless Legs Syndrome Study Group (IRLSSG), in addition to the other forms, were completed through face-to-face interviews.

Results: Restless leg syndrome prevalence among the patients included in the study was found to be 5.81% (5 patients out of 86). Mean score of IRLSSG evaluation scale was 17±6.5.

Conclusion: The results of our study showed that the prevalence of restless legs syndrome is lower in patients with epilepsy, a common neurologic disorder, compared to the general population.

Keywords: Epilepsy, restless legs syndrome, psychiatric disorders

Öz

Amaç: Huzursuz bacaklar sendromu, özellikle bacaklarda ve ekstremitelerde uyuşma ve tanımlaması zor anormal bir his ile karakterizedir. Çalışmamızda kronik epilepsi hastalarında huzursuz bacaklar sendromu sıklığını saptamayı amaçladık.

Yöntemler: Toplam 86 epilepsi hastası çalışmaya dahil edildi. Çalışma hastalarının epilepsi sınıflaması, 1981 International League Against Epilepsy sınıflamasına göre yapıldı. Hastaların demografik verileri toplandı ve diğer formlara ek olarak Uluslararası Huzursuz Bacaklar Sendromu Çalışma Grubu (IRLSSG) tarafından 2014 yılında yayınlanan 4 soruluk tanı kriterlerinden oluşan anketin Türkçe versiyonu hasta ile yüz yüze görüşülerek doldurduldu.

Bulgular: Çalışmaya dahil edilen hastaların huzursuz bacaklar sendromu prevalansı % 5.81 (86 hasta üzerinden 5 hasta) bulundu. IRLSSG değerlendirme ölçeği ortalaması 17 ± 6,5 idi.

Sonuç: Çalışmamızın sonuçları, yaygın nörolojik bir hastalık olan epilepsi hastalarında huzursuz bacaklar sendromunun prevalansının genel popülasyona göre daha düşük olduğunu gösterdi.

Anahtar Kelimeler: Epilepsi, huzursuz bacaklar sendromu, psikiyatrik bozukluklar

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Introduction

Restless legs syndrome (RLS) is a frequent sensorimotor disorder. By definition, RLS is a disorder characterized by a strong and irresistible urge to move the legs. This sensation increases during rest and at night time, and decreases by movement [1]. The prevalence of RLS varies between different populations and also by the presence of chronic disorders. Karl-Axel Ekbom, who was the first to define RLS, reported a prevalence of 5.2% [2]. Thereafter, several studies investigating RLS reported a prevalence ranging from 1% to 15% [3].

In our study, we aimed to determine the frequency of RLS in patients with chronic epilepsy.

Material and methods

In total, 86 patients with epilepsy, who were being followed-up by Epilepsy outpatient clinics of the Department of Neurology at Ankara Training and Research Hospital and of whom 61.6% (n=53) were women and 38.4% (n=33) were men with a mean age of 29.5±11.6 years were included in this study. Ethical approval was obtained from the ethical committee of the Ankara Training and Research Hospital. Informed consent could not be obtained from all patients due to the retrospective design of the study. All procedures were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1964 and later versions.

Epilepsy grading of the study patients was performed based on the International League Against Epilepsy (ILAE) 1981 classification [4]. Demographic data of the patients were collected and Turkish version of the questionnaire consisting of 4 questions of diagnostic criteria issued in 1995 by International Restless Legs Syndrome Study Group (IRLSSG), in addition to the other forms, were completed through face-to-face interviews [5].

Those patients with a psychiatric diagnosis were questioned and noted in the data. Moreover, serum ferritin, thyroid stimulating hormone (TSH), serum free thyroxine, vitamin B12 and folic acid levels were investigated as an etiological analysis for RLS. One patient, who had neuropathic complaints, underwent electromyography for electrophysiological investigation of polyneuropathy.

Analysis of data of the study was performed using SPSS 13.0 package program. Means were presented as mean ± standard deviation.

Results

RLS prevalence among the patients included in the study was found to be 5.81% (5 patients out of 86). Mean score of IRLSSG evaluation scale was 17±6.5. All patients had normal serum ferritin, TSH, serum free thyroxine, vitamin B12 and folic acid levels. Based on ILAE 1981 classification, seizure types of the patients were as follows; partial seizure in 24 (27.9%), secondary generalized in 41 (47.7%), myoclonic in 11 (12.8%), generalized tonic-clonic in 9 (10.5%) and absence in one patient (1.2%) (Table 1). Of all patients included to the study, 24.4% (n=21) received polytherapy and 75.5% (n=65) were on monotherapy. Among the patients with RLS, one patient was on valproic acid (VPA) and one patient was on carbamazepine (CBZ) therapy, and three patients were receiving polytherapy. Among the patients without signs of RLS, 34 (39.5%) and 18 (22.2%) were receiving VPA and CBZ, respectively, while 21 (24.4%) patients were on polytherapy. Mean medication dosages were as follows: 942 mg for VPA, 678.94 mg for CBZ, 662.94 mg for oxcarbazepine (OXC), 1500 mg for levetiracetam (LVT), 300 mg for phenytoin (PHE) (Table 2). Of all patients, 20.9% (n=18) had depression, 15.1% (n=13) had anxiety, 1.2% (n=1) had bipolar disorder and 1.2% (n=1) had psychotic disease, while 76.7% (n=66) did not have any psychiatric sign (Table 3).

Table 1: Patients' seizure types

Seizure Types	n (%)
Partial	24 (27.9%)
Secondary generalized	41 (47.7%)
Generalized tonic-clonic	9 (10.5%)
Absence	1 (1.2%)
Myoclonic	11 (12.8%)

Table 2: Antiepileptic medications and dosages

Medications	Mean Dosage (mg)	RLS (+)	RLS (-)
VPA (n =34)	942	1	33
CBZ (n=19)	678.94	1	18
OXC (n =8)	662.5	0	8
LVT (n=3)	1500	0	3
PHE (n=1)	300	0	1
Polytherapy (n=21)	--	3	18

RLS: restless legs syndrome, VPA: valproic acid, CBZ: carbamazepine, OXC: oxcarbazepine, LVT: levetiracetam, PHE: phenytoin

Table 3: Psychiatric disorders

Disorder	n	%
No psychiatric disorder	66	76.7
Depression	18	20.9
Anxiety	13	15.1
Bipolar disorder	1	1.2
Psychotic disorder	1	1.2

Discussion

RLS is characterized by an abnormal sensation, a difficult-to-define type of dysesthesia in the extremities, especially in the legs. This abnormal sensation / dysesthesia compels an urge to move in order to relieve the sensation and causes motor restlessness. Symptoms that develop and/or increase during rest and alleviate upon movement are typical and lead to the diagnosis of RLS. The term RLS was first defined by a Swedish neurologist, Karl A. Ekbom, on 1945. Up to 50 years after this definition, international restless leg syndrome study group developed diagnostic criteria which paved the way for studies investigating the epidemiology, genetic background, pathophysiology and treatment of RLS. Epidemiological studies indicate that RLS is present in 1-15% of the population. In the presence of chronic diseases such as diabetes, uremia and liver disease, its prevalence varies between 16-26.6% [6-8]. A study performed in 2005 to investigate RLS prevalence in the general population (REST study) reported a prevalence of 7.2% among 15,391 individuals [9]. In the present study, RLS prevalence was found to be 5.81% among patients with chronic epilepsy and mean score of IRLSSG assessment scale was 17±6.5. Interestingly, among the patients diagnosed with RLS, 0.2% and 0.3% were receiving mono- and poly-therapy, respectively. There are several treatment regimens used to relieve the symptoms of RLS and antiepileptic medications are one of the preferred treatment options [10]. These medications include gabapentin, CBZ and VPA. It is surprising that RLS is less common among the patients with epilepsy, when compared to its prevalence in the general population. In our study, the prevalence of RLS was shown to be lower than that of the general population according to the results published previously. The most important cause of this difference may be the use of antiepileptics, particularly gabapentin and CBZ, for the treatment of RLS. In other words, medications used to treat epilepsy were also beneficial for the treatment of RLS symptoms.

Psychiatric disorders may complicate epilepsy through their negative effects on quality of life, independent living ability and survival. Prevalence rates appear to be higher in individuals who experience seizures, particularly in those with resistant epilepsy, compared to the general population. Data obtained from community-based researches report that the prevalence rates of depressive disorders vary between 20-22% and in fact, depression is present in only 4% of the patients who do not experience seizures [11]. Data on anxiety disorders is limited as they essentially frequently occur concomitant to mood disorders, but the prevalence rates of these disorders are believed to be equal to or even higher than the prevalence rate of depression.

A study performed in Nigeria reported that 37% of 204 epileptic patients who referred to the hospital had a psychiatric morbidity. Among those with a psychiatric morbidity, 63% had neurosis, 30% had psychosis and 7% had a personality disorder [12]. In the present study, 20.9% of the patients had depression, 15.1% had anxiety, 1.2% had bipolar disorder and 1.2% had psychotic disease. The rates of patients with psychiatric disorders were consistent with those previously reported in the literature. It may be thought that psychiatric medications may deteriorate RLS, but in our work, the RLS rate is already lower than it is in the community.

In conclusion, results of our study showed that the prevalence of RLS is lower in patients with epilepsy, a common neurologic disorder, compared to the general population. This is probably associated with the effects of CBZ and VPA on the symptoms of RLS. Moreover, psychiatric disorders are more common among epilepsy patients compared to the general population. A careful evaluation of psychiatric symptoms in patients with epilepsy will prevent overlooking of disorders such as depression and anxiety disorder, which can be common in this patient population, and the consequently elevated risk of suicide.

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