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Original article

Sleep quality assessment in 35 Parkinson's disease patients in the Fann Teaching Hospital, Dakar, Senegal

Évaluation de la qualité du sommeil chez 35 patients parkinsoniens au CHUN de Fann, Dakar, Sénégal

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ABSTRACT

Introduction. – Sleep disorders are diverse in Parkinson's disease. We aimed to assess the quality of sleep in patients with Parkinson's disease in an African population.

Methods. – In a transversal and prospective study from April to June 2014, all parkinsonian patients followed at the Fann Teaching Hospital Neurology Clinic (Dakar, Senegal) were assessed using the Hoehn and Yahr's scale and filled out the following questionnaires: Parkinson's disease sleep scale (PDSS), the Pittsburgh Sleep Quality Index (PSQI), and the Epworth Sleepiness Scale (ESS). A PDSS score < 82 (or a subscore < 5) and a PSQI score > 5 indicated poor quality or impaired sleep. An ESS score > 10 indicated excessive daytime sleepiness. We used the Pearson coefficient to search for correlation between age, disease stage, disease duration, and the importance of sleep impairment.

Results. – Hoehn and Yahr staging was 2.42 ± 0.90 in the 35 patients (60% male, mean age 65.7 ± 7.4 years, disease duration 32.4 ± 23.4 months). The mean total PDSS score was 99.5 ± 24.1 and 74.3% of the patients had an abnormally high PSQI score, indicating high frequency and intensity of sleep disorders. Most frequent disorders were pain or cramps interrupting sleep, night waking to urinate and fatigue or sleepiness on waking. Patients exhibited excessive diurnal sleepiness in 22.9% of the cases; they often had an abnormal PSQI score. Both the total PDSS score and the difficulty to sleep increased with disease stage, but not with age or disease duration.

Conclusion. – We found evidence of major alteration of sleep quality in Senegalese Parkinson patients.

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RÉSUMÉ

Introduction. – Les troubles du sommeil sont variés et fréquents dans la maladie de Parkinson. Nous avons souhaité évaluer la qualité du sommeil des patients atteints de la maladie de Parkinson dans une population africaine.

Méthodes. – Dans une étude transversale prospective d'avril à juin 2014, tous les patients parkinsoniens suivis à la clinique de neurologie du centre hospitalier national universitaire de Fann (Dakar, Sénégal) ont été évalués grâce à l'échelle de Hoehn et Yahr et ont rempli les questionnaires suivants : l'échelle du sommeil de la maladie de Parkinson (PDSS), l'index de qualité du sommeil de Pittsburgh (PSQI) et l'échelle de somnolence d'Epworth (ESS). Un score inférieur à 82 (ou un sous-score inférieur à 5) sur la PDSS et un score supérieur à 5 sur le PSQI indiquaient une mauvaise qualité ou un trouble du sommeil. Un score supérieur à 10 sur l'ESS témoignait d'une somnolence diurne excessive. Le test de corrélation de Pearson a été utilisé pour la corrélation entre l'âge, le stade évolutif de la maladie, la durée de la maladie et l'importance des troubles du sommeil.

Résultats. – Les 35 patients (dont 60 % étaient des hommes, avec un âge moyen de 65,7 ± 7,4 ans) souffraient de la maladie depuis 32,4 ± 23,4 mois et avaient un stade évolutif moyen de Hoehn et Yahr de 2,4 ± 0,9. Le score total moyen à la PDSS était de 99,5 ± 24,1 et 74,3 % des patients avaient un score de PSQI anormalement élevé, témoignant de la fréquence et de l'intensité élevées des troubles du sommeil. Les problèmes les plus fréquents étaient des douleurs ou des crampes interrompant le sommeil, des réveils nocturnes pour uriner et une fatigue ou une somnolence au réveil. Enfin, 22,9 % des patients avaient une somnolence diurne excessive : ils avaient plus souvent un PSQI anormal. Le score PDSS total et la difficulté à s'endormir augmentaient avec le stade évolutif de la maladie, mais pas avec l'âge ni avec la durée d'évolution de la maladie.

Conclusion. – Nous avons mis en évidence de graves perturbations de la qualité du sommeil chez les patients parkinsoniens sénégalais.

1. Introduction

Parkinson's disease (PD), the leading cause of parkinsonian syndromes, is a ubiquitous neurodegenerative disease affecting 1% of subjects aged over 60 years worldwide [1]. In Africa, although epidemiological data are rare, the prevalence of PD would be lower than in other continents [1]. Improved life expectancy and socioeconomic conditions might have an effect on this trend in Africa. Beyond the classical triad of motor disorders, the presence of nonmotor problems such as sleep disorders is being increasingly reported in PD. These disorders have polymorphous manifestations observed in different stages of the disease, but generally start several years before the onset of motor disorders [2]. The pathophysiology of sleep disorders is complex and mutifactorial. Dysfunction of neuron networks and different neurotransmission systems as well as the action of anti-parkinsonian agents are involved [2,3]. Sleep disorders are twice as common in parkinsonian patients as in control subjects of the same age and gender in the general population [3,4]. Objective measures using polysomnography and widely validated subjective measures can be used to assess the way these disorders affect the quality-of-life of parkinsonian patients [2]. Few studies have been conducted on this topic in sub-Saharan Africa. The purpose of our work was to follow regularly parkinsonian patients attending the neurology clinic of the Fann Teaching Hospital, Dakar, Senegal, to determine the frequency of sleep disorders and different associated factors affecting the sleep quality of our patients.

2. Methods

We conducted a transversal prospective study from April to June 2014 among 35 patients attending the outpatient clinic of the Fann Teaching Hospital Neurology Department. We included in our study all patients meeting the United Kingdom Parkinson's Disease Society Brain Bank (UKPDSBB) [5] diagnostic criteria, excepting blind and bedridden patients (Hoehn and Yahr stage V). Patients' history was taken using a standard questionnaire in the presence of the spouse or significant other, with the patient's permission. The questionnaire included items concerning social and demographic background, past medical and surgical history, ongoing anti-parkinsonian treatment, and the scales and questionnaires used to assess sleep quality. All patients underwent a neurological examination performed by an experienced neurologist. Hoehn and Yahr stages I and II were considered to indicate early-stage disease, stage III the confirmed disease state, and stage IV advanced-stage disease. This scale includes two essential features of PD: a diagnostic element (unilateral signs) and a prognostic element (development of postural instability) [6]. The Pittsburg sleep quality index (PSQI), the Epworth sleepiness scale (ESS), and the Parkinson's disease sleep scale (PDSS) provide an assessment of sleep quality. The

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