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## Original article

# A clinical study of non-parkinsonian tremor in Moroccan patients



## *Profil clinique de patients Marocains atteints de tremblement non parkinsonien*

W. Regragui<sup>a,b,1</sup>, L. Lachhab<sup>a,\*,b,1</sup>, R. Razine<sup>c</sup>, E.H. Ait benhaddou<sup>a</sup>,  
A. Benomar<sup>a,d</sup>, M. Yahyaoui<sup>a</sup>

<sup>a</sup> Department of neurology B and neurogenetics, hôpital des spécialités ONO, avenue Mohammed Belarbi El Alaoui, Souissi, BP 6444, Rabat, Morocco

<sup>b</sup> Movement disorders research group, hôpital des spécialités ONO, avenue Mohammed Belarbi El Alaoui, Souissi, BP 6444, Rabat, Morocco

<sup>c</sup> Laboratory of biostatistics, clinical research and epidemiology, faculty of medicine and pharmacy of Rabat, avenue Mohammed Belarbi El Alaoui, Souissi, BP 6203, Rabat, Morocco

<sup>d</sup> Centre de recherche en épidémiologie clinique et essais thérapeutiques, faculty of medicine and pharmacy of Rabat, avenue Mohammed Belarbi El Alaoui, Souissi, BP 6203, Rabat, Morocco

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### ABSTRACT

**Objective.** – To report the characteristics of the most frequent tremors in a population of Moroccan patients.

**Background.** – Tremor is the most common movement disorder. It implies a wide variety of disorders with Parkinson's disease and essential tremor being the most frequent.

**Methods.** – A retrospective study of 148 patients with tremor referred to our movement disorders outpatient clinic was performed. Clinical features and treatment regimens were analyzed. Patients with parkinsonian tremor were excluded.

**Results.** – We included 62 patients with non-parkinsonian tremor. The etiologies were as follows: essential tremor (54.8%), dystonic tremor (19.4%), tremor associated with dystonia (14.5%), enhanced physiological tremor (3.2%), cerebellar tremor (3.2%), psychogenic tremor (3.2%) and Holmes' tremor (1.6%). The characteristics of essential tremor patients were analyzed. Female patients accounted for 67.6% of patients. Mean age at the onset of tremor was  $52.2 \pm 16.4$  years. Family history of tremor was reported in 17.6% of cases. Tremor affected the arms (94.1%), head (52.9%), voice (35.3%) and legs (8.8%). Tremor was bilateral in 87.5% but was asymmetrical in 50% of patients. Patients had postural tremor (76.5%), kinetic tremor (79.4%) and rest tremor (associated in 11.8%). Treatment relied on propranolol (88.3%), primidone (14.7%), gabapentin (14.7%), clonazepam (14.7%), alprazolam (11.8%), topiramate (5.9%) and, in one patient, radiosurgery.

\* Corresponding author.

E-mail address: [lamiaelachhab@hotmail.com](mailto:lamiaelachhab@hotmail.com), [mamia10@live.fr](mailto:mamia10@live.fr) (L. Lachhab).

<sup>1</sup> Both authors contributed equally for this work.

**Conclusions.** – Essential tremor was the predominant diagnosis, confirming its high prevalence. There was a predominance of female patients and a peak of age at onset in the fifth and sixth decades. Asymmetry of the disease was noted in half of patients.

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## RÉSUMÉ

**Objectif.** – Rapporter les caractéristiques des tremblements les plus fréquents dans une population marocaine.

**Introduction.** – Le tremblement est le mouvement anormal le plus fréquent. Il implique une large variété de troubles dont la maladie de Parkinson et le tremblement essentiel sont les plus fréquents.

**Méthodes.** – Une étude rétrospective portant sur 148 patients, ayant été référés à notre consultation des mouvements anormaux pour tremblement, a été réalisée. Les caractéristiques cliniques et le protocole thérapeutique ont été analysés. Les patients avec tremblement parkinsonien ont été exclus.

**Résultats.** – Nous avons inclus 62 patients présentant un tremblement non parkinsonien. Les étiologies étaient comme suit : le tremblement essentiel (54,8 %), tremblement dystonique (19,4 %), tremblement associé à une dystonie (14,5 %), tremblement physiologique exagéré (3,2 %), tremblement cérébelleux (3,2 %), tremblement psychogène (3,2 %) et le tremblement de Holmes (1,6 %). Les caractéristiques des patients ayant un tremblement essentiel ont été analysées. Les femmes représentaient 67,6 %. L'âge moyen au début du tremblement était de  $52,2 \pm 16,4$  ans. Les antécédents familiaux de tremblement ont été rapportés dans 17,6 % des cas. Le tremblement affectait les bras (94,1 %), la tête (52,9 %), la voix (35,3 %) et les jambes (8,8 %). Le tremblement était bilatéral dans 87,5 % des cas, mais était asymétrique chez 50 % des patients. Les patients présentaient un tremblement d'attitude dans 76,5 % des cas, un tremblement d'action dans 79,4 % des cas et un tremblement de repos était associé dans 11,8 % des cas. Le traitement reposait sur le propranolol (88,3 %), primidone (14,7 %), gabapentin (14,7 %), clonazepam (14,7 %), alprazolam (11,8 %), topiramate (5,9 %) et un patient a bénéficié de la radiochirurgie.

**Conclusion.** – Le tremblement essentiel était le diagnostic le plus fréquent confirmant sa haute prévalence. Il y avait une prédominance féminine et un pic d'âge de début des signes à la cinquième et sixième décennie. L'asymétrie du trouble a été notée chez la moitié des patients.

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## 1. Introduction

Tremor, the most common form of abnormal involuntary movement, is a rhythmic oscillation of a body region produced by alternating contractions of reciprocally innervated muscles. It occurs across a wide spectrum of neurological disorders and is easily distinguished from other abnormal involuntary movements such as chorea, tics, and myoclonus by its rhythmic, repetitive and stereotypical appearance. Essential tremor (ET) is the most common (Benito-Léon and Louis, 2006). It has been described as a postural or kinetic tremor that is bilateral and midline, involving the arms, head and/or voice with occasional involvement of legs, chin, and trunk. It is frequently accompanied by a family history of a similar tremor. However, ET is a heterogeneous disorder that has no universally accepted diagnostic criteria and estimates of incidence, prevalence, and family history status vary considerably. Prevalence estimates vary from 0.008% to 22% (Louis et al., 1998). Adding to that, 30–50% of patients with essential tremor are commonly misdiagnosed with Parkinson's disease or other tremor disorders such as hyperthyroidism, dystonia, or Wilson's disease (Benito-Léon and Louis, 2007).

The aims of this study were to determine the distribution of various types of tremor disorders in patients presenting to the movement disorders clinic of university hospital of Rabat and describe the frequency of appearance and clinical characteristics of our patients.

## 2. Patients and methods

We conducted a retrospective study of the records of 148 patients with tremor referred to our movement disorders outpatient clinic of university hospital Ibn Sina in Rabat from January 2006 to December 2011.

We analyzed the clinical features of tremor and its management. Patients with parkinsonian tremor were excluded from the study. Characteristics of patients were analyzed by a movement disorders specialized neurologist. It included age, gender, family history of tremor, anatomical distribution and symmetry of tremor as well as cerebral MRI and treatment regimen.

Consensus Statement of the Movement Disorder society on tremor was used for syndromic classification of tremor

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