



ORIGINAL ARTICLE

Laryngoscopy evaluation protocol for the differentiation of essential and dystonic voice tremor^{☆,☆☆}



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KEYWORDS

Tremor;
Essential tremor;
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Abstract

Introduction: Although syndromes that cause voice tremor have singular characteristics, the differential diagnosis of these diseases is a challenge because of the overlap of the existing signs and symptoms.

Objective: To develop a task-specific protocol to assess voice tremor by means of nasofibrolaryngoscopy and to identify those tasks that can distinguish between essential and dystonic tremor syndromes.

Methods: Cross-sectional study. The transnasal fiberoptic laryngoscopy protocol, which consisted of the assessment of palate, pharynx and larynx tremor during the performance of several vocal and non-vocal tasks with distinct phenomenological characteristics, was applied to 19 patients with voice tremor. Patients were diagnosed with essential or dystonic tremor according to the phenomenological characterization of each group. Once they were classified, the tasks associated with the presence of tremor in each syndrome were identified.

Results: The tasks that significantly contributed to the differential diagnosis between essential and dystonic tremor were /s/ production, continuous whistling and reduction of tremor in falsetto. These tasks were phenomenologically different with respect to the presence of tremor in the two syndromes.

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PALAVRAS-CHAVE

Tremor;
Tremor essencial;
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Conclusion: The protocol of specific tasks by means of transnasal fiberoptic laryngoscopy is a viable method to differentiate between essential and dystonic voice tremor syndromes through the following tasks: /s/ production, continuous whistling and reduction of tremor in falsetto.
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Protocolo de avaliação por laringoscopia para diferenciar tremor vocal essencial e distônico
Resumo

Introdução: Apesar de haver características próprias entre as síndromes causadoras do tremor vocal, o diagnóstico diferencial destas doenças é um desafio pela sobreposição de sinais e sintomas presentes.

Objetivo: Desenvolver protocolo de tarefas específicas na avaliação do tremor vocal por nasofibrolaringoscopia e identificar aquelas que diferenciem as síndromes de tremor essencial e distônico.

Método: Estudo transversal. O protocolo de nasofibrolaringoscopia, que consistiu na avaliação do tremor em palato, faringe e laringe durante execução de diversas tarefas fonatórias e não-fonatórias com características fenomenológicas distintas, foi aplicado em 19 pacientes com tremor vocal. Os pacientes foram diagnosticados como tremor essencial ou distônico a partir da caracterização fenomenológica de cada grupo. Uma vez classificados, determinou-se quais tarefas estavam associadas à presença de tremor nas diferentes síndromes.

Resultados: As tarefas que contribuíram significativamente na distinção do tremor essencial e distônico foram a emissão /s/, assobio contínuo e redução do tremor no agudo, pois apresentaram-se fenomenologicamente diferentes quanto à presença do tremor entre as duas síndromes.

Conclusão: O protocolo de tarefas específicas por nasofibrolaringoscopia é um método viável para diferenciar as síndromes de tremor vocal essencial e distônico por meio das tarefas: emissão /s/, assobio contínuo e redução do tremor no agudo.

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Introduction

Voice tremor can be present in defined syndromes when it is associated with other neurological signs (especially for limbs and head), or it is frequently described as an isolated voice tremor when the voice tremor is the only manifestation.¹ Considering the phenomenology, the tremor can be present at rest or with action depending on the conditions present when the tremor occurs and the main clinical data that contribute to the syndromic diagnosis. This description also applies to the phonatory apparatus and can be evaluated by means of nasofibrolaryngoscopy, which allows a functional assessment during the performance of several tasks.²

Among the neurological syndromes with possible voice tremor manifestations, essential tremor is most prevalent followed by Parkinsonian tremor and dystonic tremor.^{3,4} Despite being a relatively common entity, some case series show that Parkinson's disease rarely exhibits a laryngeal tremor.^{5,6} Considering that tremor at rest is physiologically and clinically different from the others, the greatest diagnostic difficulty lies in distinguishing between essential and dystonic tremor.⁷

Essential tremor presents with vocal disorders in 11–30% of cases.^{5,8,9} The rhythmic oscillation of the palate, pharynx or larynx may be present during all tasks, including quiet breathing and speech, because these are the activities that require the maintenance of a definite laryngeal posture¹⁰; however, the possibility of relaxing the laryngeal muscles during quiet breathing is questionable.¹¹

Koufman and Blalock (2004)¹² proposed a classification of laryngeal dystonia, in which they describe dystonic tremor as a variation of the adductor laryngeal dystonia, wherein glottal hyper-adductions are rhythmic. It differs from the essential tremor, as it is typically more focal (usually without the involvement of other body structures) and task-specific, since it depends on phonatory activity for its onset, and is absent during quiet breathing.

Although there are specific characteristics among the syndromes that cause voice tremor, there is no sufficiently specific diagnostic method by which to differentiate these diseases because of their overlap of signs and symptoms.⁵ The existence of a protocol that considers the different situations in the evaluation by nasofibrolaryngoscopy and that allows the assessment of the phonatory apparatus as close as possible to the physiological state, would help in

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