



ORIGINAL ARTICLE

Is it important to repeat the positioning maneuver after the treatment for benign paroxysmal positional vertigo? ☆,☆☆



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KEYWORDS

Vertigo;
Treatment outcome;
Semicircular canals

Abstract

Introduction: Benign paroxysmal positional vertigo (BPPV) is the most common cause of peripheral vestibular dysfunction.

Objective: To assess whether the performance of the Dix–Hallpike maneuver after the Epley positioning maneuver has prognostic value in the evolution of unilateral ductolithiasis of posterior semicircular canal.

Methods: A prospective cohort study in monitored patients at otoneurology ambulatory with a diagnosis of BPPV; they were submitted to the therapeutic maneuver and then to a retest in order to evaluate the treatment effectiveness; all cases were reassessed one week later and the retest prognostic value was evaluated.

Results: A sample of 64 patients which 47 belonging to negative retest group and 17 belonging to positive retest. Performed the maneuver in all patients, the retest presented 51.85% sensitivity, 91.89% specificity, 82.35% positive predictive value and 72.34% negative predictive value.

Conclusion: The study shows that doing the retest after repositioning maneuver of particles in BPPV is effectual, since it has high specificity.

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PALAVRAS-CHAVE

Vertigem;
Resultado de
tratamento;
Canais semicirculares

É importante realizar o reteste da manobra de posicionamento após o tratamento da vertigem postural paroxística benigna?

Resumo

Introdução: A vertigem posicional paroxística benigna (VPPB) é a causa mais comum de disfunção vestibular periférica.

Objetivo: Avaliar se a realização do reteste de Dix-Hallpike após a manobra de posicionamento de Epley tem valor prognóstico na evolução da vertigem posicional da ductolitíase paroxística benigna de canal semicircular posterior unilateral.

Método: Estudo prospectivo do tipo coorte de pacientes em acompanhamento no ambulatório de otoneurologia com diagnóstico de VPPB; foram submetidos a manobra terapêutica e posteriormente ao reteste para avaliar a eficácia do tratamento; todos os casos foram reavaliados em uma semana e analisado o valor prognóstico do reteste.

Resultados: Amostra de 64 pacientes, 47 do grupo reteste negativo e 17 do reteste positivo; realizada manobra de Epley em todos os pacientes. O reteste apresentou sensibilidade de 51,85%; especificidade de 91,89%; valor preditivo positivo de 82,35% e valor preditivo negativo de 72,34%.

Conclusão: O estudo mostra que é válido realizar o reteste após a manobra de reposicionamento de partículas na VPPB, visto que possui alta especificidade.

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Introduction

BPPV is caused by otoconial debris coming from utricular macula, moving to one or more semicircular canals and mistakenly stimulating the ampullary crest.¹

Positional nystagmus is essential to establish the diagnosis of BPPV. Through the characteristics of the nystagmus, it is possible to identify the affected semicircular canal and damaged labyrinth, and a distinction between cupulolithiasis and canalolithiasis also can be drawn. Thus, the most appropriate treatment can be implemented.²

Performing specific maneuvers for otolith repositioning in the treatment of BPPV has attracted special interest, due to its ease of applicability and good results. Such maneuvers are aimed at removing the otoconial debris situated into the ducts or semicircular canal cupulae toward the vestibule, following an ampulifugal movement.³ Considering that the debris scattered through the endolymph has a higher density than that of the surrounding endolymph, it can be moved noninvasively by means of a sequence of orientations of the head relative to gravity.⁴

The literature informs us that there is variability in the results on the number of repositioning maneuvers necessary for the abolition of positional nystagmus.⁵ Some studies suggest an average of 1.23 maneuvers,⁶ others, 1.36 maneuvers,⁷ and in a more recent study, 1.53 maneuvers.⁴

In clinical practice, some doctors perform a Dix-Hallpike maneuver retest shortly after otolith repositioning, as a strategy to predict treatment success. However, there is no data showing whether this assessment is valuable as a routine.

Given the paucity of data in the literature, this study aimed to assess whether the implementation of a retest for the Dix-Hallpike maneuver after Epley positioning had prognostic value in the evolution of benign paroxysmal

positional vertigo by unilateral posterior semicircular canal canalolithiasis.

Methods

This is a prospective cohort study, approved by the Research Ethics Committee (opinion number 200,813), which included 64 patients from the otoneurology department each with clinical picture characteristic of benign paroxysmal positional vertigo (BPPV). All study participants signed an informed consent.

Patients with impairment of the lateral or anterior semicircular canal, nystagmus lasting for more than a minute (which characterizes cupulolithiasis), signs or symptoms of central nervous system involvement, bilateral involvement of posterior semicircular canal, physical restrictions that prevented performing the diagnostic or therapeutic maneuver, and patients with only dizziness and with no positional nystagmus on the diagnostic maneuver were excluded from the study. Patients who were using anti-vertigo drugs up to 3 days and benzodiazepines up to 5 days before the study were also excluded from the study. Patients diagnosed with unilateral posterior canal BPPV, who had dizziness and positional nystagmus with latency duration <1 min and fatigability to Dix-Hallpike maneuver were included.

At the first visit, an oriented history, a complete physical otorhinolaryngologic and otoneurologic examination and a positioning nystagmus test were performed. All cases were evaluated by the same examiner. The diagnostic maneuver performed was the Dix-Hallpike test: in the sitting position, the patient has the head turned 45° toward the side which to be tested; and then the patient is laid down backwards. At the end of the maneuver, the patient's head is slightly extended and turned toward the tested side.¹ The test was initiated by the opposite position to the triggering

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