56 - VESTIBULAR REABILITATION IN PATIENTS SUFFERING BENIG PARAXYSMAL POSITIONAL VERTIGO

RODRIGO LUIZ LIMA JUCÁ; LYGIA OLIVEIRA ALUX
FACULDADE ASSIS GURGACZ, CASCAVEL, PARANÁ, BRAZIL.
lygiaalux@yahoo.com.br, rodrigojuca@fag.edu.br

Introduction

Dizziness is the illusion of the movement of an individual and his/her surrounding environment. When it obtains a rotary motion character, it is called vertigo. Benign paroxysmal positional vertigo is a subtle and thrifty vertigo mainly triggered by rapid and specific cephalic movement. Its physiopathology is not yet fully understood, being based only in theories.

Many vestibular patients restrain from any kind of social and physical activity to reduce any risk of the appearance of these embarrassing and uncomfortable symptoms that cause a social stigma. The insecurity generated by vertigo takes the patient not only to a physical and functional disability but also to an emotional instability being responsible for an array of depression. It is essential to evaluate the vertigo patient's life quality and define the most effected aspects in a patient can help in the selection of a focused and adequate treatment.

The use of exercises for the treatment of vestibular disorder began in the 1940's. Dr. Cawthorne, an otorhinolaryngologist, and Dr. Coosey, a physiotherapist, developed a series of exercises that implicated complaints related to unilateral vestibular patient's vertigo and balance. (Herdman, Whithey, 2002).

Nowadays, physiotherapy represents a precious option for the treatment of body balance disorder originated from vestibular. The exercises are performed through active movements of the eyes, head, and body, and physical maneuvers are performed by either a physiotherapist or the patient (SBO, 2003).

Vestibular rehabilitation, which is very little explored and lacks existent material on the specific subject using a physiotherapist as complementary treatment to the regular medicinal treatment, was relevant in the selection of the research's theme. The current study aim is to substantiate the efficacy of the protocol described by Cawthorne Cooksey, and probe if patients submitted to the physiotherapeutic treatment showed an accelerated improvement compared to patients that were not submitted to vestibular rehabilitation.

Method and Material

In an otorhinolaryngological specialized clinic, six male and female 45 85 year patients that were diagnosed to suffer from benign paroxysmal positional vertigo (BPPV) were selected.

To be included into the treatment protocol, as ethic procedures, the patients should be suffering from diagnosed BPPV, unilateral vestibular hypofunction, be in the acute stage of the dysfunction, and be using prescribed medicine. Patients that had already initiated physiotherapeutic treatment, and those that did not present the diagnose proposed by the study were excluded.

The Dizziness Handicap Inventory scale, created by Jacobson & Newman and culturally adapted by Castro (Atachment 1), was used to evaluate the interference of vertigo in the quality of life of the patients. It is a series of 25 questions relating to the physical, mental well-being, and functional capacity of the individual with an score varying from 0 to 100 points.

After the first evaluation, they were divided in groups “A” and “B”, and each group formed by three people chosen at random. Group A was given details on the origin of their symptoms, and then thought basic treatment exercises. The exercises should be performed everyday, twice a day, fifteen times each. The treatment protocol instituted by Cawthorne Cooksey was used (Attachment -2). The exercises included eye, neck, and cephalic movement associated to steps. Initially exercises were sluggish due to BPPV symptomatic characteristic. After patient adaptation to the exercises, rhythm was accelerated. Besides the daily exercises group A followed the same treatment protocol with morning individual exercises, three times a week, for 30 minutes. Each exercise was repeated 15 times with resting intervals so the patient could rest. The group performed an initial evaluation, an intermediate reevaluation after the sixth visit, and a final evaluation after 10 visits.

Group B were not submitted to any form of treatment during the 22-day research period. The group was evaluated in the same time interval that of the treated patients, and were administered similar drugs prescribed by a physician.

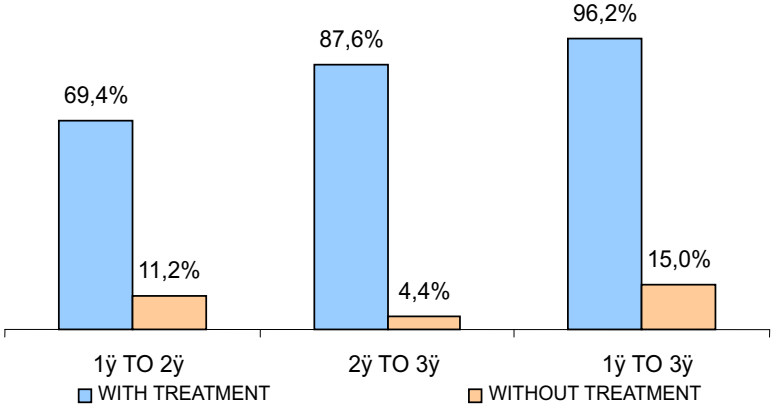
All patients were evaluated and treated by the same therapist, examined by the same physician in the same health center.

All collected data were submitted to statistical analysis represented by graphics. After data collection, all patients received treatment aiming the suppression of the symptom.

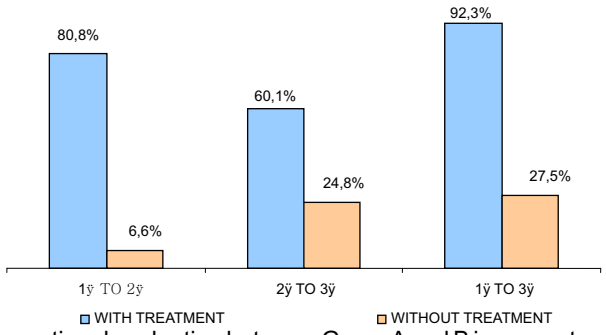
For the development of the research a stretcher, a small and large rubber ball, stepladder, and ramp were used in that order.

Results

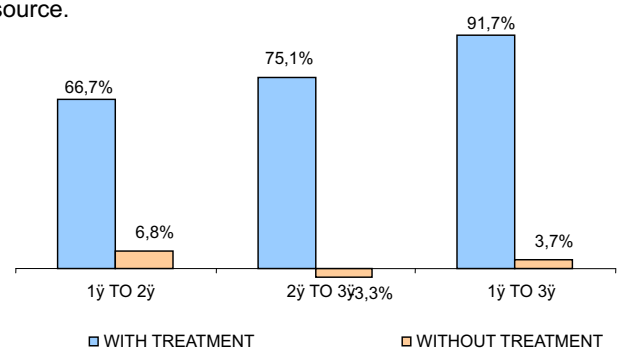
The following graphics show patients' physical, emotional, and functional results who underwent treatment (Group A), and the results of the control group (Group B) in that order, demonstrating evolution in the initial phase of the research, through first evaluation, intermediate evaluation, and total result under comparative analysis of the results in percentage fraction.



Graph 1: Comparative physical evaluation between Group A and B in percentage fraction



Graph 2: Comparative emotional evaluation between Group A and B in percentage fraction. Author's resource.



Graph 3: Comparative functional evaluation between Group A and B in percentage fraction. Author's resource.

Discussion

The present study was developed based in a single diagnostic hypothesis, BPPV, due to the large amount of cases found that concur with the research conducted by Nishini *et all* (2005), that described BPPV as the most occurred vestibular dysfunction. For Fetter (2002), and Fernandes & Paglioli (2003) BPPV is one of the most common forms of peripheral vestibular dysfunction.

Sampling random selection showed that the average age of patients that underwent treatment was 65.55 yrs. High sampling average age is enlightened by aging own alterations in systems related to body equilibrium, the higher possibility of degenerating chronic diseases, and chronic, sometimes multiple use of drugs among other factors that can favor the appearance of symptoms leading to a higher physical, functional and emotional limitation at this age (GANANÇA *et all*, 2004).

During the study exercises were performed individually due to patient's schedule availability, however Resende *et all* (2003) narrated in his research that vestibular rehabilitation emphasis in groups offered a situation, on which the elderly actively participated, increasing self steam that worked as a motivation for social gathering.

A great majority of patients suffering from BPPV who showed up at the clinic, specially the elderly ones, were experiencing nausea, vomiting, Hiperidrose, and paleness that justify the use of medication to minimize these symptoms. Binar *et all* (1999) also belives in the necessity of the introduction of medication in pacients sufering from vertigo due to the casual pathology, on the other hand, Ganança *et all* (1999) supports that vestibular rehabilitation is the best therapeutic treatment for patients that suffer from vestibular dysfunction.

The treatment used for the development of the research consisted of mild exercises, which follow the gradual evolution of the patient, demonstrating adequacy due to the high average age of the subjects. According to Zucco (2003), all vestibular disorder patients can benefit from Cawthorne-Cooksey's protocol, which advances gradually.

For the development of the research an evaluation that allowed the analysis of the patients life quality was selected, whish is the DHI questionnaire, the only questionnaire translated and adapted to Brazil's culture called Brazilian DHI (GANANÇA *et all*, 2004).

After answering DHI a higher emotional commitment from the patient was observed. On the other hand, Ganança *et all* (2004) applied the same questionnaire in 25 patients obtaining results that characterized limitations to social activities referring to the evaluated functional aspects. Studied patient's functional and physical aggression was parallel, representing the same loss in quality of life for both parameters evaluated.

Since emotional debility was extremely compromised in both evaluated groups, it is believed that there is a close relation between emotional disturbances and vertigo, as Ganança *et all* (2004) established when he observed that the patients in his research that were suffering from any kind of vestibular disorder demonstrated anxiety, fear of going out on their own, and a selflessness feeling.

Group A total improvement during treatment varied between 91.69 and 96.19% corresponding to the results obtained by Binar *et all* (1999), 95% of improvement in patients suffering from peripheral vestibular dysfunction applying the same research protocol in question, and Nishino *et all* (2005) that rehabilitated 37 patients an obtained a progress index of 91.89%.

At the end of the treatment, group A patients demonstrated tremendous satisfaction. Among the three rehabilitated patients, only one had not informed the total disappearance of the symptoms. Similar results were achieved by Guedes *et all* (1994) in a study where after treating nine patients only one still needed medication use, but presented an improvement extremely satisfactory.

In neither of the parameters proposed by the evaluation of quality of life, (DHI), Group B demonstrated a higher improvement compared to Group A, being that in the functional evaluation Group B obtained symptom aggravation significant for the study. Group B patients reported the persistence of the symptoms as well as complaints related to medicament side effects, agreeing with Resende *et all* (2003) that after studying 16 patients observed that the control group did not obtain a significant improvement in relation to quality of life when compared to the patients that underwent vestibular rehabilitation.

It should yet be observed that the treatment described by the research had a relatively short duration, totaling 22 days, contrary to what occurred in Silva's *et all* (2001) research where the treatment of two BPPV chronic patients needed 12 to 14 weeks to show an improvement, what suggests that BPPV in the acute phase is treated faster.

Conclusion

For the sample in question, Cawthorne-Cooksey's protocol was an efficient way of treatment against symptom derived from BPPV. It obtained emotional, physical, and functional improvement specially affecting the enhancement of the patient's quality of life.

The developed research demonstrated that patients that underwent vestibular rehabilitation obtained extremely satisfactory results in a short period when compared to the control group. We believe that with creativity, based in the exercises proposed by the research protocol, one can create a variety of other exercises to reach the same objectives.

Reference

AMÁ, L.A.G; AMARAL, M.C.; OLIVEIRA, G.C. Reabilitação vestibular: nossa experiência. **Revista Brasileira de Otorrinolaringologia**. São Paulo, ed. 2, v. 60, p. 113 116, jun. 1994.

BINAR, R.S.M; *et all.* Reabilitação vestibular: uma arma poderosa no auxilio a pacientes portadores de tontura. **Revista Brasileira de Otorrinolaringologia**. São Paulo, ed. 3, v.65, p 266 269, mai. 1999.

FERNANDES, J.G ; PAGLIOLI,P. Vertigens e Tonturas. In: DUCAN, B.B; *et all.* **Medicina ambulatorial**. 3.ed. São Paulo: Artmed, 2003. cap. 28, p 1174 1180.

FETTER, M.D. Disfunções do sistema vestibular. In: HERDMAN, S.J. **Reabilitação Vestibular**. 2. ed. Barueri: Manole, 2002. cap. 5 p. 91- 101.

GANANÇA, F.F; *et all.* A interferência da tontura na qualidade de vida de pacientes com síndrome vestibular periférica. **Revista Brasileira de Otorrinolaringologia**. São Paulo, ed. 1, v. 70, p 94 101, jan. 2004.

GANANÇA, M.M; *et all*. Alterações da audição e do equilíbrio corporal no idoso. **Revista Brasileira de Medicina**. Rio de Janeiro, ed. 10, v. 56, p 995 1010, out. 1999.

HERDAMAN, S.J; WHITNEY, S. L. Avaliação e tratamento pela fisioterapia. In: HERDMAN, S.J. **Reabilitação Vestibular**. 2. ed. Barueri: Manole, 2002. cap. 15 p. 329 357.

NISHINO, L.K.; *et all.* Reabilitação vestibular personalizada: levantamento de prontuário de pacientes atendidos no ambulatório de otoneurologia da I.S.C.M.S.P. **Revista Brasileira de Otorrinolaringologia**. São Paulo, ed. 4, v.71, p. 440 447, jul. 2005.

RESENDE, R. R; *et all.* Reabilitação vestibular em pacientes idosos portadores de vertigem posicional paroxística benigna. **Revista Brasileira de Otorrinolaringologia**. São Paulo, ed. 4, v. 69, p 535 540, jul. 2003.

SILVA, A.L.S; *et all.* Reabilitação vestibular em duas pacientes com vertigem posicional paroxística benigna. **Fisioterapia Brasil**. Rio de Janeiro, n. 5 , p 313 323, set. 2001.

SOCIEDADE BRASILEIRA DE OTORRINOLARINGOLOGIA (SBO). Fórum sobre vertigem. In: MENON, A. D. (Org.) **Revista Brasileira de Otorrinolaringologia**. São Paulo, ed. 4, v 69, p 1 35, jul. 2003.

ZUCCO, F. A reabilitação vestibular no idoso. **Fisio & Terapia**. Rio de Janeiro, n. 39, p. 35 37, jun. 2003.

Lygia Oliveira Alux
Endereço: Rua Visconde Guarapuava 2588, Centro
Cep: 85810110 Cascavel-Pr
Telefone: (45) 3223- 3031, (45) 9919- 2339

VESTIBULAR REABILITATION IN PATIENTS SUFFERING BENIG PARAXYSMAL POSITIONAL VERTIGO

ABSTRACT

Vertigo is a term that genetically represents all sensations of dizziness. Dizziness is among the most frequent symptoms and is the origin of Labyrinth in 85% of the cases. The current study objective was to verify the efficacy of vestibular rehabilitation people suffering from benign paroxysmal positional vertigo (BPPV). In a clinic specialized in the otorhinolaryngologist area in the city of Cascavel, Paraná, Brazil, six male and female patients with a medical diagnose and prescribed medicine, age 40 to 85, were selected. All patients were submitted to a initial, intermediate, and final evaluation previously elaborated through Jacobson & Newman's Dizziness Handicap Inventory School. Patient's physical, emotional, and functional improvement were verified. Three patients performed Cawthorne-Cooksy's physical treatment protocol, and the other three patients participated in the control group. Patients were examined three times a week, for a period of thirty minutes in each visit, totaling ten examinations. The results obtained from the patients that underwent the treatment were extremely satisfactory obtaining an improvement that varied from 91.69% to 96.19%. The results point vestibular rehabilitation as a valid option for the treatment of benign paroxysmal positional vertigo.

KEYWORDS: Benign Paroxysmal Positional Vertigo, Evaluation, Vestibular Rehabilitation.

RéEDUCATION VESTIBULAIRE CHEZ DES PATIENTS AVEC VERTIGE PAROXISTIQUE POSITIONNEL BENIN

RéSUMé

Le vertige c'est le fait qui represent genetique dês toutes lês manifestations de desequilibre. Les vertiges sont entre les syntomes plus frequents dans tout le monde et sont á l'origine du labirinte dans 85% descas. Cet etude á éte developpé avec le but de verifier l éfficacité de la réeducation vestibulaire chez des patients avec VPPB (Vertige Paroxistique Positionnel Benin). Dans un service privé de otorrinolaringologie de la ville de Cascavel Pront été choisi six patients avec l'age de 40 á 85 ans, deux sexes, avec le diagnostique medicale , les patients prennaient des medicaments . Tous les patients ont été submis aprés evaluation iniciale « DIZZINESS HANDICAP INVENTORY » de Jacobson & Newman. Nous avons verifié l'amelioration physique, emotionnel et fonctionnel des patients. Trois patients ont submis le protocole de traitement de la Physiotherapie de Cawthorne- Cooksey et les autres trois patients du groupe temoin. Les patients et les temoins ont été traité trois fois par semaine , pendant 30 minutes , total de 10 seances . Les resultats obtenues dans les patients subies aux traitements ont aimé beaucoup et etaient satisfaits, ont ameliorés entre 91,16% á 96,16%. Les resultats signalent que la réeducation vestibulaire c'est une option validé de traitement pour les VPPB (Vertige Paroxistique Positionnel Benin).

Mot-clé - Vertige Paroxistique Positionnel Benin, evaluation, réeducation vestibulaire.

REHABILITACIÓN VESTIBULAR EN PACIENTES PORTADORES DE VÈRTIGO POSICIONAL PAROXÌSTICO BENIGNO

RESUMEN

El vértigo es el término que representa genéticamente todas las manifestaciones de desequilibrio. Los mareos están entre los síntomas más frecuentes en todo el mundo y se originan como un laberinto en el 85% de los casos. El presente estudio fue desenvuelto con el objetivo de verificar la eficacia de la rehabilitación del vestíbulo en portadores de vértigo posicional paroxístico benigno. En una clínica especializada en el área de otorrinolaringología en la ciudad de Cascavel fueron seleccionados seis pacientes con edades de 40 a 85 años, de ambos sexos con el diagnóstico médico y haciendo uso de medicamentos. Todos los pacientes fueron sometidos a una evaluación inicial, intermediaría e final previamente elaborada a través de la escala “DIZZINESS HANDICAP INVENTORY” de Jacobson & Newman. Se verifico una mejora física,

emocional y funcional de los pacientes. Tres pacientes realizaron el protocolo de tratamiento fisioterapéutico Cawthorne-cooksey y los otros tres participan del control del grupo. Los mismos fueron atendidos tres veces por semana, en un período de 30 minutos, totalizando diez atendimientos. Los resultados obtenidos en los pacientes sometidos al tratamiento fueron extremamente satisfactorios, obteniendo una mejora que varió de 91,69 % a 96,19 %. Los resultados apuntan a la rehabilitación vestibular como una opción válida en el tratamiento del vértigo posicional paroxístico benigno.

Palabras llaves: vértigo posicional paroxístico benigno, evaluación, rehabilitación.

REABILITAÇÃO VESTIBULAR EM PACIENTES PORTADORES DE VERTIGEM POSICIONAL PAROXÍSTICA BENIGNA

RESUMO

A vertigem é o termo que representa geneticamente todas as manifestações de desequilíbrio. As tonturas estão entre os sintomas mais freqüentes em todo o mundo e são de origem labiríntica em 85% dos casos. O presente estudo foi desenvolvido com o objetivo de verificar a eficácia da reabilitação vestibular em portadores da vertigem posicional paroxística benigna. Em uma clínica especializada na área de otorrinolaringologia na cidade de Cascavel foram selecionados seis pacientes na faixa etária de 40 a 85 anos, de ambos os sexos, com o diagnóstico médico e fazendo uso de medicamentos. Todos os pacientes foram submetidos a uma avaliação inicial, intermediária e final previamente elaborada através da escala “DIZZINESS HANDICAP INVENTORY” de Jacobson & Newman. Verificou-se a melhora física, emocional e funcional dos pacientes. Três pacientes realizaram o protocolo de tratamento fisioterápico de Cawthorne-Cooksey e os outros três participaram do grupo controle. Os mesmos foram atendidos três vezes por semana, no período de 30 minutos, totalizando 10 atendimentos. Os resultados obtidos nos pacientes submetidos ao tratamento foram extremamente satisfatórios, com uma melhora que variou de 91,69% a 96,19%, apontando a reabilitação vestibular como uma opção válida no tratamento da vertigem posicional paroxística benigna.

Palavras-chave: Vertigem posicional paroxística benigna, avaliação, reabilitação vestibular.