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Intratympanic Instillation of Lidocaine for the Treatment of Meniere's Disease an Underused Option

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Abstract

For Ménière's disease, there are different therapeutic options, among these, is the instillation of intratympanic lidocaine, described many years ago, but currently with very limited application due to lack of knowledge of its existence. The objective of this clinical case is to promote the development of double-blind clinical trials among the scientific community, to demonstrate the usefulness of intratympanic instillation of lidocaine as an alternative non-surgical, non-ablative, effective, simple and safe therapeutic strategy to reduce vertigo crisis in Ménière's disease and thus be able to offer this resource to patients.

Keywords: Ménière's Disease; Hearing Loss; Double-Blind Clinical Trials; Intratympanic Instillation; Patients; Lidocaine

Introduction

Since Ménière's disease was described in 1861 by Prosper Ménière, in which patients present the triad of: fluctuating hearing loss, tinnitus and episodic vertigo, with the possibility of adding the sensation of aural fullness [1], a clear etiology has not been established. But within the pathophysiology, the production of endolymphatic hydrops is recognized, which triggers recurrent ruptures in the Reissner membrane, causing acute crises.

Associated risk factors [2] are recognized as: anatomical abnormalities, genetic predisposition, immunological alterations, vascular and labyrinthine lesions and even a relationship with the herpes virus or cytomegalovirus [2], and different therapeutic options have been proposed, among which are: outpatient pharmacological treatment, intratympanic instillations of gentamicin, steroids, and lidocaine instillation has also been reported by several authors, with very good results [3-5].

Material and Methods

Intratympanic instillation of 2% lidocaine was performed on a 52-year-old male patient with long-standing Meniere's Disease, with moderate sensorineural hearing loss for the left speech frequencies and an average of ten to twelve vertiginous episodes per month for at least one year, disabling, that did not yield to established pharmacological treatment.

Under microscopic vision, after applying local anesthesia in the four quadrants of the left external auditory canal, the tympanic membrane was punctured with a 22G gauge needle in the anterosuperior quadrant, instilling 1.0 ml of 2% lidocaine at approximate body temperature, with the patient remaining in left lateral decubitus position for 20 min without speaking or swallowing.

Results

During the instillation, the patient presented transient vertigo without nystagmus. For safety reasons, he spent the night on the ward and was discharged the next day, without complications. During the 11-month follow-up, the patient has not presented vertiginous episodes, so he has not required outpatient pharmacological treatment, he has only maintained the low-sodium diet, and has returned to his work life. The hearing showed no changes.

Discussion

In reports published in the literature on the matter, the number of vertigo attacks was reduced between 70.0% and 87.5%, with a follow-up of patients for an average of 25 months, even in the study reported by Bertlich M, et al. [3], 25% of the patients did not present vertigo during the follow-up, which was 25.4 months, in addition, there were no reports of increased hearing loss. Adunka O, et al. [5] report that 66.7% of patients noticed no changes in hearing level and 20.8% stated that hearing actually improved.

In relation to the mechanism of action of intratympanic lidocaine, several theories are postulated, among them, that due to its charge and relatively low molecular weight (234.34 g/mol), it easily passes through the membranes of the oval and round windows, remains in the endolymphatic fluid for a long period of time, activating the K channels of the outer hair cells [4].

Conclusions

In general, there is evidence that intratympanic lidocaine, also called labyrinthine anesthesia, can be a non-surgical, non-ablative, effective, simple and safe therapeutic strategy to reduce vertigo attacks that occur in patients with advanced Ménière's disease torpid, without affecting hearing, which occurs with other intratympanic instillation options, and the application can be repeated if necessary. We know that it will be necessary to carry out double-blind clinical trials, preferably multicenter, with large groups of patients, to further support these conclusions and not leave this therapeutic resource underused.

References

1. Lopez-Escamez JA, Carey J, Chung WH, Goebel JA, Magnusson M, et al. (2016) Diagnostic criteria for Menière's disease. Consensus document of the Bárány Society, the Japan Society for Equilibrium Research, the European Academy of Otology and Neurotology (EAONO), the American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS) and the Korean Balance Society. Acta Otorrinolaringol Esp 67(1): 1-7.

2. Vázquez Muñoz MI, Gómez Tapiador MP, Domínguez MO (2015) Peripheral Vestibular Syndromes: Meniere's Disease, Vestibular Neuronitis, Benign Paroxysmal Positional Vertigo. Vertigo Surgery. Acta Otorrinolaringol Esp 1: 21-29.

3. Bertlich M, Ihler F, Lee Spiegela J, Canis M, Weiss BG (2021) Intratympanal administration of lidocaine in the management of Ménière's Disease. Acta oto-laryngologica 141(3): 209-215.

4. Verdonck J, Desloovere C (2011) Intratympanic lidocaine instillation for Menière's disease. B-ENT 7(3): 157-164.

5. Adunka O, Moustaklis E, Weber A, May A, von Ilberg C, et al. (2003) Labyrinth anesthesia--a forgotten but practical treatment option in Ménière's disease. ORL J Otorhinolaryngol Relat Spec 65(2): 84-90.