TREATMENT OF TINNITUS WITH TOPIRAMATE.

AUTHORS: Manuel Alejandro Pérez Cisneros,MD. Maria Teresita de Jesús Morales Ortega,MD. Gustavo Quintero Orozco,MD. Juan Francisco Llamas Moreno,MD. *Zapopan, Jalisco, México.*

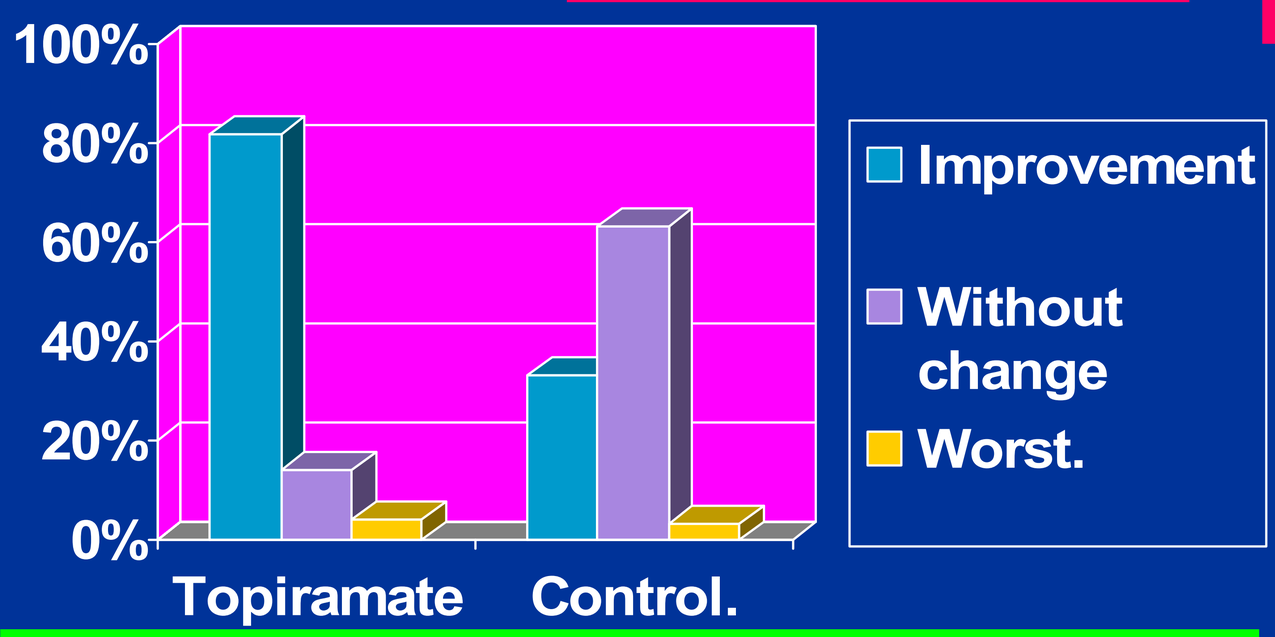
Hospital General de Zapopan, Cruz Verde las Aguilas, Research Institute CMNO IMSS,MEXICO.

INTRODUCTION: Altough more than 13 million of people with tinnitus are seen in office per year, the origin of tinnitus is still unknown, in the biochemical theory, carefully described by Shaley and Nodar (1). the excess of glutamate, a neurotransmissor originated in the dendrite of the inner hair cells of the cochlea released by silence or riot, produce a stimulation that is perceived like sound in the brain, N-etyl-d-aspartato (NMDA) and alfa-amino-3-hydroxy-5-methyl-4-isoxazone-propionic acid (AMPA) are two classes of ionotropic glutamate receptor subtypes that mediate the glutamatergic neurotransmission, in this physiologic process other neurotransmissors are involved including GABA.

The glutamate in the inner cell acts like a active agent and takes a role in the process of neural stimuli in the cochlea. The topiramate is a anticonvulsive agent that acts directly inhibiting the action of glutamate in the neural synapses.

MATERIALS AND METHODS: This is a prospective, randomized, double blind, placebo controlled clinical trial that was carried out in the period of June 2002 to January 2006 in the otolaryngology department of the Hospital General of Zapopan, in Jalisco, Mexico.

In a randomized way the patients was divided in two groups, the first group being the control group which received only placebo for a period of 20 days. The second group received low-dose topiramate (Topamax,TM of Janssen-Cilag labs) 20 mgrs OV OD. per a period of 20 days. At follow up the patients from both groups were then assessed for a qualification of their tinnitus as 0-10 method and were asked about the side effects of the drug.



RESULTS: By qualification in the control group: 12 patients (33%) felt improvement after the treatment, 23 patients (63%) were without change in their tinnitus, and only one patient (3%) declared feeling worse with the treatment.
In the group two (with topiramate): 41 patients (82%) felt improvement after 20 days of treatment, 7 patients (14%) experienced no change with the treatment and 2 patients (4%) had the intensity of tinnitus worsen with the treatment. No patients resolved the tinnitus.
These results have a statistical significance of p=<.05
No side effects were declared with the therapy.

CONCLUSIONS: The use of agents like topiramate could be effective in the control of tinnitus, although the subjective nature of the perception of tinnitus made the accuracy of these clinical results difficult to assess. More studies are needed.

BIBLIOGRAPHY. Shaley,TL. Nodar,RH. A biochemical model of peripherical tinnitus. Hear Res 2001;152:43-54.

SUMMARY.

Objective. determine the clinical success of topiramate in the treatment of sensorineural tinnitus.
Study Desing. prospective, randomized, double blind, placebo controlled clinical trial.
Subjects. patients with subjective tinnitus diagnosed with sensorineural hearing loss.
Method. group one, the control group which received only placebo for a period of 20 days. group two received low-dose topiramate 20 mgrs OV OD. per a period of 20 days after this were questioned of any clinical changes in the tinnitus and assessed for a qualification of their tinnitus.
Results. In the control group: 12 patients (33%) felt improvement, 23 (63%) were without change, and only one patient (3%) declared feeling worse. In the group two (with topiramate): 41 (82%) felt improvement, 7 (14%) experienced no change and 2 (4%) had the intensity worsen.
Conclusion. topiramate could be effective in the control of tinnitus