ABSTRACT

Objective: To correlate the tinnitus pitch to the audiometric frequencies of hearing loss.

Methods: This cross sectional study evaluated 378 ears of consecutive patients diagnosed with hearing loss and chronic tinnitus of any etiology. Audiometry and acufenometry were performed at the first clinical evaluation; a tinnitus pitch within the frequencies of greatest hearing loss indicated a positive association. The acufenometric frequency was similarly assessed relative to the greatest hearing loss on audiometry. Data were compared using the Spearman correlation test and analyzed using SPSS.

Results: In total, 61.6% of patients were females, and the mean patient age was 57.9 years. In 58% of cases, the tinnitus frequency was within the region of greatest hearing loss, but only 20% corresponded exactly to the highest hearing loss frequency. There was a weak correlation ($r = 0.1, p = 0.02$) between the tinnitus pitch in acufenometry and the greatest hearing loss frequency in audiometry.

Conclusion: The tinnitus pitch and the region of audiometric loss were correlated in most patients. In several cases, the tinnitus pitch corresponded to the exact frequency of greatest hearing impairment, and the two variables had a weak association.

INTRODUCTION

Tinnitus can be described as a sound heard by an individual without the existence of an external stimulus.

There are various causes to tinnitus, and diseases that involve hearing loss are the main generators of this symptom.

It affects a considerable part of the population of the hearing impaired and, no matter the pitch, it is quite disturbing to the affected person.

Until now it was not possible to find a correlation between the grade of hearing loss and the tinnitus pitch found in the acufenometry exame.

OBJECTIVES

This study intends to:

1. Correlate the tinnitus pitch to the audiometric frequencies of hearing loss

2. Investigate if there is a significant association between these two variables

METHODS AND MATERIALS

A cross sectional study which evaluated 378 ears of consecutive patients diagnosed with hearing loss and chronic tinnitus of any etiology.

Audiometry and acufenometry were performed at the first clinical evaluation.

A tinnitus pitch within the frequencies of greatest hearing loss indicated a positive association.

The acufenometric frequency was similarly assessed relative to the greatest hearing loss on audiometry.

Data were compared using the Spearman correlation test and analyzed using SPSS.

RESULTS

Of the studied population, 61.6% of patients were female. The mean patient age was 57.95 years (standard deviation [SD], 12.53);

In 58% of cases, the tinnitus frequency was within the region of greatest hearing loss

Only 20% corresponded exactly to the highest hearing loss frequency.

There was a weak correlation ($r = 0.1, p = 0.02$) between the tinnitus pitch in acufenometry and the greatest hearing loss frequency in audiometry.

CONCLUSIONS

The tinnitus pitch and the region of audiometric loss were correlated in most patients.

In several cases, the tinnitus pitch corresponded to the exact frequency of greatest hearing impairment, and the two variables had a weak association.

Due to the clinical importance of hearing loss as risk factor for tinnitus, further studies may be necessary to better approach the real association between the two variables in question.

Although a significant amount of people were included in this study, perhaps a bigger population must be evaluated so that we can safely apply our data to a great number of the affected by tinnitus.