Diabetes type 2 and hearing loss. What's the connection?

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Abstract

The relation between diabetes mellitus DM and auditory system has been investigated for a long time and still in a debate.

Most recent studies confirm the contribution of diabetes for a progressive hearing loss and identified worse hearing among those with diabetes compared to control participants. But it's not easy to investigate results of metabolic and chronic diseases, one reason is because of comorbidities. comorbidities are considered very challenging when trying to investigate diabetes role in physiological changes, as patients with diabetes may also experience other complications and there is a need to carefully consider whether comorbidity has any influence on the results in order to get a valid data.

In addition, there are other factors that affect hearing, and sometimes they are difficult to exclude while conducting an investigation (aging, gender, genetics, and progressive complications). Different systematic reviews have tried to analyze results of studies that described the mechanisms of degeneration in the inner ear and nerve pathways in the presence of diabetes. parametric measures using audiological standardized tests also were used to compare between non diabetic people and diabetic ones, and studied the duration effect on hearing loss progression.

This study aimed to confirm the relationship between diabetes type2 as it is the most common form of diabetes, to study the correlation between glycemic control and hearing threshold and to determine the differences between treated diabetic and non-treated ones.In addition, the study compared between the methods used in different studies which denied the correlation between hearing loss and diabetes in order to find the reasons behind the contradicted findings.

According to the recent literature, it is widely believed that glycemic level has a direct significant effect on hearing thresholds, causing progressive type of hearing loss that is very related to the duration