TITLE: Comparison of Hearing Abnormalities in Non-Diabetic and Diabetic End-Stage Renal Disease Patients Undergoing Hemodialysis

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ABSTRACT (upto 300 words)

Background and Aim: Hearing loss is a highly prevalent symptom in patients with chronic kidney diseases (CKD). Comorbidities such as Diabetes Mellitus is known as the most common cause of CKD and a significant risk factor for sensorineural hearing loss (SNHL). The aim of this study was to compare SNHL among diabetic with non-diabetic hemodialysis patients.

Methods: In this study, 33 diabetic patients on hemodialysis were selected from Hami center, Arak, Iran. Non-diabetic subjects were 31 hemodialysis patients without diabetes were matched for age, duration of CKD and hemodialysis. Data were obtained via questionnaire, patients' files, physical examination, otoscopy and tympanometry. Hearing was analyzed using pure-tone audiometry for both groups.

Results: In the study, 66.2% of diabetic patients and 52.1% of non-diabetic subjects had SNHL. Results showed that diabetic patient has 1.3 times more likely to have hearing impairment. This difference was not statistically significant. Bilateral mild SNHL was the most prevalent in both groups. No significant difference was reported in SNHL prevalence, mean thresholds of hearing and ear Tateratity between the groups.

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Gender and age had a significant effect on hearing loss after adjusting covariables. No significant association was found between diabetes and hearing loss.

Conclusion: SNHL was more common hemodialysis patients with diabetes. Patients with diabetes had poorer hearing thresholds compared to non-diabetic group, with no significant difference between groups. The periodical assessment of hearing and extending audiological care in this high-risk population is recommended due to longterm irreversible symptoms of the disease.

BIOGRAPHY (upto 200 words)

I have completed Master of Science in Audiology at the age of 23 years from Tehran University of Medical Sciences, Tehran, Iran. I have been working as a faculty member form 2015. Curently, I am the head of Audiology department in school of rehabilitation, Arak University of Medical Sciences, Arak, Iran. I have 8 publications in recent years, and my publication h-index is 1. I have been a member of Scientific Committee of Iranian Association of Audiology from 2021. I am extremely passionate about Tinnitus, Auditory Evoked Potentials Neuroscience as well as auditory problems in CKD patients.

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I have clinical experiences in the fields of the assessment of hearing disorders, intervention, treatment and follow-up programs for hearing loss, tinnitus and related medical conditions.

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