

Audio logical profile in type 2 diabetes mellitus

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Abstract

Diabetes mellitus (DM) is a Syndrome of chronic hyperglycemia due to relative deficiency of insulin, resistance to insulin or both. It can cause a variety of metabolic, neurologic, and vascular complications (Ginis & Sirmali, 2012). Its prevalence is estimated to be more than 285 million people worldwide and 51 million in India. The relationship between diabetes and hearing loss was first described by Jordao (1857). Individuals having diabetes have bilateral gradually progressive sensori neural hearing loss, predominantly affecting in higher frequencies (Taylor, 1978). The Aim of the present study is to profile the audiological findings in type 2 Diabetes mellitus and to study its effect on the efferent system using contralateral suppression of DPOAE. Subjects in the present study divided into two groups: Group A (Control Group) and Group B (Experimental Group) both the groups will consist of 30 individuals (15 Males and 15 Females) in the age range of 25 - 40 years of age. Group B consist of subjects having > 5 years of type 2 Diabetes mellitus, this group was further divided into three subgroups having 10 subjects in each based on their medical management. All the subjects underwent Puretone audiometry, tympanometry with reflexes (to rule out middle ear pathology) TEOAE, DPOAE and contralateral suppression of DPOAE. These observations were compared with those from the control subjects. 25 - 40 years age group with type 2 Diabetes mellitus showed a significant high frequency hearing loss, as compared to the controls. The study report also shows that the diabetes mellitus is associated with the increased risk of developing hearing loss in younger adults. There was a correlation between the level of hearing loss and duration of diabetes. Abnormal DPOAE responses were found more often than TEOAE and Pure Tone Audiometric findings. Cochlear damage due to diabetes mellitus could be detected early by using DPOAE and is more sensitive. Audiological test batteries are useful for the clinical diagnosis and follow up of auditory status in diabetes mellitus. It is useful to monitor progression of the cochlear damage, as well.

Biography

Elza Philip has completed her Master degree in Audiology and Speech language pathology at the age of 25 years from Kerala University, India. She is working as a Audiologist and speech language pathologist in Sravana Speech and Hearing Centre, Kerala, India



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