Adult-onset hearing loss is a highly prevalent yet relatively under-recognised health problem in the older adult Australian population. Type II diabetes mellitus has been associated with a higher likelihood of hearing impairment being present.

Diabetes and hearing loss reference guide

In many population studies Type II diabetes has been associated with increased incidence of hearing impairment, with stronger associations found in studies that included younger age groups. Hearing impairment, both high frequency and low/mid frequency, is more common in people with diabetes, perhaps due to neuropathy and/or vascular disease.

In a National Health and Nutrition Examination Survey analysis, hearing impairment was about twice as great in people with diabetes compared with those without, after adjusting for age and other risk factors for hearing impairment.
THE CAUSE

Diabetes is a complex, systemic disease that can impact widespread body tissues and physiological functions. Several biological mechanisms might explain an association between diabetes and hearing impairment. The auditory system requires glucose and high-energy utilisation for its complex signal processing, suggesting the cochlear may be a target for the ill effects of hyperglycaemia. These effects include vascular, neurological etiologies (including the central nervous system effects of diabetes), mitochondrial abnormalities, and genetic causes.  

As the inner ear is vulnerable to metabolic and circulatory stress, it is a logical expectation to see the impact of microvascular complications commonly associated with type II diabetes on the auditory system. However, the potential that other processes are at work causing acoustic trauma is as yet unclear, and requires further research.

Often the hearing loss is permanent, unable to be improved by dietary control or exercise once established, however a healthy lifestyle may reduce the severity of the hearing loss.

THE CONSEQUENCES OF UNDIAGNOSED HEARING LOSS

- Difficulty communicating with health professionals
- Isolation
- Depression
- Strain on relationships
- Decreased social activity
- Reduced confidence
- Decreased job retention/earnings
- Can affect overall sense of well-being.

RECOMMENDATIONS

Audiological testing should be an essential component in the medical care plan for patients with pre-diabetic markers or those with newly diagnosed, or previously diagnosed diabetes. A baseline audiological assessment is recommended followed by annual review for this patient population.

THE UNIVERSITY OF MELBOURNE AUDIOLOGY CLINIC

Ground Floor
550 Swanston Street
Carlton, Victoria 3053 Australia

+61 3 9035-5333
+61 3 9347-1535
aud-reception@unimelb.edu.au
umac.org.au

Hours: 8.30-4.30 Monday to Friday except National public holidays

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