

### ببحث رقم ( 3 )

عنوان البحث باللغة الانجليزية

**The effects of diabetes mellitus type 1 on children's audiovestibular system:  
a randomized case control study**

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Background: Children with diabetes mellitus type 1 have many deficits, including neuropathy, retinopathy, and nephropathy, all of which compromise their activity and daily functional status. Vestibular dysfunction is another possible complication of diabetes and may increase the risk of falls. Despite diabetes mellitus prevalence, few studies evaluated its effect on hearing, and even fewer examined the effect on the audiovestibular system. A randomized case control pilot study design was implemented to evaluate the effect of type 1 diabetes mellitus on the audiovestibular system of children. Results: The study included 50 children divided into 2 groups; the study group included 25 children suffering from type 1 diabetes mellitus, and the control group included 25 patients who were known to be nondiabetics. Both groups underwent basic audiological and vestibular test battery. Only 16% showed different degrees of hearing loss. Regarding vestibular assessment, saccadic eye tracking showed the highest degree of abnormal results within the study group (80%). Correlation between saccade findings among cases and the risk factors of diabetes like duration, glycated hemoglobin level, diabetic ketoacidosis, and hypoglycemic coma attacks indicated statistically significant positive correlation between saccade latency and glycated hemoglobin level. Conclusion: This study proposed that type 1 diabetes mellitus can affect the audiovestibular system of children even in the absence of symptoms. Accordingly, appropriate early rehabilitative management should be planned in an attempt to avoid further complications.