

Comparative Study Of Reaction Times In Type 2 Diabetics And Non Diabetics

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Introduction

Reaction Time is a reliable indicator of processing of sensory stimulus by central nervous system and its execution in the form of motor response. Our study aimed to evaluate the effect of hyperglycemia and other complications of Diabetes Mellitus on the central processing of signals and on peripheral nerves.

Materials and methods

The study was conducted on 50 subjects (25 controls and 25 patients) between 30 to 50 years of age. Auditory Reaction Time and Visual Reaction Time were recorded using Digital Display Response Time Apparatus and three auditory stimuli (low , medium and high pitched sounds).

Results

The study explored the consequences of Type 2 Diabetes Mellitus on the reaction time. Auditory and Visual Reaction time was found to be markedly increased in diabetic patients.

Conclusion

Patients with long standing Type 2 Diabetes Mellitus suffer from many complications. Diabetes affects peripheral nerves in the somatosensory and auditory system , slows psychomotor responses and has cognitive effects on those individuals without proper metabolic control , all of which may affect reaction times. The cognitive domains that were most adversely affected by hyperglycemia in people with Type 2 Diabetes were information processing speed and working memory. Delayed reaction time in diabetics without clinical neuropathy can be taken as a non invasive , low cost , sensitive indicator of early nerve damage without clinical signs or symptoms.