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ORIGINAL ARTICLE

Assessment of glycemic control and duration of diabetes in distal symmetric diabetic polyneuropathy

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ABSTRACT

Diabetes is widespread disease that lead many complications. One of most common complication is neuropathy. However precise pathophysiological mechanism is still not understanding clearly. With this study we hope that we can understand either duration or severity of diabetes causes more trouble.

Keywords: diabetes, polyneuropathy, distal symmetric diabetic polyneuropathy.

INTRODUCTION

Peripheral neuropathy is the general name given to all diseases that cause damage to the peripheral nervous system in some way. And best way to classify it, is according localization [1]. And one of the most common localizations is distal symmetric polyneuropathy. In distal symmetric polyneuropathy, patients usually complain of numbness, tingling and pain [2].

Diabetes is a common disease that can cause many types of neuropathy. Many factors may be effective in the development of neuropathy in diabetic patients [3]. This study aims to determine whether duration or glycemic control is more effective in diabetic polyneuropathy patients by comparing the duration of diabetes and hemoglobin A1c levels of patients diagnosed with distal symmetric diabetic polyneuropathy.

METHODS

For this study, diabetes duration, hemoglobin A1c levels and electrophysiological characteristics of patients who were admitted to Gaziantep University Hospital between 01.08.2024 and 01.10.2024 and diagnosed with distal symmetric diabetic polyneuropathy were evaluated retrospectively.

RESULTS

Total of 47 patients, 23 male and 24 female patients, were included in the study. Spearman correlation coefficient was used to analyze the relationship between diabetes duration and parameters in nerve conduction studies. Pearson correlation coefficient was used and linear regression model was applied to analyze the relationship between HBA1c and parameters in nerve conduction studies. Situations in which lower extremity peripheral nerves could not be stimulated at all were considered as severe polyneuropathy. A negative correlation was observed between the duration of diabetes and the sensory amplitudes and nerve conduction velocities of the sural nerves. No significant correlation or linear regression relationship was detected between HBA1c and

the parameters in nerve conduction studies. No significant relationship was found between the development of severe polyneuropathy and duration of diabetes and HBA1c. No significant correlation or linear regression relationship was detected between HBA1c and the parameters in nerve conduction studies. No significant relationship was found between the development of severe polyneuropathy and the duration of diabetes and HBA1c.

CONCLUSIONS

In this study, although the duration of diabetes was associated with a decrease in both amplitude and speed of conductions, no significant difference was observed between duration and Hemoglobin A1c levels in the development of severe neuropathy. The retrospective design and the fact that other factors known to be effective in the development of diabetic polyneuropathy were not taken into account in this study are aspects of the study that are open to criticism.

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Conflict of interest

The authors declare that there is no conflict of interest.

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