INFLUENCE OF TYPE 2 DIABETES ON THE FUNCTION OF THE CENTRAL NERVOUS SYSTEM

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Abstract: Diabetes mellitus (DM) is a global health problem that affects all age groups, races and ethnicities[1,3,4]. Currently, about 177 million people worldwide suffer from this disease[33,34]. According to WHO forecast, the number of patients with diabetes will increase to 300 million people by 2025[2,5,6]. Non-insulin-dependent diabetes mellitus (NIDDM) is the most common and accounts for about 90% of diabetes cases[7,8,9].

Keywords: Perception, Practice, Pap smear test, Human papilloma virus, Cervical cancer.

INTRODUCTION

This is due to the aging population in developed countries and the increasing incidence of obesity. Prevention of complications specific to NIDDM is key to reducing morbidity and mortality associated with diabetes[10,11]. In recent years, it has been shown that complications of diabetes are often diagnosed before the initial diagnosis of the disease itself, since 50% of cases of all patients have damage to other organs and tissues[30,31,32,35]. If diabetes is not detected or treated adequately, this inevitably leads to the occurrence of microvascular complications and an increase in the number of hospitalizations associated not only with diabetes, but also with the treatment of its complications[12-15]. One of the most common microvascular complications of diabetes, causing mortality and mortality in patients, is diabetic neuropathy (DN), which (according to a summary analysis of epidemiological studies) occurs in approximately 30% of cases in hospital patients and in 20% of outpatients[16-19]. The main risk

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factor for the development of diabetic neuropathy is decompensation of diabetes[28,29]. The DCCT study demonstrated that achieving compensation for diabetes from the onset of the disease reduces the risk of developing DN by 69%, and ensuring its compensation at any stage of the disease reduces the risk of developing DN by 57%[20,21,22,23]. Thus, along with an unfavorable prognosis and an increase in the number of patients with diabetes in the world, we should also expect a proportional increase in the prevalence of its microvascular complications, including: DN, which makes the health problem we are considering extremely relevant[24,25,26].

TARGET. To assess peripheral nerve damage in patients with diabetes mellitus (DM) and identify differences in the speed of reaction and perception depending on age groups, duration of type 2 diabetes (T2DM), levels of fasting plasma glucose and glycated hemoglobin (HbA1c), and compare them with those in healthy people.

MATERIALS AND METHODS. The study was conducted at the Samarkand branch of the Republican Scientific and Practical Center of Endocrinology. A total of 60 patients diagnosed with T2DM were included in the study.

and 60 healthy controls. A finger-tapping test, visual and auditory response tests were carried out, respectively. Fasting plasma glucose and HbA1c levels were recorded, and duration of diseases. The analysis of the obtained data was carried out using SPSS version 25. Differences were considered statistically significant at a p value <0.05.

RESULTS. It was noted that control group participants aged 18 to 34 years showed faster reaction in all tests (p=0.01), but differences in reaction speed in both groups decreased with increasing age. Positive correlations were revealed between the duration of T2DM and the results of visual and auditory tests (r=0.69, p<0.05; r=0.52, p<0.05, respectively). There was also a positive correlation between the level of HbA 1c (%) and the results of the visual reaction test (r=0.97, p<0.05).

CONCLUSION. As glycated hemoglobin levels increased and the duration of type 2 diabetes increased, patients' reaction speed and perceptual skills decreased. There was a rapid decline in cognitive function, especially in the early stages. The most correct prevention is to achieve target levels of glycemia and glycated hemoglobin.

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