OGNITIVE DYSFUNCTION IN PATIENTS WITH DIABETES MELLITUS

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Diabetes mellitus is a significant risk factor for cognitive impairment. The severity of the latter is influenced by the indications of glycosylated hemoglobin, the presence of concomitant somatic pathology, the prescription of diabetes mellitus (DM) and its type, premorbid personality traits, etc. It is of practical interest to analyze and systematize the causes that determine the change in cognitive activity of pa patients with DM.

The purpose of this study was to determine the predictors of the appearance of cognitive disorders in people with diabetes.

Materials and methods of research A comprehensive clinical and neurological examination of 47 patients with type 2 diabetes aged 47-68 years (average age 57.5±8.1 years) was conducted, as a control, persons (20 people) of similar age with initial manifestations of cerebral circulatory insufficiency with normal glycemic indicators were examined.

In the course of observation, general clinical laboratory (glycemia level, glycosylated hemoglobin, lipidogram, coagulogram, renal samples, cystatin C level), neuro-psychological (DSST digital sim replacement test, short mental status assessment scale, MMSE, Stroop tests), statistical research methods were used.

The results obtained and their discussion. As a result of the survey, the following results were obtained: the average HbA level in the subjects averaged 8.7±1.9%, the average duration of diabetes was 10.5±2.7 years. Diabetic nephropathy was diagnosed in 52% of patients, diabetic sensorimotor polyneuropathy in 81%, and signs of diabetic encephalopathy were present in 39% of cases. lbuminuria (albumin/creatinine ratio ≥ 30±4.9 mg) was accompanied by the worst results of all cognitive tests. An increase in the level of cystatin C (up to 2.1±0.7 mg/l) (control 0.71± 0.90 mg/l) (P <0.01) was associated with low performance of the executive function test. Increased concentration of glycosylated hemoglobin > 8.7% =1.4 (P <0.05), as well as hyperglycemia >12±2.3 (P <0.01) were closely related to the negative indicators of the information processing speed test.Elevated cystatin C levels correlated with worse DSH and Scab test results. According to the literature, cystatin C was not only an indicator of renal function, the polymorphism of the cystatin C gene is

associated with the risk of Alzheimer's disease, lacunar infarcts, and lesions of the white matter of the brain, which are often observed in patients with diabetes. It can be assumed that cerebral disorders and impaired renal function are parallel links in the pathogenesis of many angiitis, angiopathies. On the one hand, endothelial dysfunction in the vessels of the brain is manifested by defects in the hemato-encephalic barrier, increased processes of transportation and formation of amyloid, as well as a predisposition to lacunar infarctions. In the kidneys, impaired endothelial function in glomeruli leads to albuminuria, which in turn causes the development of tubulointerstitial inflammation, secondary nephrosclerosis.

Conclusions

Our observations revealed a link between hypercysatinemia and albuminuria in patients with type 2 diabetes and impaired verbal memory. Therefore, the determination of these renal biomarkers in people with diabetes is of prognostic importance, as it allows to diagnose cognitive disorders at an early stage and timely carry out their prevention.

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