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FREQUENCY OF PHENOTYPES OF DIABETIC KIDNEY DISEASE IN LATENT AUTOIMMUNE DIABETES IN ADULTS

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Nowadays diabetic nephropathy is the leading cause of chronic kidney disease (CKD) in patients with diabetes mellitus (DM) and accounts for almost half of its uremic stage. New epidemiological studies have identified the unique heterogeneity of this complication, thus prompting the use of the term "diabetic kidney disease" (DKD) to cover all types of kidney diseases that occur in people with diabetes mellitus. In particular, in addition to the classical albuminuric phenotype (AP), two new phenotypes have emerged: nonalbuminuric renal impairment (NARI) and progressive renal decline (PRD).

The purpose of the work – to study the prevalence of diabetic kidney disease phenotypes in latent autoimmune diabetes in adults compared to classical types of diabetes mellitus.

A comprehensive examination of 96 patients with CKD and diabetes mellitus was conducted. The mean age of patients was 44.8 years; the percentage of women – 52%, men - 48%. In 40 patients LADA was diagnosed (main group), in 28 – type 1 diabetes mellitus (T1DM), in 28 – type 2 diabetes mellitus (T2DM) (comparison groups). Diabetes mellitus was diagnosed according to the recommendations of the American Diabetes Association (2020), CKD–EPI according to the recommendations of KDIGO (2012). Evaluated complaints, history, objective examination, the results of general clinical laboratory tests, carbohydrate metabolism (blood plasma glucose, glycated hemoglobin, C-peptide, HOMA-IR), glomerular filtration rate (GFR) according to the formula CKD-EPI, albumin-creatinin ratio (ACR), data of kidneys ultrasound examination.

In all examined patients with diabetes, the main cause of CKD was DKD. According to the results in patients with T1DM stages of CKD were found with the following frequency: G1 - in 35.7% of patients, G2 - in 42.9%, G3a - in 14.3%, G3b - in 7, 1% respectively. The category of albuminuria A1 was registered in 14.3% of patients, A2 - in 78.6%, A3 - in 7.1%, respectively. In patients with T2DM, CKD in stage G1 was found in 3.6% of patients, G2 in 50%, G3a in 35.7%, G3b in 7.1%, and G4 in 3.6% of patients, respectively. Albuminuria in stage A1 was registered in 21.4% of patients, A2 - in 67.9%, A3 - in 10.7%, respectively.

In turn, in patients with LADA G1 stage CKD was registered in 25% of patients, G2 - in 55%, G3a - in 12.5%, G3b - in 5%, G 4 - in 2.5%. Albuminuria in stage A1 was found in 37.5% of patients, A2 - in 50%, A3 - in 12.5%. In the analysis of the obtained results, the type of DKD running over AP was diagnosed in 7.1% of patients with T1DM, 10.7% of patients with T2DM and 12.5% of patients with LADA, respectively. The proportion of patients with the NARI was 85.7% in T1DM, 53.6% in T2DM and 70% with LADA. In turn, PRI was detected in 7.1% of cases of T1DM, 35.7% of T2DM and 17.5% of cases of LADA.

Latent autoimmune diabetes in adults by the frequency of different stages of chronic kidney disease occupies an intermediate position between type 1 and type 2 diabetes mellitus. In patients with chronic kidney disease in latent autoimmune diabetes, normoalbuminuria is registered almost 2 times more often than in other types of diabetes. Category A2 is the least numerous compared to the classic types of diabetes, while albuminuria of category A3 is diagnosed somewhat more often. Albuminuria and isolated decrease in glomerular filtration rate in diabetic kidney disease can occur both together and separately, determining the two main pathways of origin and progression: albuminuric and nonalbuminuric with the formation of specific phenotypes. The prevalence of the phenotypes in latent adult autoimmune diabetes differs from that in classical types of the disease, which requires a differential approach to the management of this complication.