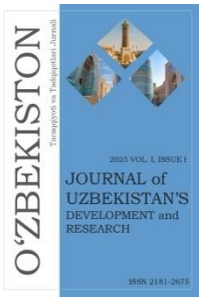

Journal of Uzbekistan's Development and Research (JUDR)

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CORRELATION DEPENDENCE IN VARIOUS MORPHOLOGICAL FORMS OF CHRONIC GLOMERULONEPHRITIS

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KEYWORDS

glomerulonephritis, mathematical model, biopsy, correlation dependence.

ABSTRACT

The results of 98 biopsies taken from patients with various morphological forms of chronic glomerulonephritis were studied. Of these, 74 patients underwent extensive clinical and laboratory examinations. The proteinuric form of chronic glomerulonephritis was diagnosed in 54 patients. In various morphological forms of chronic glomerulonephritis, there is a clear correlation between clinical and laboratory parameters and morphological changes. The proteinuric form is often associated with membranous and sclerotic morphology, while the hematuric and mixed forms correspond to proliferative changes.

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DOI: **10.5281/zenodo.15556715**

Relevance: chronic glomerulonephritis (CGN) is a chronic inflammatory disease affecting the glomerular apparatus of the kidneys, which manifests itself in various forms, both clinically and morphologically (7,8). There are clinical and laboratory parameters characteristic of each morphological form of glomerulonephritis, the analysis of which is important for understanding the pathogenesis of the disease and the organization of effective treatment. Chronic kidney diseases and related renal failure are one of the main problems of theoretical and practical nephrology (1,2,3). Chronic glomerulonephritis occupies a special place among chronic kidney diseases. All the achievements of practical aspects of modern immunology, genetics and pathomorphology are mainly applicable to glomerulonephritis (9,10).

The aim of the study was to study the correlation between clinical and laboratory parameters and structural changes in renal tissue based on various morphological forms in patients with chronic glomerulonephritis.

Materials and methods: in the course of the study, biopsy samples were examined in 98 patients diagnosed with CGN. All patients underwent clinical, laboratory and

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morphological analyses. Of these, 74 underwent extensive clinical and biochemical studies. Based on the biopsy results, the proliferative, membranous, and sclerotic types of CGN were evaluated on a morphological basis. The correlation coefficient was calculated during the statistical analysis, and the results were accepted as reliable at $P<0.05$.

Results: comprehensive clinical and laboratory examination of 74 patients was performed. Of these, 54 patients (72.9%) had the proteinuric form, 19 patients (25.7%) had the mixed form, and 1 patient (1.4%) had the hematuric form. The average age of the patients was 23.4 ± 5.2 years, mostly they were younger than 34 years old. By gender: men — 52.6%, women — 48.4%. According to morphological analysis, the proteinuric form is mainly associated with membranous glomerulonephritis and sclerotic changes. In mixed forms, proliferative changes, glomerular inflammation, and endothelial hyperplasia were detected. Minimal morphological changes were observed in the hematuric form.

Discussion: According to the results obtained, the proteinuric form of SGN has shown itself to be the most common variety. In this case, thickening of the basement membrane and damage to the capillary walls are the main factors of pathogenesis. In these forms, the level of proteinuria is high, and erythrocyturia is poorly expressed. Proteinuria and hematuria in proliferative forms are observed simultaneously. Violations of cellular infiltrates and capillary barriers in glomeruli have been reported. Such patients have a high risk of developing hypertension and rapid decline in kidney function.The hematuric form was noted as a relatively rare disease that was clinically mild and more likely to retain function.These results are consistent with international studies. Including Anders et al. (2012) and Smith et al. (2015) noted a clear correlation between the level of proteinuria and morphological forms. Russian researchers Ivanov V.P. and Smirnova N.A. (2018), however, proved the connection between the formation of the immune complex and membrane forms.

Conclusion: in various morphological forms of chronic glomerulonephritis, there is a clear correlation between clinical and laboratory parameters and morphological changes. The proteinuric form is often associated with membranous and sclerotic morphology, while the hematuric and mixed forms correspond to proliferative changes. Knowledge of this relationship is important in diagnosis and treatment tactics.

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