

Pathophysiological analysis of the diagnosis of CD 64, proteins P53, P21
using the vegetative resonance test "IMEDIS-TEST +"

chronic pyelonephritis Mazuga

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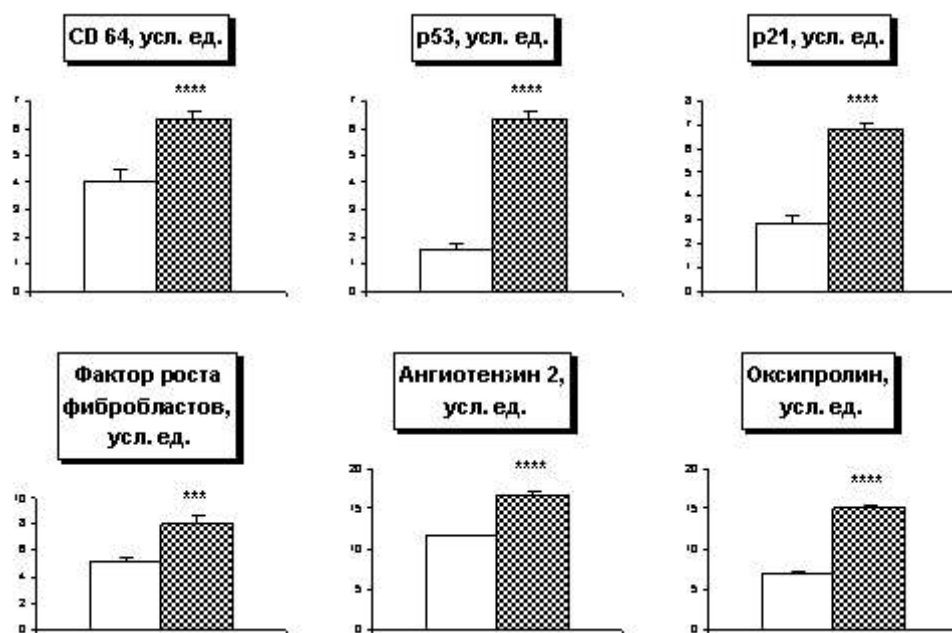
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The aim of the study was to conduct a pathophysiological analysis of the diagnosis of CD 64, pro-apoptotic proteins p53 and p21 using the vegetative resonance test "IMEDIS-TEST +" in the pathogenesis of tubulo-interstitial syndrome in chronic Mazuga nephritis.

Experiments were carried out on 42 white nonlinear male rats weighing 0.16-0.18 kg. Modeling of Mazuga's nephritis was carried out by 2-fold intraperitoneal injection of rabbit nephrotoxic serum with a titer of antirenal antibodies in the complement binding reaction of at least 1: 1024. The studies were carried out on the 45th day, which corresponded to the development chronic nephritis Mazugi with formed tubulo-interstitial fatigue of animals syndrome [1, 3, 4]. The was carried out by decapitation under mind is ethereal anesthesia. For morphological confirmation development chronic nephritis and the formation of tubulo-interstitial syndrome carried out histological studies of the cortex kidney with staining of dewaxed sections with hematoxylin-eosin and according to Slinchenko.

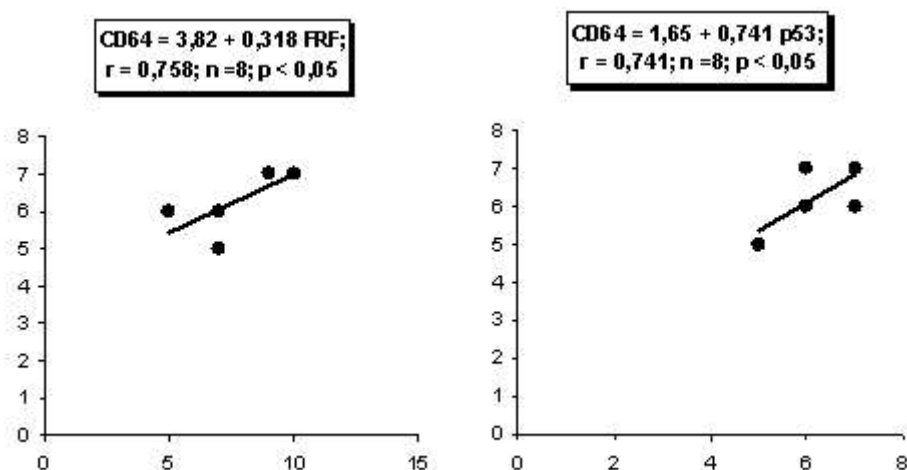
When evaluating samples of fragments of the cortical substance of rat kidneys using the vegetative resonance test "IMEDIS-TEST +", samples weighing 50-100 mg in tubes made of thin organic glass were examined in a container of the device "IMEDIS-BRT-PC" using software (Registration certificate for a product of medical equipment No. FS 022a3066 / 0414-04, issued by the Federal Service for Surveillance in Healthcare and Social Development of the Russian Federation dated July 8, 2004) with the determination on a scale of biological indices (BI): CD 64, proteins p53, p21, factor fibroblast growth, angiotensin 2, hydroxyproline. [2, 5, 6]. Indicators of the BI scale from 1 to 21 are taken as conventional units. The material was processed by the parametric statistics method using the Statgraphics and Excel-7.0 software packages.

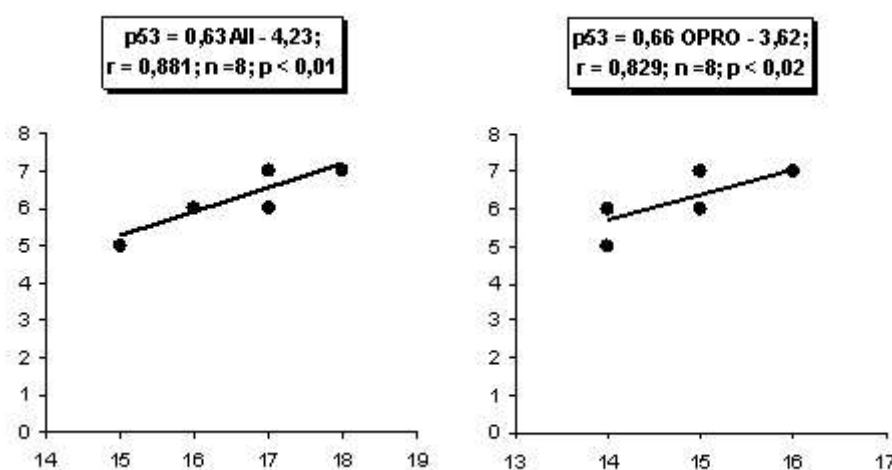
Histological examination with Slinchenko staining of sections with hematoxylineosin confirmed the development of chronic Mazuga nephritis and the formation of tubulo-interstitial syndrome, which was manifested an increase in the proliferation of the connective tissue stroma, infiltration of the interstitium with monocytes / macrophages, lymphocytes and atrophy of the nephron tubules due to the activation of apoptosis processes. The research results showed an increase in the renal cortex on the 45th day of chronic nephritis of Mazuga: CD 64, proteins p53, p21, fibroblast growth factor, angiotensin 2, oxyproline (Fig. 1).



Rice. one. The content in the cortical substance of the kidneys CD64, proteins p53, p21, fibroblast growth factor, angiotensin 2, oxyproline on the 45th day of chronic nephritis Mazuga ($\bar{x} \pm Sx$). Light columns control, shaded columns - Mazuga's chronic nephritis. The reliability of differences in comparison with the control was noted: *** $p < 0.01$; **** $p < 0.001$.

In chronic nephritis Mazugi CD64 positively correlated with fibroblast growth factor and pro-apoptotic protein p53. In turn, the p53 protein under these conditions was directly correlated with the content of angiotensin 2 and the collagen marker oxyproline. Regression analysis of these connections is shown in Fig. 2.





Rice. 2. Regression analysis between CD64, p53 protein, angiotensin 2 (AII), and oxyproline (OPRO) in the renal cortex of rats on day 45 of Mazuga's chronic nephritis (r is the correlation coefficient, n is the number of observations, p is the reliability of the correlation).

The increase in the content in the cortical substance of the kidneys in chronic nephritis Mazugi CD 64 is due to the development of tubulo-interstitial syndrome with infiltration of the stroma by phagocytic monocytes / macrophages that express CD 64. Implementation macrophage-fibroblastic interaction promotes the proliferation of connective tissue in the interstitium, which is confirmed by a positive correlation between CD64 and fibroblast growth factor. An increase in the proliferation of connective tissue in the renal cortex was confirmed by an increase in the collagen amino acid hydroxyproline. An increase in angiotensin 2 in the renal cortex in chronic Mazuga nephritis is due to the activation of the renin-angiotensin system as a result of damage to the proximal nephron and activation of the tubulo-glomerular feedback mechanism [7]. Angiotensin 2, in turn, promotes the proliferation of connective tissue and the formation of tubulointerstitial syndrome. The increase in the renal cortex in chronic nephritis The p53 and p21 proteins are due to the activation of apoptosis, which causes atrophy of the tubules and glomeruli of the nephron and, as a result, contributes to a decrease in the mass of active nephrons, which is characteristic of chronic nephritis. The positive correlation between CD 64 and p53 protein is due to the fact that the implementation of macrophage-fibroblastic interaction with expression on monocytes / macrophages CD 64 leads to the proliferation of connective tissue in the interstitium and atrophy of nephrons due to the activation of apoptosis with an increase in the content of proapoptotic protein p53 in the renal cortex. ... The positive correlation between the p53 protein and angiotensin 2 is due to the fact that that the activation of the reninangiotensin system in chronic Mazuga nephritis with an increase in the vasoconstrictor collagen-stimulating potential of angiotensin 2 leads to an increase in the proliferation of connective tissue with subsequent atrophy of nephrocytes due to the activation of apoptosis processes with an increase in the content of the proapoptotic protein p53 in the renal cortex. Likewise

explains the positive correlation between hydroxyproline and p53 protein, since hydroxyproline is a collagen marker.

Conclusions:

1. Using the vegetative resonance test "IMEDIS-TEST +" for 45 Day of chronic nephritis Mazuga showed an increase in the cortical substance of the kidneys of the content of CD 64, fibroblast growth factor and pro-apoptotic proteins p53, p 21.
2. Revealed positive correlation between CD 64 and fibroblast growth factor characterizes the process of macrophage-fibroblastic interaction is a key moment in the formation of tubulo-interstitial fibrosis.

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