

ANTI-INFLAMMATORY AND PRO-INFLAMMATORY BIOMARKERS IN PATIENTS WITH NON-ALCOHOLIC FATTY LIVER DISEASE AND HYPERTENSION

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Introduction. Non-alcoholic fatty liver disease (NAFLD) affects up to 50% of patients with hypertension (HT). Research data indicate a decrease in the activity of anti-inflammatory biomarkers with a simultaneous increase in the levels of pro-inflammatory agents.

Objective. To assess the changes in anti-inflammatory systems (using kallistatin, IL-10) and pro-inflammatory activity (using IL-1 β ; and high-sensitivity CRP (hsCRP)) in patients with NAFLD under the influence of concomitant HT.

Design and method. 63 patients with NASH and HT and 52 patients with isolated NASH were examined. Plasma kallistatin, IL-10, IL-1 β ; and hsCRP levels were evaluate using ELISA. The results were statistically processed using standard methods.

Results. Kallistatin levels in patients with NAFLD and HT were on average 65.03 ng/ml (95% CI 61.38; 68.68), which was significantly lower than in the group with isolated NAFLD (83.42 ng/ml (95% CI 81.89; 84.94), $p < 0.001$) and control results (111.70 ng/ml (95% CI 106.14; 113.22), $p < 0.001$). The level of anti-inflammatory IL-10 in the group of NAFLD and HT also reached minimal values (12.69 pg/ml (95% CI 11.93; 12.95) against 14.34 pg/ml (95% CI 13.27; 14,34) in the group with isolated NAFLD ($p < 0.001$) and 16.19 pg/ml (95% CI 15.15; 17.74) in the control group ($p < 0.001$)). The opposite results were observed in the study of IL-1 β ; content, which was increased in the group with NAFLD and HT (17.55 pg/ml (95% CI 17.06; 19.73) versus 15.72 pg/ml (95% CI 15,25; 17.44) in the group with isolated NAFLD ($p < 0.001$) and 8.26 (95% CI 7.79; 8.46) in the control group ($p < 0.001$)).

In addition, patients with NAFLD and HT had an increase in CRP (7.90 mg/l (95% CI 7.96; 8.75) versus 6.55 mg/l (95% CI 6.47; 7.57) in the group with isolated NAFLD ($p < 0.001$) and 2.07 mg/l (95% CI 1.83; 2.85 mg/l) in the control group ($p < 0.001$)). It has been shown that with the progression of HT in patients with NAFLD, the level of kallistatin significantly decreases ($p < 0.001$, $p = 0.011$ for the HT stage and BP grade) and IL-10 ($p < 0.001$) with a simultaneous increase in IL-1 β ; ($p < 0.001$) and CRP levels ($p < 0.001$).

Conclusions. Thus, patients with NAFLD and HT are likely to experience changes in biomarker status toward a pro-inflammatory profile and deepening of these deviations with the progression of concomitant hypertension.