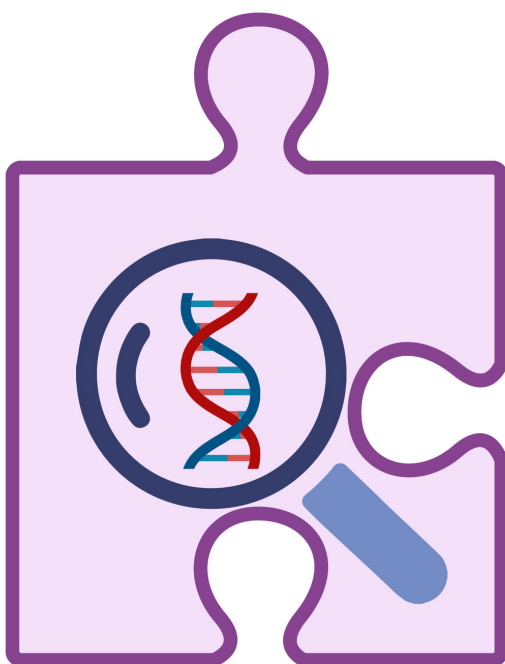


1ST INTERNATIONAL CONFERENCE FOR YOUNG SCIENTISTS

BIOMARKERS OF CIVILIZATION DISEASES

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**BOOK
OF
ABSTRACTS**

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BIOMARKERS OF CIVILIZATION DISEASES**

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Pro- and anti-inflammatory biomarkers in non-alcoholic fatty liver disease and hypertension patients

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Non-alcoholic fatty liver disease (NAFLD) affects up to 50% of patients with hypertension (HT). The objective of our study was to assess the changes in anti-inflammatory systems (kallistatin, IL-10) and pro-inflammatory activity (IL-1 β and high-sensitivity CRP (hsCRP)) in patients with NAFLD under the influence of concomitant HT. 63 patients with NAFLD and HT and 52 patients with isolated NAFLD were examined. Plasma kallistatin, IL-10, IL-1 β and hsCRP levels were evaluate using ELISA. Kallistatin levels in patients with NAFLD and HT were 65.03 ng/ml (95% CI 61.38; 68.68), which was significantly lower than in the isolated NAFLD group (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 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 NAFLD and HT group (17.55 pg/ml (95% CI 17.06; 19.73) versus 15.72 pg/ml (95% CI 15,25; 17.44) in the isolated NAFLD group ($p < 0.001$) and 8.26 (95% CI 7.79; 8.46) in the control group ($p < 0.001$)). Patients with NAFLD and HT had an increase in hsCRP (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 HT progressing in NAFLD patients, the kallistatin level substantially reduces ($p < 0.001$, $p = 0.011$ for HT severity and BP grade) along with IL-10 levels decrease ($p < 0.001$) and IL-1 β ($p < 0.001$) and CRP levels ($p < 0.001$) increase. Thus, patients with NAFLD and HT are likely to experience changes in biomarker status toward a pro-inflammatory state and deepening of these deviations with the progression of concomitant hypertension.