

SERUM ALANINE AMINOTRANSFERASE LEVEL AS AN EARLY INDICATOR OF METABOLIC DISTURBANCES IN WOMEN WITH POLYCYSTIC OVARY SYNDROME (PCOS)

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Introduction

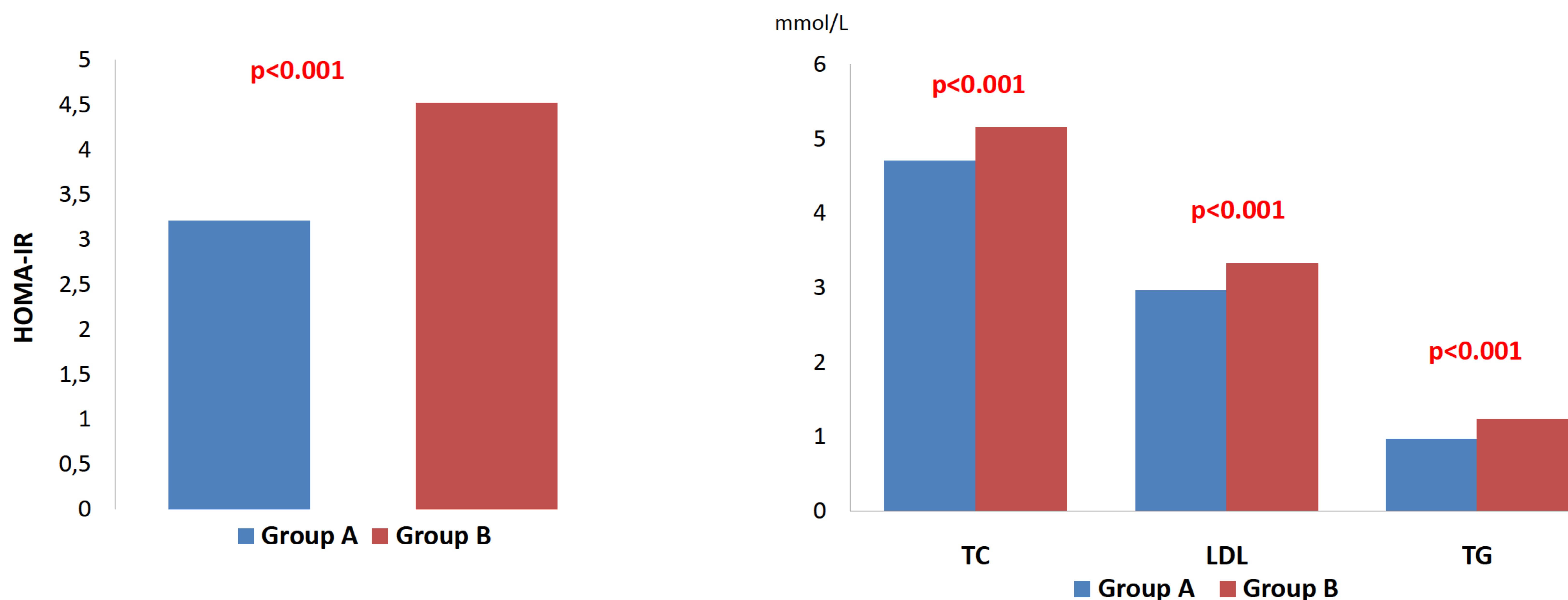
Serum alanine aminotransferase (ALT) level is used to screen patients for unsuspected liver disease. The entire histologic spectrum of nonalcoholic fatty liver disease (NAFLD) can be seen in individuals with normal ALT values. Accordingly, it has been suggested that by using ALT > 19 U/L, early stages of NAFLD could be detected. As it was established a relation of NAFLD and PCOS, the aim of our study was to compare metabolic characteristics of women with polycystic ovary syndrome (PCOS) in relation to ALT levels.

Methods

We evaluated 600 PCOS women diagnosed using ESHRE/ASRM criteria, divided into 2 groups: group A with ALT < 19 IU/L (N=299; BMI 28.64±5.86 kg/m²; age 25.27±5.77 years) and group B with ALT ≥ 19 IU/L (N=301; BMI:32.64±7.36 kg/m²; age 25.93±6.12 years), and 53 healthy non-obese women (Controls: 24.05±3.29 kg/m²; 30.21±5.57 years). Serum liver enzymes, glucose, insulin, lipids, total testosterone and sex hormone binding globulin were determined. Insulin resistance was evaluated by homeostatic model (HOMA-IR). All analysis were BMI adjusted.

Results

In all examined subjects, liver enzymes were in the reference range. Group B had higher values of aspartate-aminotransferase (AST) (22.75±8.85 vs. 16.73±3.60, p<0.001), gamma-glutamyl-transferase (20.03±10.93 vs. 13.40±5.80, p=0.009), alkaline phosphatase (78.52±21.36 vs. 68.28±20.26, p<0.001), insulin (18.46±10.24 vs. 13.48 ± 8.83, p<0.001), HOMA-IR (4.52 ± 2.78 vs. 3.21 ± 2.26, p<0.001), total cholesterol (5.15 ± 1.02 vs. 4.70 ± 0.94, p<0.001), LDL (3.33 ± 0.94 vs. 2.97 ± 0.82, p<0.001) and triglycerides (1.24 ± 0.60 vs. 0.97 ± 0.40, p<0.001). There were no difference in fasting glucose, HDL, testosterone and SHBG.



Conclusion

Serum ALT levels greater than 19 IU/L could be an early indicator of metabolic disturbances in women with PCOS.

