

CHARACTERISTICS OF LIPID PROFILE IN DIFFERENT PHENOTYPES OF POLYCYSTIC OVARY SYNDROME

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Introduction

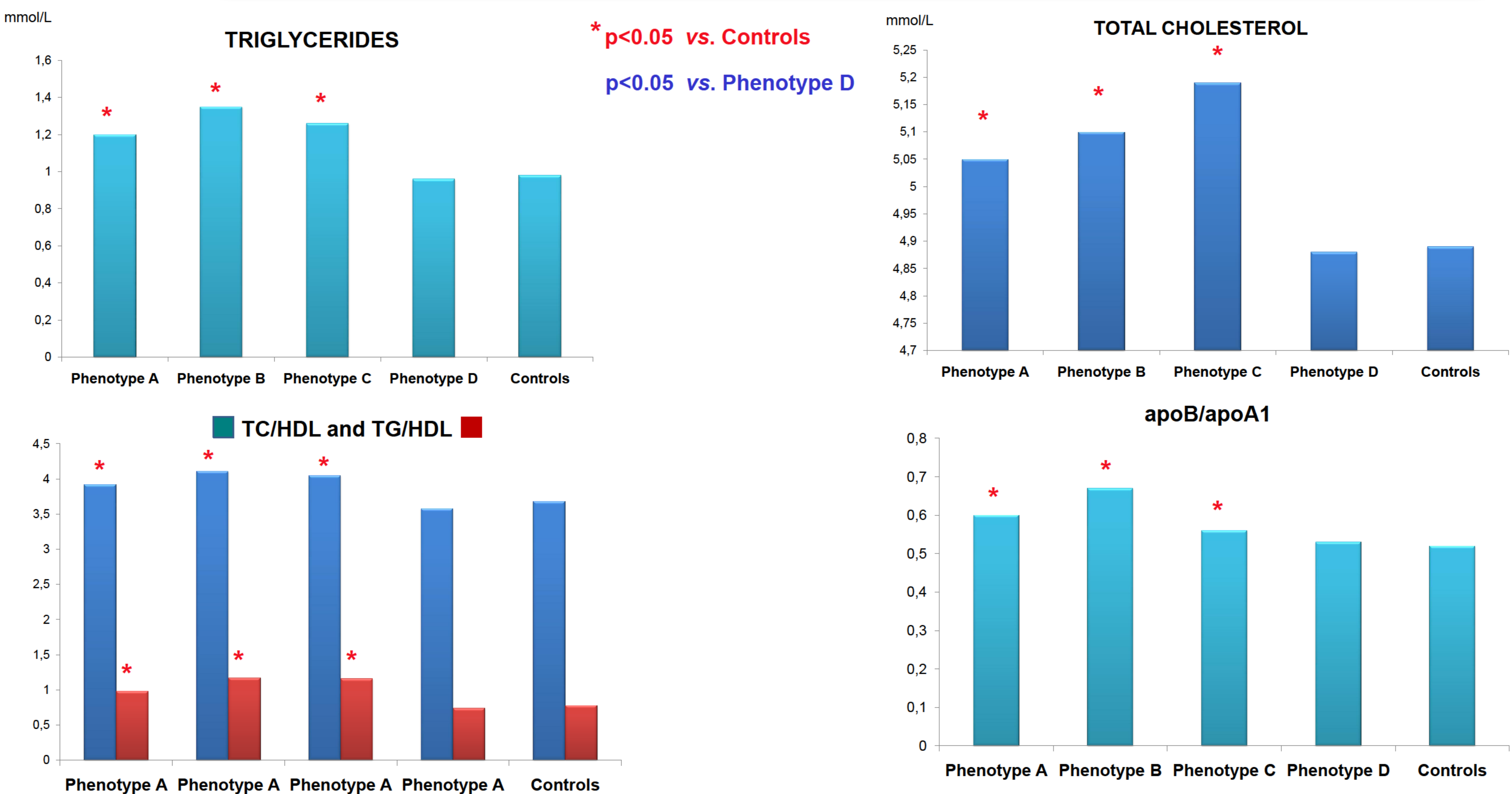
Dyslipidemia is a common metabolic derangement in polycystic ovary syndrome (PCOS) and may be represented with different lipid alterations. The aim of this study was to evaluate lipid profile in different PCOS phenotypes.

Methods

We evaluated 365 PCOS women (PCOS: 25.05 6.24 kg/m²; 25.48 5.21 years) diagnosed using ESHRE/ASRM criteria and 125 BMI-matched healthy women (Controls: 25.41 5.16 kg/m²; 30.35 5.62 years). PCOS group was divided into 4 phenotypes: A [anovulation (ANOV), hyperandrogenism (HA), polycystic ovary morphology (PCOM)], B (ANOV,HA), C (HA,PCOM) and D (ANOV,PCOM). Phenotype D had lower body mass index in comparison to all other phenotypes (p<0.05). Blood samples were collected in follicular phase of menstrual cycle for determination of total cholesterol (TC), LDL, HDL, triglycerides (TG), apolipoprotein-A1 and apolipoprotein-B. Ratios TC/HDL, LDL/HDL, TG/HDL, apolipoprotein-B/apolipoprotein-A1 were calculated.

Results

PCOS women in comparison to controls had higher levels of TC (5.07 1.09 vs. 4.89 0.97 mmol/L, p<0.001), LDL (3.16 0.97 vs. 3.09 0.82mmol/L, p=0.012), TG (1.20 0.85 vs. 0.98 0.54 mmol/L, p<0.001), apolipoprotein-B (0.88 0.29 vs. 0.83 0.25, p=0.021), while there were no differences in HDL, apolipoprotein-A1 (p>0.05). PCOS women had higher ratios: TC/HDL (3.94 1.36 vs. 3.68 1.03, p=0.001), LDL/HDL (2.46 1.07 vs. 2.36 0.89, p=0.019), TG/HDL (1.02 1.20 vs. 0.78 0.61, p<0.001), apolipoprotein-B/apolipoprotein-A1 (0.59 0.33 vs. 0.52 0.19, p=0.011). Comparisons between PCOS phenotypes revealed that phenotype D had lower levels of TG and the ratio TG/HDL than other three phenotypes, while there was no difference in other lipid concentrations and ratios. Phenotype A, B and C had higher TC, TG, TC/HDL, TG/HDL, and apolipoprotein-B/apolipoprotein-A1 in comparison to Controls, while there were no differences between phenotype D and Controls.



Conclusion

In our group of women with PCOS, only phenotype D was characterized with less deteriorated lipid profile than other PCOS phenotypes.

