# Pressure pain threshold and β-endorphins plasma level are higher in lean polycystic ovary syndrome women.

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## OBJECTIVES

The aim of this study was to determine pressure pain threshold and β-endorphin plasma level in lean women with polycystic ovary syndrome (PCOS) and healthy controls. The associations between β- endorphins and pressure pain threshold were also investigated.

## METHODS

In 48 lean women with polycystic ovary syndrome and 38 lean women without this disorder plasma β-endorphins and pressure pain thresholds were measured.

## RESULTS

**Figure 1. Beta endorphin levels in lean women with polycystic ovary syndrome (PCOS) and controls.**

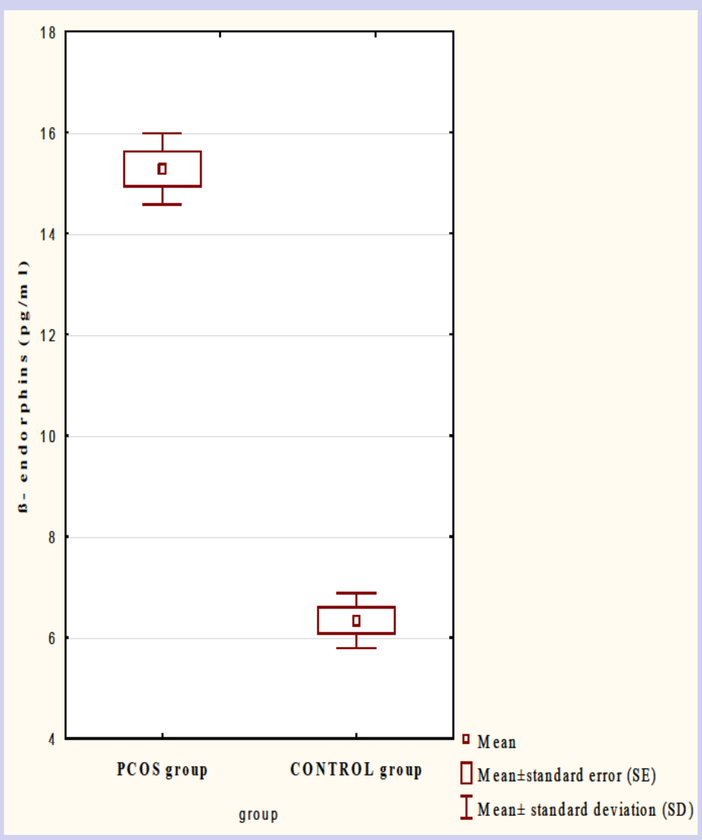



**Figure 2. Pressure pain threshold (PPT) value measure d on trapezius muscle in PCOS group and healthy controls.**

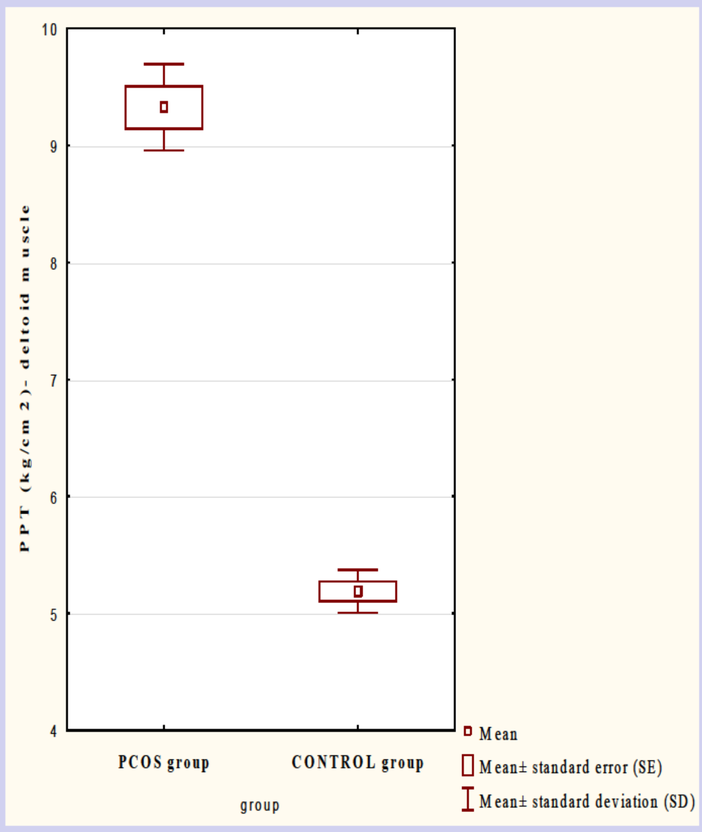
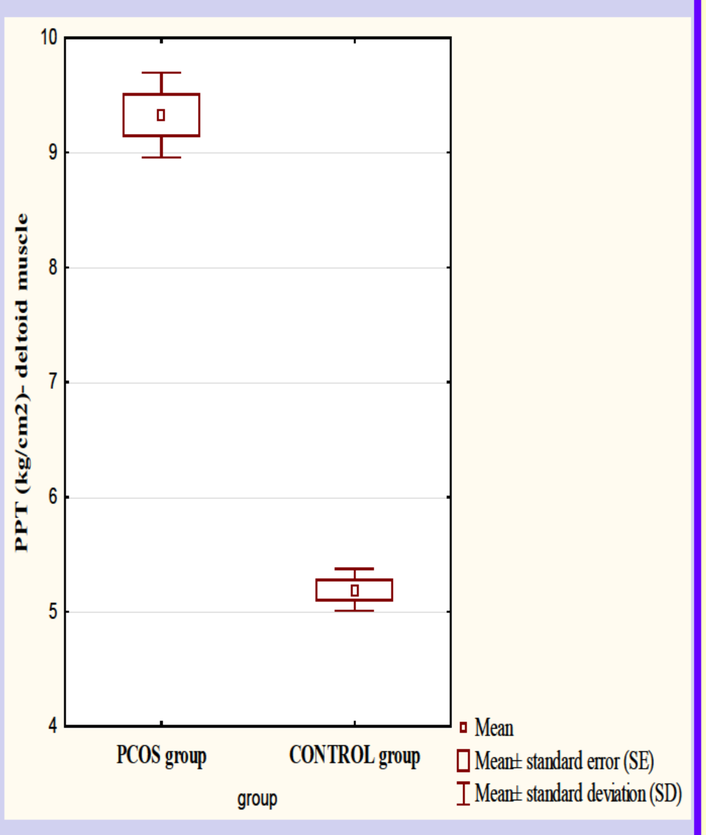



**Figure 3. Pressure pain threshold (PPT) value measured on deltoid muscle in PCOS group and healthy controls.**




**The β- endorphins level was higher in the PCOS group compared to the controls (15.5 ±4.37 pg/ml vs 6.9 ± 2.47pg/ml, p <0.0001). In PCOS group pressure pain thresholds measured on deltoid and trapezius muscles were higher compared to the controls ( 9.33 ± 1.3 kg/cm² vs 5.19 ± 0.57 kg/cm², p <0.001; 8.23 ±1.04 kg/cm² vs 4,79 ± 0.55 kg/cm², p< 0.001). The β- endorphin levels positively correlated with pressure pain thresholds in polycystic ovary syndrome group. Increase in β- endorphin level of 1 pg/ml was associated with increase of pressure pain threshold value on deltoid muscle of 0.23 kg/cm² (R= 0.632, p=0.011) and of 0.18 kg/cm² on trapezius muscle (R= 0.588, p =0.037).**

## CONCLUSIONS

**Conclusion: β- endorphin serum level as well as pressure pain threshold are higher in lean PCOS group than in lean healthy controls. We found correlations between β- endorphin levels and pressure pain threshold in the PCOS group. It may indicate the role of endogenous opioids in the pathogenesis of PCOS and also that increases in circulating plasma β- endorphins concentration can increases pressure pain threshold in PCOS women.**

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