# Correlations of Plasminogen activator inhibitor-1 in childhood obesity

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## INTRODUCTION

Plasminogen activator inhibitor-1 increases the risk of atherothrombosis and promotes fibrosis and has high levels in obesity. Obese children have high risk for cardiovascular diseases in early adulthood.

The aim of this study was to calculate the correlations of PAI-1 in childhood obesity and to observe the metabolic differences between obese children with normal or high PAI-1 levels.

## MATERIALS AND METHODS

Sixty obese children (10-16 years) and thirty lean children were enrolled. The obese children were divided in two groups according to the cutoff value of 43 ng/mL for PAI-1: the first group, with high values (n=43) had the PAI-1average 73.7 ng/mL and the second obese group (n=17) had PAI-1average 30.3 ng/mL.
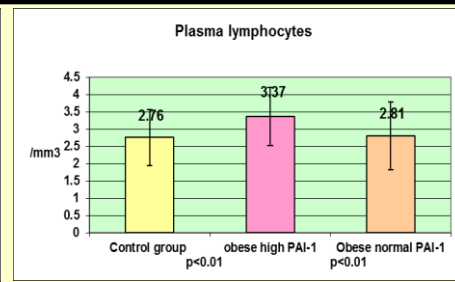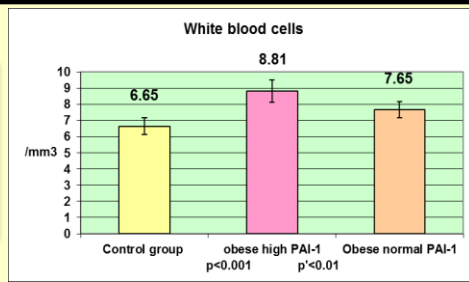
## RESULTS
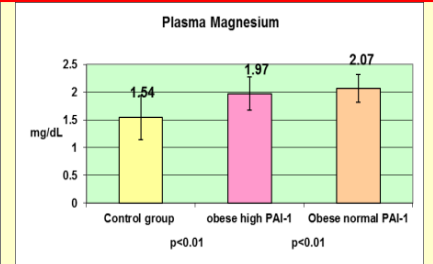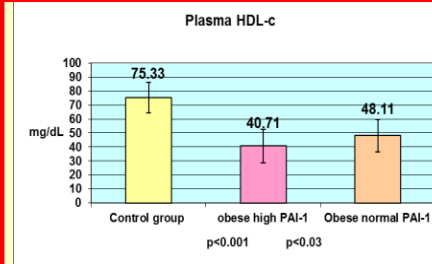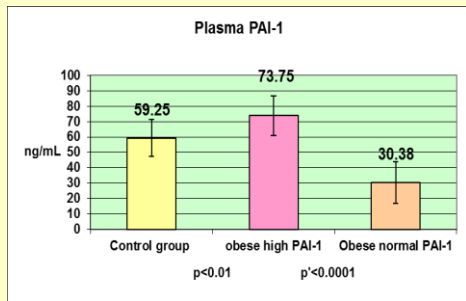


The obese group with high PAI-1 level *vs.* the obese group with normal PAI-1 level had *lower*
- **HDL-c** (p<0.03)
- **plasma magnesium** (p<0.01)
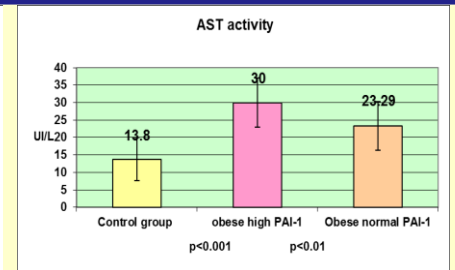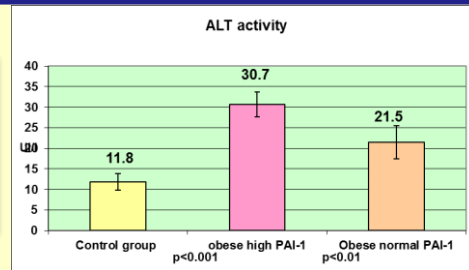- **plasma A immunoglobulins** (p<0.02)
- **TSH** (p<0.05)
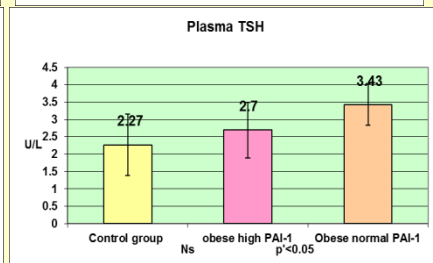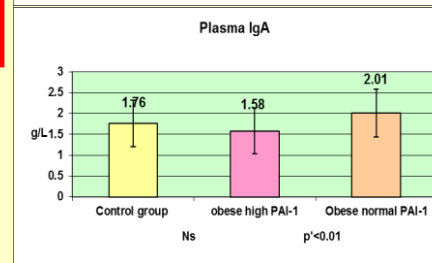


The obese group with high PAI-1 level versus the obese group with normal PAI-1 level had higher levels for
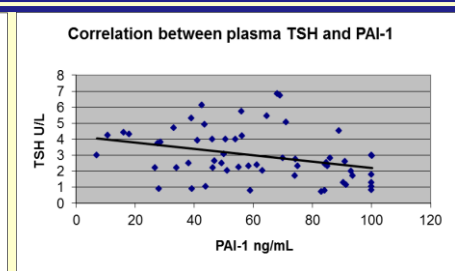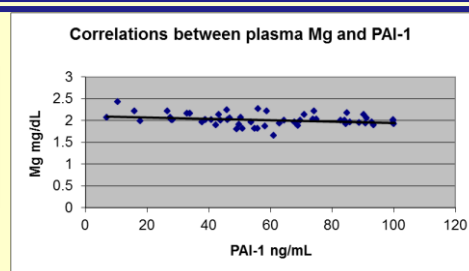- **white blood cells**
- **lymphocytes** (p<0.01)



The obese group with high PAI-1 level versus the obese group with normal PAI-1 level had higher activity for
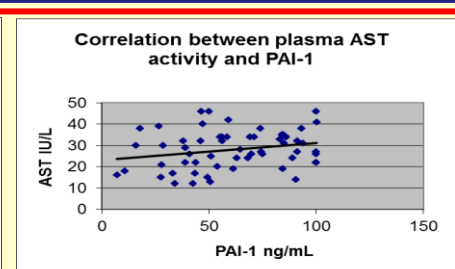- **ALT**
- **AST** (p<0.01).



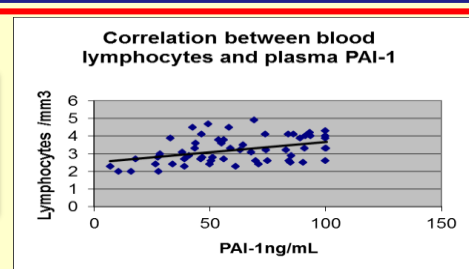In obese children **PAI-1** was *negatively correlated* (p<0.05) with
- **magnesium** (r = -0.31)
- **TSH** (r = -0.33)



In obese children **PAI-1** was *positively correlated* with
- **lymphocytes** (r = 0.40)
- **AST** (r = 0.27).

## DISCUSSION AND CONCLUSION

In childhood obesity, high PAI-1 acts in cluster with low magnesium, with dyslipidemia, with inflammation and hepatic cytolysis increasing the risk for hepatic fibrosis and atherosclerosis.