

Association of serum 25-hydroxyvitamin D and glucose levels in polycystic ovary syndrome.

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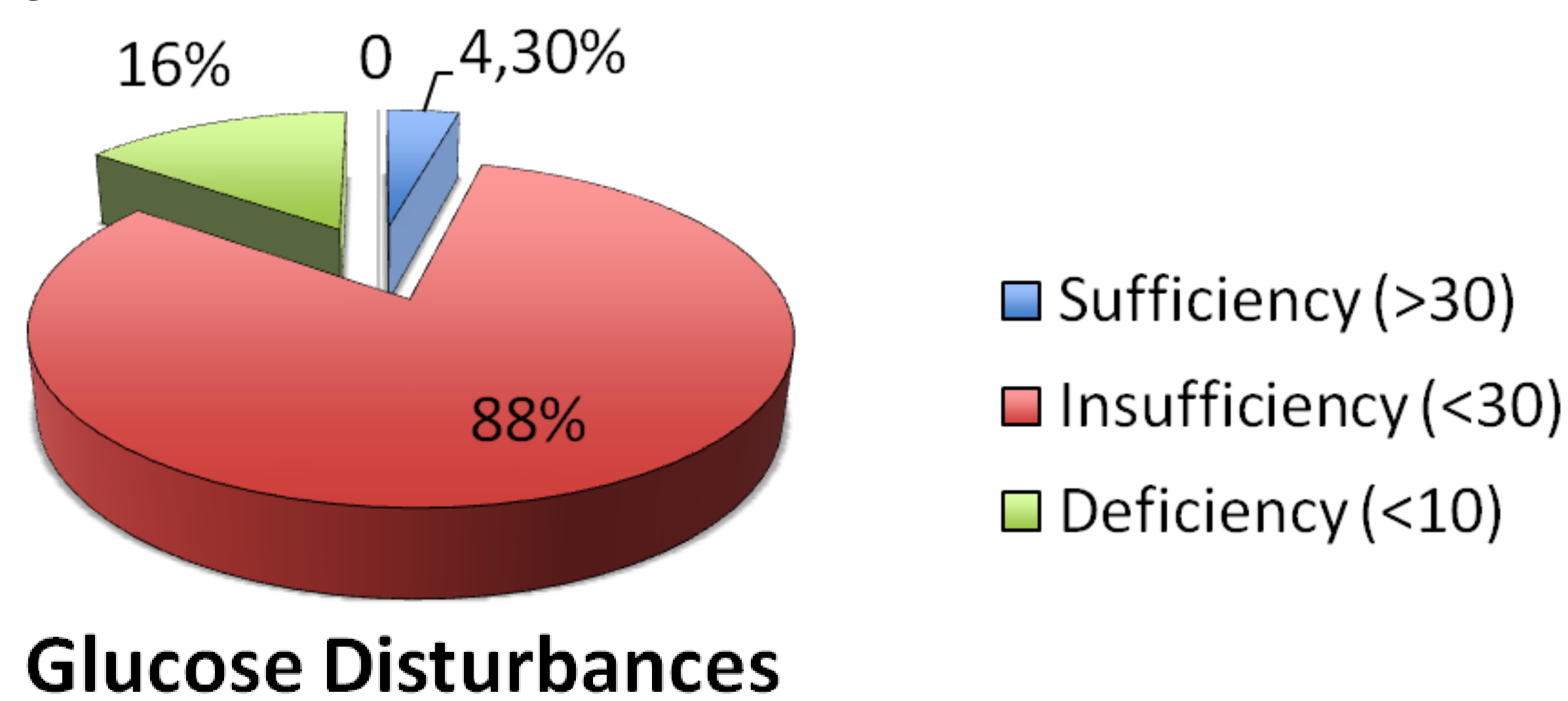
Abstract

Women with polycystic ovary syndrome (PCOS) frequently suffer from metabolic disturbances, in particular from pre-diabetes and diabetes. Conflicting results currently exist on the relationship between vitamin D and glucose metabolism. Hence, the aim of our study was to investigate the association of 25 (OH) D levels and glucose tolerance in PCOS women.

Methods

Cross-sectional study including 23 PCOS patients (mean age 27 years). 25(OH) D levels were measured by chemiluminescence (Cobas e 601 by ROCHE). Standard 75 g oral glucose tolerance test were performed. Results were analyzed by SPSS 18.0.

25 OHD Levels (ng/dl)



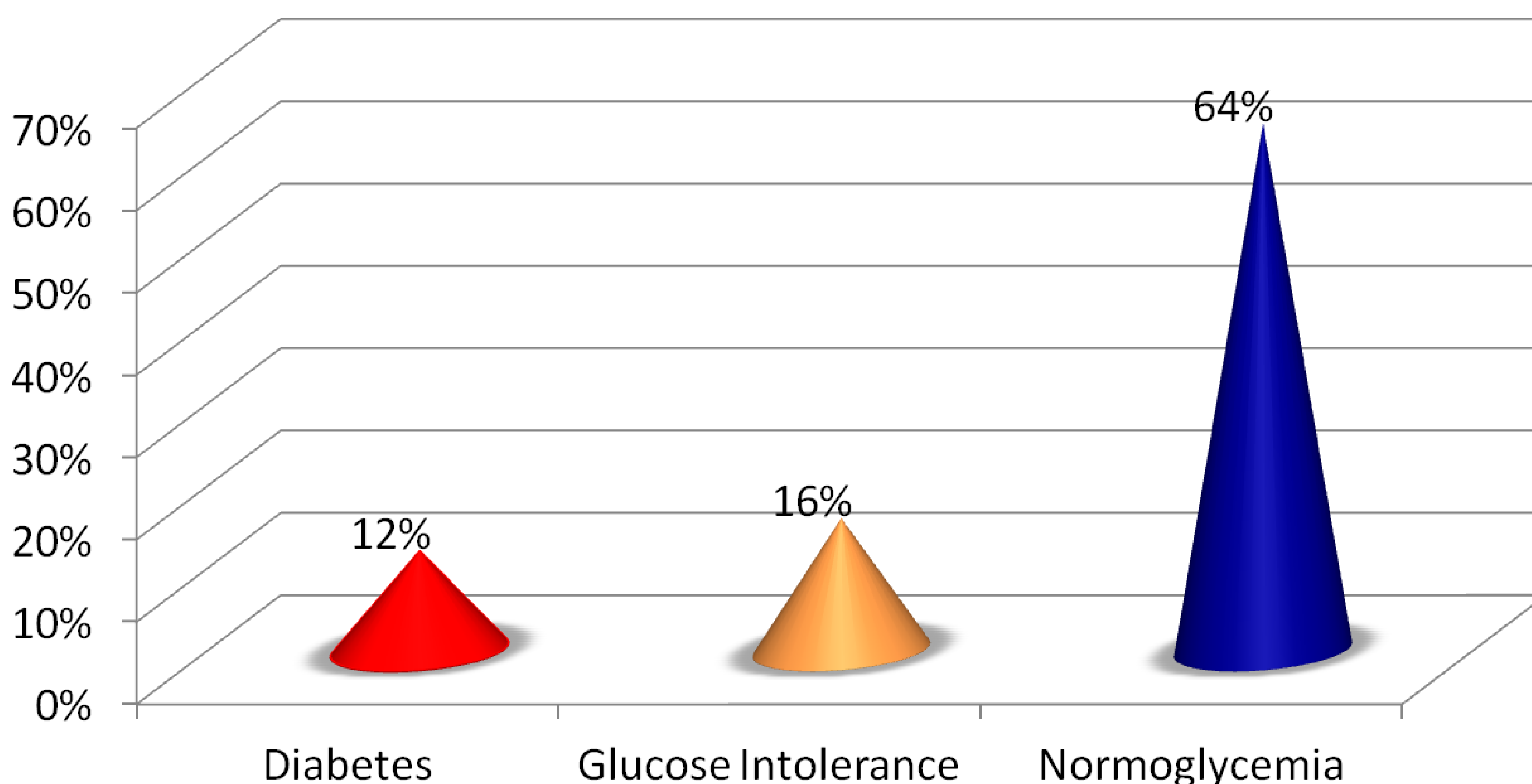
Glucose Disturbances

Results

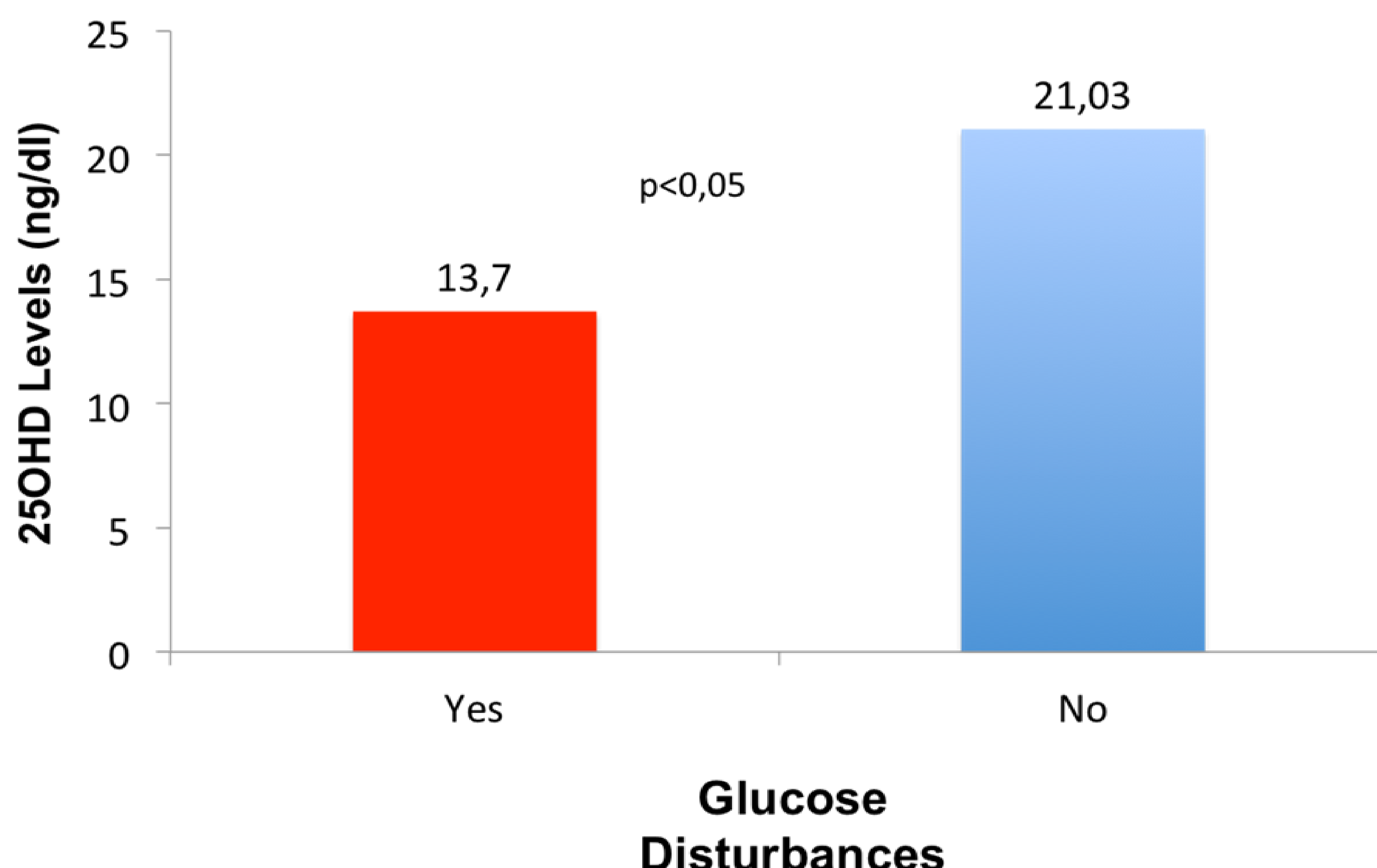
Serum 25(OH) D concentrations was $18,8 \pm 7,5$ ng/ml. The prevalence of 25(OH) D insufficient (<30 ng/ml) and deficiency (<10 ng/ml) was 88% and 16% respectively. Only one woman with PCOS was Vitamin D sufficiency (> 30 ng/ml). Three (12%), four (16%) and 16 (64%) women were patients with diabetes, glucose intolerance and normoglycemia respectively. PCOS women with glucose disturbance had lower 25(OH)D levels than PCOS women with normoglycemia ($13,7 \pm 7,5$ ng/ml vs $21,03 \pm 6,6$ ng/ml $p < 0,05$). In binary logistic regression analyses, 25(OH)D (OR 0,84, $p < 0,05$) was independent predictors of glucose metabolic alteration in PCOS women. We found significantly negative correlations of 25 (OH)D level with basal glucose ($r: -0,44$, $p < 0,05$).

Conclusions

Our results suggest that low 25 (OH) D levels are associated with diabetes and glucose intolerance in PCOS women. Large intervention trials are warranted to evaluate the effect of Vitamin D supplementation on glucose metabolic disturbances in PCOS women.



Serum 25OHD and Glucose Disturbances



25OHD and Basal Glucose Correlation

