

## Serum Endocan Levels in Graves' Disease

Sami Aksan, Mehmet Muhittin Yalçın\*, Alev Eroğlu Altınova\*, Müjde Aktürk\*, Füsün Baloş Törüner\*

Gazi University Faculty of Medicine, Department of Internal Medicine, Ankara, Turkey

\*Gazi University Faculty of Medicine, Department of Internal Medicine, Division of Endocrinology and Metabolism, Ankara, Turkey

### Abstract

**Objective:** It has been reported that endothelial dysfunction may occur in Graves' disease. Endocan and vascular endothelial growth factor (VEGF) are thought to exhibit endothelial dysfunction. The increase in carotid intima media thickness (CIMT) is known to be the earliest change in endothelial dysfunction. In our study, it was aimed to investigate the levels of serum endocan and VEGF in Graves' disease, to perform PMSC measurements and to examine the relationship between these parameters.

**Method:** 31 healthy volunteers with 31 known Graves' disease and age, gender, who had no other known disease, newly diagnosed and had no anti-thyroid therapy, were studied as a control group. Serum endocan and VEGF levels were measured in the Graves group after both treatment and euthyroidism, and these values were compared with the control group.

**Findings:** Serum endocan levels were higher in the hyperthyroid Graves group than in the control group (0.68 (0.18-1.21) vs 0.49 (0.11-1.88) pg/ml,  $p=0.002$ ). There was no significant difference between control group and control group ( $p>0.05$ ). Serum VEGF levels were not significantly different between Graves and control group ( $p>0.05$ ). The PFT measurement was higher in the hyperthyroid Graves group than in the control group ( $0.68\pm0.07$  vs  $0.47\pm0.06$  mm,  $p<0.001$ ). Graves group, which became euthyroid after antithyroid therapy, showed a decrease in CIMT compared to the control group ( $0.59\pm0.05$  vs  $0.47\pm0.06$ ,  $p<0.001$ ). There was a positive correlation between serum endocan levels and TSH ( $p<0.01$ ), sT3, sT4, Anti-Tg and Anti-TPO ( $p<0.01$ ,  $p<0.05$ ,  $p<0.001$ ). In multiple linear regression analysis, sT3 was found to be the most effective parameter on endocan ( $F=5.664$ ,  $R^2=0.106$ ,  $p<0.05$ ).

**Conclusion:** Our findings suggest that serum levels of endocan are increased and related to sT3 in Graves' disease.