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ENDOTHELIAL DYSFUNCTION AND VON WILLEBRAND FACTOR ALTERATIONS IN PATIENTS WITH AUTOIMMUNE THYROIDITIS

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Background

Autoimmune thyroiditis (AIT) is one of the most common autoimmune endocrine disorders and is associated not only with thyroid dysfunction but also with cardiovascular complications and endothelial injury. Von Willebrand factor (vWF) is considered an important biomarker of endothelial dysfunction and vascular hemostasis.

Objective

To evaluate serum von Willebrand factor levels in patients with different clinical phases of autoimmune thyroiditis.

Materials and Methods

The study included 113 patients with autoimmune thyroiditis and 94 healthy controls. Patients were divided into euthyroid, subclinical hypothyroid, overt hypothyroid, and hyperthyroid groups. Serum vWF levels were assessed using immunological methods.

Results

Patients with euthyroid AIT demonstrated vWF levels comparable to controls (105.40±23.44% vs. 106.74±24.85%). Subclinical hypothyroidism was associated with a moderate decrease in vWF levels (93.75±26.80%). The most significant reduction was observed in overt hypothyroidism (40.38±7.09%; $p<0.05$), indicating severe endothelial and hemostatic impairment. Conversely, hyperthyroid patients exhibited markedly elevated vWF concentrations (172.11±15.94%; $p<0.05$), reflecting endothelial activation and hypercoagulability.

Conclusion

Alterations in von Willebrand factor levels are closely associated with thyroid functional status in autoimmune thyroiditis. Assessment of vWF may serve as an additional marker of endothelial dysfunction and cardiovascular risk stratification in patients with autoimmune thyroid disease.

Keywords: autoimmune thyroiditis, von Willebrand factor, endothelial dysfunction, hypothyroidism, hyperthyroidism.