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Increased serum visfatin levels in benign and malignant thyroid diseases

Bletsa G

Hellenic Anticancer Institute, Greece

Statement of the problem: Thyroid gland is affected by a wide variety of diseases ranging from hyperplastic to neoplastic, autoimmune, or inflammatory. Thyroid dysfunction is accompanied by changes in the thyroid hormone levels, which in turn affect the secretion of adipokines. Nicotinamide phosphorybosiltransferase (NAMPT), also known as visfatin, is an adipokine overexpressed in many chronic inflammatory auto-immune diseases. Our study aims to assess the expression of visfatin in patients with thyroid diseases and its relationship with disease-related characteristics.

Methodology: Study participants were forty patients with papillary thyroid cancer, twenty patients with nodular goiter and twenty healthy controls. Serum levels of visfatin were quantitatively determined upon diagnosis by ELISA. Differences between patient groups and associations with demographic and disease characteristics were statistically evaluated.

Findings: Detectable serum visfatin levels were observed in 18/40 (45%) patients with thyroid cancer, 4/20 (20%) patients with benign thyroid disease and 7/20 (35%) healthy controls. Median visfatin levels were significantly higher in patients with malignant or benign thyroid disease compared to controls ($p < 0.05$). No significant differences in visfatin levels were observed between patients with thyroid cancer and those with benign disease, as well as between patients with thyroid cancer and controls. Visfatin was not correlated to gender, age or BMI of participants. In patients with thyroid disease, visfatin was not correlated to tumor size, thyroid mass, thyroid volume, multicentricity, Bethesda classification and family history of thyroid disease.

Conclusion: The lack of concordance in existing findings, regarding the differences in visfatin concentrations between thyroid patients and healthy individuals, may be attributed to the heterogeneity of the disease. Our preliminary data of significantly higher levels of visfatin in patients with benign and malignant thyroid diseases further supports the implication of visfatin in the heterogeneous pathogenesis of the thyroid gland.

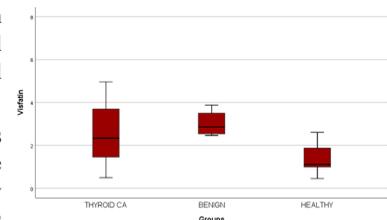


Figure 1. Serum Visfatin levels in patients with malignant and benign disorders and healthy controls

Biography

Bletsa is a specialized Medical Doctor in the field of Laboratory Medicine. In the last ten years she had been working in microbiology, hematology, biochemistry, immunology and blood donation department, carefully analyzing test results for a proper diagnosis. She obtained her PhD diploma on September 2013. Since June 2018 she has been working in the Research and Diagnostic Center of the Hellenic Anticancer Institute. Our main objective is to find new biomarkers with diagnostic, prognostic, predictive and therapeutic value.

rdc@antikarkiniko.gr