

Dr. Yasemin Coskun Firat¹, Dr. Ozge Timur², Dr. Can Sevinc¹, Dr. Faruk Yildiz², Dr. Emine Kartal Baykan³, Dr. Unsal Aydin³,
Dr. Mehmet Emin Budak², Dr. Hakan Gozcu², Dr. Abdulmuttalip Arslan², Dr. Hakan Sevimli², Dr. Ayse Carlioglu³

¹Erzurum Regional Training and Research Hospital, Department of Nephrology, Erzurum, TURKEY

²Erzurum Regional Training and Research Hospital, Department of Internal Medicine, Erzurum, TURKEY

³Erzurum Regional Training and Research Hospital, Department of Endocrinology, Erzurum, TURKEY

AIM:

Thyroid hormones influence renal development, kidney structure, renal hemodynamics, glomerular filtration rate, the function of many transport systems along the nephron and sodium and water homeostasis. Patients with hypothyroidism can have clinically important reductions in glomerular filtration rate (GFR). Patients with thyroid disorders are also at risk of immune-mediated glomerular disease. Hashimoto's thyroiditis and membranous nephropathy are believed to be mediated by immune mechanisms.

In this study we aimed to show the relationship between thyroid function tests, thyroid auto antibodies and GFR in euthyroid Hashimoto's patients.

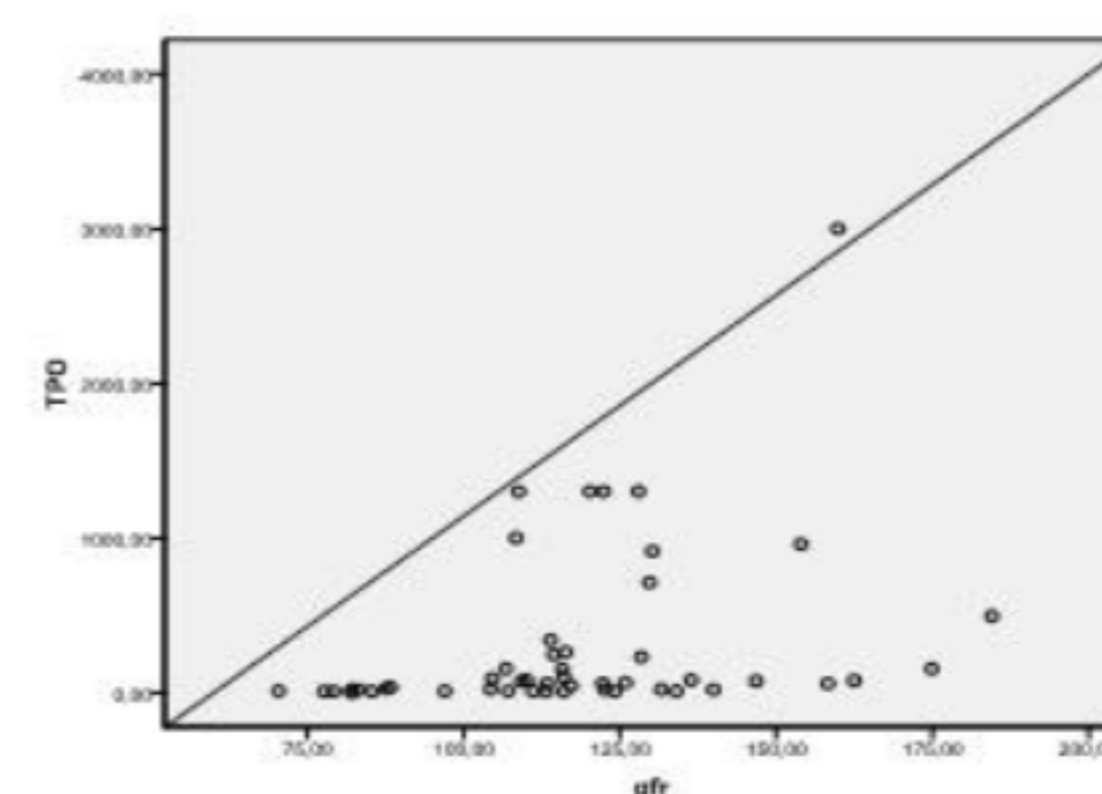
MATERIALS AND METHOD:

41 patients and 30 healthy individuals attending to Erzurum Research and Training Hospital Endocrine outpatient clinic were included to the study. All patients had high anti thyroid peroxidase (TPO) levels and were confirmed Hashimoto thyroiditis with presence of heterogeneity in ultrasound. All patients were euthyroid (TSH<2.5 mIU/L) and had minimal increased thyroid volume. None of the participants were taking any drugs such as levo-thyroxine. Age-matched 30 healthy subjects attending to Erzurum Research and Training Hospital Endocrine outpatient clinic were included to the study. GFR of the patient and control groups were calculated using 4 variable MDRD Formula. GFR>125ml/dk considered as hyperfiltration. Pearson correlation test was made to determine the correlation between FT3, FT4, TSH, anti TPO, anti TG and GFR.

RESULTS:

There was no significant correlation between GFR. and TSH, BMI, CRP, gender, HDL-cholesterol, total cholesterol, triglyceride. GFR had a significantly negative correlation between LDL-cholesterol, (r= -0,33; P=0,03), age (r= -0,431; P=0,000), had a significantly positive correlation between TPO (r=0,463, p=0,001) , anti TG (r=0,627, p=0,000) (figure 1). Multiple regression analysis with GFR as dependent variable and TPO, age, gender, BMI, CRP as independent variables was performed. TPO was predictive variable for GFR.

Figure 1: Correlation between GFR and anti TPO



CONCLUSION:

In our study increased GFR levels in euthyroid patients with hashimoto's thyroiditis were found to be independent of age, gender and BMI. There are many studies investigating the relationship between GFR and thyroid function. However, there are a few studies investigating thyroid autoantibodies and GFR. Although our study is one of the first studies to examine the association between GFR and thyroid autoimmunity was insufficient in explaining the mechanism. So, we believe that there is a need of more experimental and covering large group studies.

