

# Relationship between Anti-Thyroid Peroxidase Antibody and Thyroid Function Test

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## ABSTRACT

**Background:** Anti-thyroid peroxidase antibody (anti-TPO antibody) is a member of thyroid autoantibodies which are important in inducing and also diagnosing autoimmune thyroid diseases. Thyroid autoimmunity can cause several forms of thyroiditis and abnormal thyroid functions, ranging from hypothyroidism to hyperthyroidism. **Objective:** To evaluate the relationship between serum levels of anti-TPO antibody and thyroid function test parameters (T3, T4, and TSH) in patients with thyroid disease. **Methods:** In 2425 subjects suspected of having thyroid disease referred to Yazd central medical laboratory by physicians during a 2 year period, the concentrations of serum anti-TPO antibody (ELISA) and T3, T4, and TSH (RIA) were measured. **Results:** 53.53% of the patients were 20 to 39 years old. 2135 patients (88.04%) were female and 290 (11.96%) were male. The levels of T3, T4, and TSH in individuals with normal and raised anti-TPO antibody titers was significantly different ( $P < 0.0001$ ). A correlation between TSH and T4 levels and abnormal anti-TPO antibody was detected ( $P = 0.002$ ). **Conclusion:** Our results confirm the correlation between thyroid function test and anti-TPO antibody values, indicating the clinical significance of this antibody and suggesting a through clinical examination and follow up of individuals with high anti-TPO antibody titer.

**Keywords:** Autoimmune, Anti-TPO, Thyroid Disease

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