**Abstract**

**Background:** Type 1 diabetes mellitus is frequently associated with autoimmune thyroid disease. Genetic susceptibility to autoantibody formation in association with autoimmune thyroid disease and type 1 diabetes mellitus has been described with varying frequencies.

**Objective:** To investigate the prevalence of anti-thyroid peroxidase (anti-TPO) and also the overt and subclinical hypothyroidism in type 1 diabetic patients.

**Methods:** In this case-control study, 65 subjects with type 1 diabetes mellitus and 65 unrelated normal controls were recruited for detection of anti-TPO and thyroid-stimulating hormone (TSH). Radioimmunoassay (RIA) was used for anti-TPO and TSH detection.

**Findings:** Out of 65 type 1 diabetic patients, 18 (27.7%) were positive for anti-TPO and 18 (27.7%) with abnormal serum TSH level. Among the patient group, 11 (16%) were found to have overt hypothyroidism and 7 (10.8%) with subclinical hypothyroidism. The mean anti-TPO levels were higher in patients with overt hypothyroidism (238.18±223.69 U/ml) than in patients with subclinical hypothyroidism (36.38±22.46 U/ml). Of a total of 11 patients with overt hypothyroidism, 9 (81.1%) showed abnormal anti-TPO levels, whereas positive anti-TPO was detected in 57% (4 out of 7) of patients with subclinical hypothyroidism.

**Conclusion:** The presence of anti-TPO in 27.7% of type 1 diabetic patients confirmed a strong association between autoimmune thyroid disease and type 1 diabetes mellitus. Thus, for early detection of autoimmune thyroid disease in patients with type 1 diabetes mellitus, the measurement of anti-TPO and TSH, preferably at the onset of disease, is recommended.

**Keywords:** Type 1 Diabetes Mellitus, Hypothyroidism, Anti Thyroid Peroxidase Antibody