

Anti-Thyroglobulin and Anti-Thyroid Microsomal Antibodies in Thyroid Disorders

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Objective: High titers of antibodies to thyroglobulin (ATA) and thyroid microsomal antigen (ATMA) are the hallmarks of human autoimmune thyroid diseases. The clinical significance of these autoantibodies in other thyroid disorders is still unclear. The aim of this study was to analyze the prevalence and titres of these antibodies in Omani patients (mean age 32, range 5-81 years) with different thyroid disorders. This was done in order to investigate any correlation regarding clinical manifestations that may be unique to patients attending Sultan Qaboos University Hospital (SQUH).

Method: Serum levels of ATA and ATMA in 400 cases involving four groups of thyroid disorders (one hundred each with Hashimoto's disease, Graves' disease, thyroid cancer and goitre) and 100 cases of non-thyroid disorders were studied. The antibodies were tested using a commercial haemagglutination assay (Thymune-T and Thymune-M).

Results: The overall prevalence of ATA or ATMA antibodies with thyroid disease was 47% and in non-thyroid disorders was 8%. The ATA was positive in 27% of all the patients with thyroid disorders compared to only 4% of those in the non-thyroid groups while ATMA was positive in 42% and 8% respectively. Among all patients, ATA and ATMA were positive in 64% of patients with Graves's disease, 81% in those with Hashimoto's, 30% of goiter patients, and 20% of those with thyroid carcinoma. The prevalence according to the age within each group for the three ranges: less than 20 years, between 20-40 years and over 40 years, showed the following results: within Graves were 12, 49 and 39% respectively; in the goitre group: 23, 55 and 22%; in the Hashimotos' group: 18, 54 and 28% and 7, 56 and 37% among the patients with thyroid carcinoma. The female to male ratio prevalence was 68% and 32% in Graves disease, 92% and 8% in Hashimotos', 75% and 25% in thyroid cancer and 88% and 12% in goiter.

Conclusions: This study confirms the prevalence of a high level of thyroid autoantibodies in these Omani patients as in Caucasians, and its correlation to age and gender. It also indicated the importance of screening for ATA and ATMA in non-autoimmune thyroid disorders. Their significance in thyroid cancers needs further elucidation.