

Prevalence of anaemia and its association with ABO/Rh blood groups, age and sex among thyroid patients attending to endocrine clinic Teaching Hospital Jaffna

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Introduction: Anaemia is one of the most common problems faced by thyroid patients. Even though anaemia and thyroid disorders frequently occur concurrently, the underline relationship between these disorders is still unknown.

Objective: To determine the prevalence of anaemia and its correlation with ABO/Rh blood groups, age and sex among thyroid patients attending to Endocrine clinic, Teaching Hospital, Jaffna.

Methodology: An institutional based cross-sectional study was conducted among 208 thyroid patients attending the Endocrine clinic, Teaching Hospital Jaffna. Selected participants were tested for haemoglobin levels and red cell indices. Participants identified as anaemic were further tested for ABO and Rh D grouping. Cramer's V Correlation (v) was used to find out the association between ABO/Rh, age, sex and anaemia.

Results: Among the 208 participants, 73.6% were hypothyroidic and 26.4% hyperthyroidic. Anaemia was present in 28.8% among the thyroid patients; 75% hypothyroid and 25% hyperthyroid. The prevalence of normocytic normochromic anaemia, microcytic hypochromic anaemia and macrocytic anaemia among hypo and hyperthyroid patients were: (57.8%, 40%), (31.1%, 53.3%) and (11.1%, 6.7%) respectively. ABO blood group distribution in the hypo and hyperthyroid anaemic patients was: "O" (46.7%, 46.7%), "A" (31.1%, 26.7%), "B" (20%, 26.7%), and "AB" (2.2%, 0%) respectively. In both groups, the majority were Rh D positive. ABO/Rh blood groups showed a strong/moderate relationship with the presence of anaemia in thyroid patients ($v = 0.832$). A greater number (40%) of the hyperthyroid patients presenting anaemia fall into the 41-50 age group while it was 31-40 age group for hypothyroid patients (42.2%). Females were more commonly affected by anaemia than males in all thyroid cases ($p < 0.05$).

Conclusion: Normocytic normochromic anaemia was the more prevalent in hypothyroid patients whereas microcytic hypochromic was in hyperthyroid patients. The findings indicate a strong/moderate relationship between the ABO/Rh blood groups and anaemia in thyroid patients. Findings show there is a significant difference between men and women in presenting thyroid anaemia. Also, there are significant age group differences in presenting anaemia in thyroid diseases.

Key words: Thyroid patients, Anaemia, Prevalence, ABO/Rh blood groups.