

THE PREVALENCE OF THYROID DYSFUNCTION AND AUTOIMMUNITY AMONG FIRST DEGREE RELATIVES OF PATIENTS WITH GRAVES' DISEASE – A NORTH-WESTERN NIGERIAN STUDY

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★ Abstract

Background: Graves' disease has familial predisposition with about 15% of the patients having a close relative with same disorder, while about 50% of the relatives of patients with Graves' have circulating thyroid auto-antibodies. Data on thyroid dysfunction among first degree relatives of patients with Graves' disease from developing countries are limited. There are no known published studies on the subject in Nigeria.

Objective: We determined the prevalence of thyroid dysfunction and autoimmunity among first degree relatives of patients with Graves' disease at Aminu Kano Teaching Hospital (AKTH), Kano.

Methods: We conducted a descriptive cross-sectional study at the Endocrinology clinic of AKTH Kano involving Eighty seven first degree relatives of patients with Graves' disease comprising of 5 (5.7%) fathers, 3 (3.4%) mothers, 26 (29.9%) brothers, 26 (29.9%) sisters, 14 (16.1%) sons and 13 (14.9%) daughters; and 87 age and gender matched controls. A pretested questionnaire was filled for each study participant after due explanation. Anthropometric and clinical parameters were documented. Blood samples were tested for TSH, fT3, fT4, anti-TPO and anti-Tg antibodies.

Results: The mean age of the study subjects and controls was 29.38±8.95 years and 31.63±8.81 years respectively with p-value of 0.096. There were 45 (51.7%) males and 42 (48.3%) females among the study subjects and controls respectively. Eleven (12.6%) study subjects comprising 2 fathers (2.3%), 1 mother (1.1%), 3 brothers (3.5%), 3 sisters (3.5%), 1 son (1.1%) and 1 daughter (1.1%), as well as 2 (2.3%) controls, had raised thyroid stimulating hormone (TSH). Overt hypothyroidism (TSH>4.6mu/l, fT4<8.9pmol/l, and/or fT3<3.0pmol/l) was observed among 5(5.7%) study subjects and none among controls. None of the participants had low TSH or clinical evidence of hyperthyroidism. Anti-thyroid peroxidase (anti-TPO) antibodies were positive in 4 (4.6%) of the study subjects comprising 1(1.1%) mother, 1(1.2%) brother, 1(1.2%) sister, and 1(1.1%) son. One (1.1%) participant had positive anti-TPO antibody among controls. Anti-thyroglobulin antibody (anti-Tg) positivity was found in 20 (23.0%) study subjects; 3(3.4%) fathers, 2(2.3%) mothers, 5(5.8%) brothers, 6(6.9%) sisters, 2(2.3%) sons and 2(2.3%) daughters. 8(9.2%) control subjects had positive anti-Tg antibody.

Discussion: This study revealed a high prevalence (12.6%) of thyroid dysfunction among FDRs of our Grave's disease patients compared to what was described in USA (5%), Sweden (6.1%) and Japan (8%). A review of the iodisation programme of Nigeria may provide answers to this high prevalence.

Conclusion: Primary Hypothyroidism was the predominant thyroid dysfunction found among first degree relatives of patients with Graves' disease at Aminu Kano Teaching Hospital, Kano, Nigeria. Screening of first degree relatives of patients with Graves' disease for presence of thyroid dysfunction and follow up is

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Key words: Autoimmune Thyroid disorder, Graves' disease, First degree relatives, Thyroid dysfunction, North-Western Nigeria