

Clinical Profiles of Males with Graves' Disease: A Two Year Review in a Tertiary Hospital in Nigeria

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ABSTRACT

Background and Objectives: Graves' disease is the commonest cause of thyrotoxicosis and it is much less common in males. Also, there is scanty information about the clinical characteristics of males with Graves' disease. The objectives of the study were to determine the frequency of males with Graves' disease seen by the Endocrinology unit of a tertiary hospital and describe their clinical characteristics.

Subjects, Materials and Methods: Clinical data was retrieved from the case records of patients with thyroid disease seen between January, 2016 and January, 2018 and analyzed using descriptive and inferential statistics.

Results: 61 patients with Graves' disease were seen out of which 6 cases were males giving a frequency of 10.9%. The male-to-female ratio was 1:9. The mean age at diagnosis of the male cases was 45 ± 16 years. All the patients had goitre and weight loss. 50% had heat intolerance, excessive sweating, palpitation, hyperdefaecation and hand tremors. Thyroid eye disease and thyrotoxic heart disease were found in 50% of the cases respectively. There was no statistically significant difference in the initial free thyroxine between males and females ($p=0.18$). There was no statistically significant association between initial free thyroxine and thyroid eye disease ($p=0.39$).

Conclusion: Graves' disease is 9 times commoner in females compared to males in our centre. The clinical features in males are similar to reported features in females except thyroid eye disease which appears commoner in males.

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Background

Graves' disease is the commonest form of hyperthyroidism in both males and females. It represents about 50-80% of cases of hyperthyroidism. It is an autoimmune disease characterized by the interaction between the thyroid stimulating hormone receptor antibodies (TRAb) and the thyroid stimulating hormone receptor [1-3].

The classical symptoms of hyperthyroidism include weight loss despite increased appetite, heat intolerance, irritability, insomnia, sweatiness, hyperdefaecation, palpitations, muscular weakness and menstrual irregularity. Clinical signs include diffuse goitre, fine resting tremor, tachycardia, hyperreflexia, lid lag, warm, smooth skin and proximal myopathy. Less common findings include atrial fibrillation and thyroid bruit reflecting the marked increase in thyroid vascularity. The treatment modalities usually offered to the patients with Graves' disease include use of antithyroid drugs, radioablative therapy or thyroidectomy, depending on the circumstances [4].

Graves' disease occurs with greater frequency in females, which may relate to the influence of estrogens on the immune system, particularly the B cell repertoire. It has been reported that the

clinical profiles and response to treatment in patients with Graves' disease are different between males and females. Despite these differences, publications on the clinical profiles of males with Graves' disease are scanty compared with females. This is even more pronounced in sub-Saharan Africa where there is paucity of publications on Graves' disease generally [1].

Study Type and Objectives

The study is a retrospective cohort study. The objectives of the study were to determine the frequency of males with Graves' disease seen by the Endocrinology unit of a tertiary hospital in Nigeria over a two year period and describe their clinical characteristics.

Materials and Methods

Clinical data was retrieved from the case records of patients with thyroid disease seen between January, 2016 and January, 2018 by the Endocrinology Unit of University College Hospital, a tertiary hospital in South-western Nigeria. The data were analyzed using descriptive and inferential statistics with SPSS version 22. Statistical significance was taken as $p < 0.05$.

Results

Over a period of two years (January, 2016 to January, 2018), 61 patients with Graves' disease were seen by the Endocrinology Unit of University College Hospital. 6 patients were males while

the rest were females. The frequency of Graves' disease in males was 10.9%. In other words, the male-to-female ratio of Graves' disease in this study was 1:9. The mean age at diagnosis of the male patients was 45 ± 16 years.

The commonest presenting complaints were anterior neck swelling and weight loss. 50% of the males had heat intolerance, excessive sweating, palpitations, and hyperdefaecation respectively. Other symptoms present in less than 50% were recent eyes protrusion, fever and skin hyperpigmentation. There was no family history of thyroid disorders in all the male cases. Also, there was no history of smoking in the male participants.

The commonest signs were diffusely enlarged goitre and tachycardia. Hand tremors and hyperreflexia were demonstrated in 75% of the cases. Exophthalmos, lid lag and lid retraction were demonstrated in 50% of the cases. Two patients had severe thyroid eye disease and were referred to the Ophthalmology clinic. None of the patients had pretibial myxedema. 50% had thyroid heart disease and Cardiology consultations were requested. 66% were commenced on antithyroid drug (Carbimazole), 22% opted for radioablative therapy after initial medical therapy while another 22% was referred for thyroidectomy after initial medical therapy. There was no significant difference in the mean free thyroxine (free T4 in pmol/L) between males and females (42.2 ± 17.6 Vs 48.5 ± 18.3 ; $p=0.18$). The other hormones (free T3 and thyroid stimulating hormone) were not significantly different between genders.

Discussion

The study showed that Graves' disease is more common among females (with a ratio of 9:1). This is in keeping with previous studies that have found much higher prevalence of Graves' disease among females with a ratio of 5-10 to 1. The hormonal changes of females are reported to be responsible for higher incidence of autoimmune disorders, including Graves' disease, among females. Studies have reported the mean age at diagnosis of Graves' disease to be 30-50 years which is congruent to what was found in this study [1,5].

The clinical characteristics of the male patients with Graves' disease are not remarkably different to what has been reported

for females in the literature. A previous study has documented a significant prevalence of smoking history among males with Graves' disease but no male in the present study smoked. In terms of hormonal profile, the free T4 of males was higher than females but it did not achieve statistical significance. A similar profile was found in the study done by Allahabadia et al. The main modality of treatment is pharmacotherapy with antithyroid drugs. A Nigerian study also reported that the commonest treatment given to patients with Graves' disease was the use of antithyroid drugs [1,4,6,7].

Conclusion

Graves' disease is 9 times commoner in females compared to males seen by the Endocrinology Unit of a tertiary hospital in Nigeria. The clinical features in males are similar to reported features in females except thyroid eye disease which appears commoner in males. The hormonal profiles were also comparable between the two genders. The commonest modality of treatment among the patients was pharmacotherapy while radioactive iodine has gained acceptance as much as surgical ablation.

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