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Pattern of thyroid disorders in black population referred for thyroid scintigraphy at Chris Hani Baragwanath Hospital, South Africa

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Abstract

Background: Most endocrine disorders are due to thyroid dysfunction with varying etiologies. Different management protocols exist for the different endocrine disorders, and it is crucial to determine the specific cause due to thyroid dysfunction. This study aimed to describe the spectrum of thyroid diseases in patients who undergo thyroid scintigraphy and to assess the agreement with biochemistry and scintigraphy.

Methods: This was a retrospective study to assess the pattern of thyroid disorders in the patients referred for thyroid scintigraphy at Chris Hani Baragwanath Hospital (CHBAH). All cases diagnosed with thyroid dysfunction based on biochemical results and referred for 99m Tc scintigraphy to nuclear medicine from January 2017 to December 2018 were reviewed. All records reviewed were >18 years of age and were a total of 780.

Results Of the 780 patients reviewed, 631 (80.9%) were black while the remaining 19.1% comprises White, Indian, and Coloured individuals. Among the Blacks, 84% were females and 16% were males. Graves' disease was the commonest thyroid disease diagnosed on scintigraphy in the entire population and among the blacks, constituting 72% (n=454/631) of patients. Other thyroid disorders among the black population include toxic multinodular goitre (13%, n=80/631), non-toxic multinodular goitre (7%, n=45/631), toxic adenoma (3%, n=17/631), and thyroiditis (3%, n=21/631). The black patients' mean age was 47.3 years with a standard deviation (SD) of ±15.1 years. Graves' disease as well as other thyroid disorders affected all age groups but were most prominent in the 40-59 years age group in both females and males. The median thyroid stimulating hormone (TSH) was 0.001 mIU/L while free thyroxine (fT4) ranged from 7.4 – 160 pmol/L in black population diagnosed with hyperthyroidism.

Conclusion: Graves' disease is the commonest cause of thyroid disorders among individuals referred for thyroid scintigraphy, being most prevalent in Black females in the reproductive age group. Thyroid scintigraphy is useful for aetiological diagnosis in patients presenting with thyroid disorders.

Keywords Thyroid disorders, Graves' disease, hyperthyroidism, thyroid function tests, thyroid Scintigraphy.