

Sonographic Measurement of the Volume of the Normal Thyroid Gland in Adults in Braithwaite Memorial Specialist Hospital, Port Harcourt

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BACKGROUND

The incidence of thyroid disease is not uncommon worldwide and the knowledge of thyroid volume is important for diagnosis and radiotherapy. Ultrasonography is an established optimal imaging modality for both screening and evaluation of the thyroid gland and an accurate method of calculating thyroid gland volume. This prospective cross sectional study aimed to establish the normal thyroid gland volume and to correlate the values with sex, age, height and weight of adult patients in Braithwaite Memorial Specialist Hospital in the South- South geopolitical zone of Nigeria.

METHODS

Four Hundred normal adult subjects were studied using a 7.5MHz transducer. The length, width and depth of the thyroid gland were obtained and the thyroid gland volume calculated using the ellipsoid formula obtained by multiplication of length, width, depth and a conversion factor (0.479). In addition, the height and weight of each subject was recorded. Correlation between variables was calculated with the Pearson correlation coefficient.

RESULTS

The four hundred adult participants included two hundred and four males (51%) and one hundred and ninety-six females (49%) with an age range of 18-62yrs. The mean total thyroid volume was 6.81±2.18cm³ and the mean for the male and female population were 7.44± 2.05cm³ and 6.14±2.11cm³ respectively. This study established significant difference between Total Thyroid Volume in males and females (P<0.001), a poor linear correlation between the thyroid volume and height (r =0.28), age (r=0.30) and a weak correlation with weight (r=0.51).

CONCLUSION

The normal volume of the thyroid gland in normal adults in Port Harcourt using ultrasound has been determined. It is hoped that, these values will serve as a reference standard in ultrasonographic evaluation of the thyroid gland in Port Harcourt (South - South Geopolitical Zone of Nigeria).

KEYWORDS

Ultrasound; Thyroid Volume; Adults; Port Harcourt; Nigeria.

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