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Middle-aged women thyroid gland ultrasound assessment in the mink-city

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Background

Thyroid volume varies across populations depending on age and gender. Some studies show a correlation between thyroid volume and anthropometric parameters. The results of thyroid gland assessing of middle-aged women in Belarus population have not been published yet. The aim of the study is to

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establish the normal thyroid volume and its correlation with anthropometric parameters in middle-aged women.

Materials and Methods

A retrospective cross-sectional study was conducted. We studied 131 women 45-59 years old without endocrine diseases who applied to the Minsk Clinical Consultative and Diagnostic Center in 2023-2024 years. The study included patients with normal echogenicity of the thyroid gland, without a severe echo structure disturbance and nodes (anechoic cyst-like formations 5 mm less were assessed as normal). Patients with thyroid hormone levels abnormalities were excluded from the study. Statistical processing of the results was carried out using the Statistica 10 program (StatSoft, USA). Examination: thyroid ultrasound, TSH, FT4, ATPO, height, weight, BMI. Results. Average age was 51.7 ± 3.44 years, height was 165 (161-170) sm, weight was 69 (61-76) kg, BMI was 26.3 (23.7-29.2) kg/cm². TSH level was detected 2.96 (1.93 - 3.58) mIU/ml, FT4 – 16.7 (14.9-19.8) pmol/l, ATPO -19.6 (12.3- 41.1) IU/ml. The right lobe average volume was 5.47 ± 2.11 cm³, the left lobe of the thyroid gland was 5.43 ± 2.27 cm³. The width of the isthmus was 2.5 (2.2-2.8) cm. Minimum registered total thyroid volume was 3,9 cm³, maximum registered total thyroid volume was 22,1 cm³. The total thyroid volume was recorded 10.1 (6.0-16.8) cm³. Frequency range 5-95% was detected 5.9-17.4 cm³. A strong direct correlation was found between BMI and total thyroid gland volume ($r = 0.7$).

Conclusion

The result of the study demonstrated the normal total thyroid volume was 5.9-17.4 cm³ middle-aged women 45-59 years old without a history of endocrine diseases in the Minsk- city. A strong direct correlation was found between BMI and total thyroid gland volume ($r = 0.7$).

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