

عنوان مقاله:

Evaluation of the Efficacy of Standardized Uptake Value (SUV)-shape Scheme for Thyroid Volume Determination in Graves' Disease: A Comparison with Ultrasonography

محل انتشار:

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خلاصه مقاله:

Objective(s): In this study, we aimed to evaluate the efficacy of thyroid volume measurement using ^{99m}Tc pertechnetate single-photon emission computed tomography (SPECT) images, acquired by the standardized uptake value (SUV)-shape scheme designed by our expert team. **Methods:** A total of 18 consecutive patients with Graves' disease (GD) were subjected to both ultrasonographic and ^{99m}Tc pertechnetate SPECT examinations of thyroid within a five-day interval. The volume of thyroid lobes and isthmus was measured by ultrasonography (US) according to the ellipsoid volume equation. The total thyroid volume, determined as the sum of the volume of both lobes and isthmus, was recorded as TV-US (i.e., thyroid volume measured by US) and set as the reference. The thyroid volume was defined according to our SUV-shape scheme and was recorded as TV-SS (i.e., thyroid volume determined by the SUV-shape scheme). The data were analyzed using the Bland-Altman plot, linear regression analysis, Spearman's rank correlation, and paired t-test, if necessary. **Results:** The values of TV-SS (40.2 ± 29.4 mL) and TV-US (43.0 ± 34.7 mL) were not significantly different ($t=0.813$; $P=0.43$). The linear regression equation of the two values was determined as $\text{TV-US} = 1.072 \times \text{TV-SS} - 0.29$ ($r=0.906$; $P<0.01$). **Conclusion:** The new scheme, i.e., SUV-shape scheme, exhibited potential for the measurement of thyroid volume in patients with GD.

کلمات کلیدی:

Thyroid Volume, Single-photon Emission Computed Tomography, Software, Ultrasonography

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