

Asosiasi Fitur Ultrasonografi Chinese TI-RADS dengan Kadar Thyroid Stimulating Hormone (TSH) Darah di Populasi Kanker Tiroid

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INTISARI

Latar Belakang : Peningkatan TSH dinyatakan sebagai salah satu faktor risiko independen kanker tiroid. Terdapat hubungan antara fitur radiologi USG tiroid dengan kadar TSH darah di populasi tiroid normal dan autoimun tiroiditis. Di populasi nodul tiroid tanpa membedakan ganas atau jinak, tidak ditemukan asosiasi yang signifikan antara fitur USG tiroid dengan kadar TSH darah. Belum ada penelitian yang mengeksplorasi asosiasi fitur USG *Chinese TI-RADS* (C-TIRADS) dengan kadar TSH darah di populasi kanker tiroid.

Metode : Penelitian *cross-sectional* menggunakan data sekunder periode Januari 2023 hingga Maret 2024 pada populasi kanker tiroid yang telah dikonfirmasi dengan histopatologi dan memiliki pemeriksaan USG tiroid serta kadar TSH darah sebelum terapi. Analisis regresi dilakukan untuk melihat asosiasi antara fitur USG C-TIRADS, termasuk orientasi lesi, komposisi lesi, ekogenitas lesi, kalsifikasi, dan batas lesi, terhadap kadar TSH darah.

Hasil: 74 kasus kanker tiroid dilibatkan dalam penelitian ini. Dari jumlah tersebut, 60 subjek (81%) memiliki kadar TSH darah normal. Populasi dengan kadar TSH darah rendah, normal, dan tinggi didominasi oleh perempuan (83,3%; 73,3%; dan 75%). Analisis menunjukkan bahwa orientasi lesi, ekogenitas lesi, mikrokalsifikasi, dan batas lesi tidak memiliki asosiasi signifikan dengan kadar TSH darah (p-value 0.56; 0.13; 0.35; 0.99).

Kesimpulan: Tidak ditemukan asosiasi yang signifikan antara fitur USG C-TIRADS dengan kadar TSH darah pada populasi kanker tiroid. Pendekatan tim multidisiplin diperlukan untuk penatalaksanaan nodul tiroid.

Kata Kunci : Kanker Tiroid, C-TIRADS, Thyroid Stimulating Hormone (TSH)

Association of Chinese TI-RADS Ultrasonographic Features with Blood Thyroid Stimulating Hormone (TSH) Levels in Thyroid Cancer Population

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ABSTRACT

Background: Elevated thyroid-stimulating hormone (TSH) levels have been identified as an independent risk factor for thyroid cancer. Previous studies have established a relationship between thyroid ultrasound (US) features and blood TSH levels in populations with normal thyroid function and autoimmune thyroiditis. However, in populations with thyroid nodules, without distinguishing between benign or malignant cases, no significant association has been found between thyroid US features and blood TSH levels. Notably, no studies have investigated the association between Chinese Thyroid Imaging Reporting and Data System (C-TIRADS) ultrasound features and blood TSH levels in thyroid cancer populations.

Methods: Cross-sectional study utilized secondary data collected from January 2023 to March 2024 from a population diagnosed with thyroid cancer confirmed by histopathological examination. All subjects underwent thyroid US examination and had their blood TSH levels measured prior to any therapeutic intervention. Regression analysis was performed to evaluate the association between C-TIRADS US features—including lesion orientation, lesion composition, echogenicity, calcification, and lesion margins—and blood TSH levels.

Result : A total of 74 thyroid cancer cases were included in the analysis. Among these, 60 subjects (81%) had normal blood TSH levels. The study population with low, normal, and high blood TSH levels was predominantly female (83.3%, 73.3%, and 75%, respectively). The analysis indicated that lesion orientation, echogenicity, microcalcification, and lesion margins were not significantly associated with blood TSH levels (p-values of 0.56, 0.13, 0.35, and 0.99, respectively).

Conclusion : This study found no significant association between C-TIRADS US features and blood TSH levels in the thyroid cancer population. The management of thyroid nodules requires a multidisciplinary team approach to ensure comprehensive care.

Keywords: Thyroid Cancer, C-TIRADS, Thyroid Stimulating Hormone (TSH)