POLA NILAI *COMPUTED TOMOGRAPHY ATTENUATION* BERDASARKAN JENIS MASSA SINUS PARANASAL

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INTISARI

Latar belakang: Massa sinus paranasal merupakan massa dengan jumlah sekitar 3% dari semua massa pada saluran pernapasan atas. Penderita sering baru terdiagnosis pada kondisi lanjut. Nilai *Computed Tomography Attenuation* (CTA) dari *CT Scan* merupakan modalitas yang cukup mudah didapatkan dalam pemeriksaan penunjang pada massa sinus paranasal dan dapat menggambarkan karakteristik dari jaringan. Pada studi sebelumnya menyebutkan bahwa CTA berpotensi dapat menjadi salah satu prediktor penyakit keganasan pada tiroid, renal, paru-paru, dan gaster. Studi serupa pada sinus paranasal belum pernah dilakukan.

Metode penelitian: Penelitian ini merupakan studi deskriptif dengan menggunakan data rekam medis pasien massa sinus paranasal yang terdiagnosis di RSUP Dr. Sardjito periode 2022 – 2024 dan telah dilakukan operasi serta dilakukan pemeriksaan histopatologi pada sampel jaringan. Sampel diperoleh dengan *consecutive sampling* dan diambil data numerik CTA prakontras, pascakontras dan peningkatan CTA, kemudian dilakukan analisis kuantitatif.

Hasil penelitian: Sebanyak 305 pasien memenuhi kriteria, terdiri dari 188 pasien laki-laki (61,6%) dan 117 pasien perempuan (38,4%). Polip hidung (n=84) memiliki nilai CTA prakontras 28,3 $\pm$ 9,7; pascakontras 40,7 $\pm$ 14,6 dan peningkatan CTA 12,5 $\pm$ 12,2. Pada *Inverted Papilloma* (n=22) nilai CTA prakontras sebesar 35,5 $\pm$ 9,5; pascakontras 62,3 $\pm$ 14,0; dan peningkatan CTA 26,8 $\pm$ 10,9. Pada Karsinoma Sel Skuamosa (n=66) menunjukkan nilai CTA prakontras 40,7 $\pm$ 6,8; pascakontras 70,9 $\pm$ 14,9; dan peningkatan CTA 30,2 $\pm$ 12,7. Pada Karsinoma Adenoid Kistik (n=29) nilai CTA prakontras sebesar 34,4 $\pm$ 8,9; pascakontras 56,4 $\pm$ 10,4; dan peningkatan CTA 22,4 $\pm$ 10,0. Pada *Sinonasal Undifferentiated Carcinoma* (n=27) nilai CTA prakontras sebesar 36,8 $\pm$ 4,2; pascakontras 66,0 $\pm$ 11,9; dan peningkatan CTA 29,2 $\pm$ 11,7.

Kesimpulan: Nilai CTA pada karsinoma adenoid kistik lebih rendah daripada karsinoma sel skuamosa dan *sinonasal undifferentiated carcinoma*.

Kata kunci: **s**inus paranasal; massa sinus paranasal; Computed Tomography Attenuation

PATTERN OF COMPUTED TOMOGRAPHY ATTENUATION VALUE BASED ON THE TYPES OF PARANASAL SINUS MASS

ABSTRACT

Background: Paranasal sinus masses account for approximately 3% of all masses in the upper respiratory tract, and patients are often only diagnosed at an advanced stage. Computed Tomography Attenuation (CTA) values obtained from CT scans are a readily available imaging modality for evaluating paranasal sinus masses and can reflect the tissue characteristics. Previous studies have reported that CTA has the potential to serve as a predictor of malignancy in thyroid, renal, pulmonary, and gastric lesions; however, similar studies focusing on paranasal sinus masses have not yet been conducted.

Methods: This study is a descriptive study utilizing medical record data of patients with paranasal sinus masses diagnosed at Dr. Sardjito General Hospital between 2022 and 2024 who underwent surgical treatment and histopathological examination of tissue samples. Samples were obtained through consecutive sampling, and numerical data on pre-contrast CTA, post-contrast CTA, and CTA enhancement were collected and subsequently subjected to quantitative analysis according to the histopathological type.

Results: A total of 305 patients met the exclusion and inclusion criteria, comprising 188 males (61.6%) and 117 females (38.4%), with 146 patients (47.9%) having benign masses and 159 patients (52.1%) having malignant masses. Nasal polyps (n=84) demonstrated a mean pre-contrast CTA value of 28.3 ± 9.7, a post-contrast CTA value of 40.7 ± 14.6, and a CTA enhancement of 12.5 ± 12.2. In inverted papilloma (n=22), the mean pre-contrast CTA value was 35.5 ± 9.5, the post-contrast CTA value was 62.3 ± 14.0, and CTA enhancement was 26.8 ± 10.9. In squamous cell carcinoma (n=66), the mean pre-contrast CTA value was 40.7 ± 6.8, the post-contrast CTA value was 70.9 ± 14.9, and CTA enhancement was 30.2 ± 12.7. In adenoid cystic carcinoma (n=29), the mean pre-contrast CTA value was 34.4 ± 8.9, the post-contrast CTA value was 56.4 ± 10.4, and CTA enhancement was 22.4 ± 10.0. In sinonasal undifferentiated carcinoma (n=27), the mean pre-contrast CTA value was 36.8 ± 4.2, the post-contrast CTA value was 66.0 ± 11.9, and CTA enhancement was 29.2 ± 11.7.

Conclusion: The CTA values in adenoid cystic carcinoma are lower than those in squamous cell carcinoma and sinonasal undifferentiated carcinoma.

Keywords: paranasal sinus; paranasal sinus mass; Computed Tomography Attenuation