KORELASI UKURAN VOLUME MENINGIOMA INTRAKRANIAL PADA CT *SCAN* KEPALA DENGAN DERAJAT HISTOPATOLOGIS MENURUT WHO 2016

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INTISARI

Latar Belakang: Pencitraan CT *Scan* adalah salah satu metode diagnosis meningioma yang akurat dan paling umum digunakan. Temuan radiologis seperti adanya invasi ke parenkim otak, invasi tulang, dan edema peritumoral, sering dikaitkan dengan klasifikasi meningioma derajat tinggi. Ukuran volume tumor dan edema peritumoral merupakan prediktor terkuat dari meningioma atipikal atau meningioma derajat tinggi. Di Indonesia, analisis hubungan besar ukuran volume meningioma secara radiologis terutama menggunakan modalitas CT Scan dengan derajat diferensiasi histopatologis belum pernah dilakukan

Tujuan: Mengetahui adanya korelasi antara ukuran volume meningioma intrakranial dan rasio basis dan tinggi meningioma yang dinilai menggunakan CT *Scan* dengan derajat histopatologis menurut WHO 2016 di RSUP Dr. Sardjito Yogyakarta.

Metode: Penelitian ini menggunakan desain *cross-sectional*, dilakukan di Instalasi Radiologi RSUP Dr. Sardjito Yogyakarta, dengan mengambil data sekunder dari rekam medis elektronik *SIMETRISS* dari bulan Mei 2020-Mei 2023. Sejumlah 30 sampel didapatkan dari pencarian tersebut. Data CT *Scan* diambil dalam format DICOM, dan dilakukan uji analisis korelasi menggunakan *Spearman*.

Hasil: Dari 30 sampel, didapatkan hasil sebagian besar pasien terdiagnosis meningioma berjenis kelamin perempuan sebanyak 26 pasien (86,7%), prevalensi usia terbanyak ≥ 50 tahun sebanyak 16 pasien (53%), IMT terbanyak dalam kategori Normal sebanyak 13 pasien (43,3%). Derajat histopatologis yang terbanyak ditemukan derajat I sebanyak 21 pasien (70%), derajat II sebanyak 9 pasien (30%), dan tidak ditemukan pasien dengan meningioma derajat III (0%). Hasil korelasi *Spearman* menunjukkan korelasi signifikan antara volume meningioma dengan derajat histopatologis menurut WHO 2016 (p=0.03, r=0.697)), sedangkan hasil korelasi rasio basis dan tinggi meningioma dengan derajat histopatologis menurut WHO 2016 menunjukkan korelasi negatif yang signifikan ($p=0,037$, $r=-0,533$).

Kesimpulan: Terdapat korelasi positif yang signifikan antara ukuran volume meningioma intrakranial dengan derajat histopatologis menurut WHO 2016, dan terdapat korelasi negatif yang signifikan antara rasio basis-tinggi meningioma intrakranial yang dinilai menggunakan CT Scan dengan derajat histopatologis menurut WHO 2016.

Kata Kunci: Meningioma intrakranial, derajat histopatologis WHO 2016, CT *Scan*.

CORRELATION OF INTRACRANIAL MENINGIOMA VOLUME SIZE ON HEAD CT SCAN WITH HISTOPATHOLOGICAL GRADE ACCORDING TO WHO 2016

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ABSTRACT

Background: CT Scan is one of the most commonly used and accurate imaging modalities to diagnose meningioma. Radiologic findings such as the presence of invasion into the brain parenchyma, bone invasion, and peritumoral edema, are often associated with high-grade meningiomas. Tumor volume size and peritumoral edema are the strongest predictors of atypical or high-grade meningioma. In Indonesia, study about relationship between radiologic meningioma volume size, especially using CT Scan, and the degree of histopathologic differentiation has not been conducted.

Objective: To determine the correlation between the size of intracranial meningioma volume and the ratio of base and height of meningioma assessed using CT scan with histopathological grade according to WHO 2016 at RSUP Dr. Sardjito Yogyakarta.

Methods: This study used a cross-sectional design, conducted at Dr. Sardjito Hospital Yogyakarta, by retrieving secondary data from SIMETRISS electronic medical records from May 2020-May 2023. A total of 30 samples were obtained from the search. CT Scan data was taken in DICOM format, and correlation analysis test was performed using Spearman.

Results: Of the 30 samples, the results showed that most patients diagnosed with meningioma were female as many as 26 patients (86.7%), the highest age prevalence was ≥ 50 years as many as 16 patients (53%), the most BMI in the Normal category as many as 13 patients (43.3%). The most histopathological degrees were found to be 1st degree as many as 21 patients (70%), 2nd degree as many as 9 patients (30%), and there were no patients with 3rd degree meningioma (0%). Spearman correlation results showed a significant correlation between meningioma volume and histopathological grade according to WHO 2016 ($p = 0.697$, $r = 0.03$), while the correlation results of the ratio of base and height of meningioma with histopathological grade according to WHO 2016 showed a significant negative correlation ($p=0,037$, $r=-0,533$).

Conclusion: There is a significant positive correlation between intracranial meningioma volume size and histopathologic grade according to WHO 2016, and there is a significant negative correlation between base-height ratio of intracranial meningioma assessed using CT scan and histopathologic grade according to WHO 2016.

Keywords: Intracranial meningioma, WHO 2016 histopathologic grade, CT Scan.