

## ABSTRAK

**Latar Belakang** : Fraktur tulang orbita merupakan salah satu contoh trauma yang mengakibatkan perubahan pada volume rongga orbita. Perubahan volume rongga orbita dapat menimbulkan manifestasi klinis berupa *deficit structural* atau distorsi komponen intraorbita (*herniation orbital content*). Tatalaksana bedah berupa *transorbital surgical interventions* dan *prosthesis* orbital menjadi pilihan dalam menangani kasus perubahan volume rongga orbita. Mengingat pentingnya memahami parameter morfologi serta minimnya referensi data ukuran normal pada volume rongga orbita di populasi Indonesia, maka penelitian ini penting untuk dilakukan.

**Tujuan** : Mengevaluasi volume normal rongga orbita pasien dewasa serta mengetahui hubungan volume rongga orbita dengan kelompok usia dewasa yang diukur melalui data CT-Scan di populasi Indonesia.

**Metode** : Penelitian ini merupakan studi *analytic* deskriptif retrospektif dengan pendekatan *cross sectional*. Sebanyak 283 data CT-Scan volume normal rongga orbita pasien dewasa diukur menggunakan metode *slice ROI* yang diambil dari Departemen Radiologi RSUP Dr. Sardjito, Yogyakarta. Analisis data menggunakan *Anova One Way Test* dan *Bivariate Linear Regression*.

**Hasil** : Berdasarkan pembagian kelompok usia dewasa, terdapat hubungan antara volume normal rongga orbita seiring bertambahnya usia pada kelompok dewasa awal (*p value* = 0.024) meskipun memiliki korelasi positif yang lemah ( $r = 0.214$ ). Kelompok laki-laki cenderung memiliki rata-rata volume orbita lebih besar secara signifikan (*p value* <0.05) daripada kelompok perempuan di seluruh kelompok usia dewasa.

**Kesimpulan** : Penelitian ini menunjukkan bahwa volume normal rongga orbita berubah seiring bertambahnya usia karena adanya perubahan jaringan lunak.

**Kata Kunci** : volume normal orbita, rongga orbita, pengukuran, usia dewasa, *computed tomography*.

## ABSTRACT

**Background:** Orbital bone fractures are an example of trauma that results in changes in orbital volume. These changes can cause clinical manifestations in the form of structural deficits or distortion of intraorbital components (herniation of orbital contents). Surgical management, including transorbital surgical interventions and orbital prostheses, is an option for managing orbital volume changes. Given the importance of understanding morphological parameters and the limited reference data on normal orbital volume in the Indonesian population, this study is crucial.

**Objective:** To evaluate the normal orbital volume of adult patients and to determine the relationship between orbital volume and adult age groups, as measured using CT scan data in the Indonesian population.

**Method:** This study used a retrospective, descriptive, analytic study with a cross-sectional approach. A total of 283 CT scans of normal orbital volume in adult patients were measured using the slice ROI method, taken from the Radiology Department of Dr. Sardjito General Hospital, Yogyakarta. Data were analyzed using ANOVA One-Way Test and Bivariate Linear Regression.

**Result:** Based on the division of adult age groups, there was a relationship between normal orbital cavity volume with increasing age in the early adult group (p-value = 0.024) although it had a weak positive correlation ( $r = 0.214$ ). The male group tended to have a significantly larger average orbital volume (p-value <0.05) than the female group across all adult age groups.

**Conclusion:** This study shows that normal orbital cavity volume changes with age due to soft tissue changes.

**Keywords:** normal orbital volume, cavum orbita, measurement, adult age, computed tomography.