

**KORELASI ANTARA VOLUME TUMOR PADA  
PEMERIKSAAN CT SCAN TORAKS DENGAN *SYSTEMIC  
IMMUNE-INFLAMMATION INDEX* PASIENADENOKARSINOMA PARU**

**Marlina Candra Dewi<sup>1</sup>, Yana Supriatna<sup>2</sup>, Evi Artsini<sup>2</sup>**

<sup>1</sup>Residen dan <sup>2</sup>Staf Departemen Radiologi  
Fakultas Kedokteran, Kesehatan Masyarakat dan Keperawatan Universitas Gadjah  
Mada Yogyakarta-Indonesia

**INTISARI**

**Latar Belakang:** Angka insidensi dan angka mortalitas kanker paru di Indonesia tinggi dengan adenokarsinoma sebagai jenis kanker paru terbanyak. Ukuran tumor, diameter terbesar tumor maupun volume tumor berdasarkan pemeriksaan CT scan toraks pasien adenokarsinoma paru faktor penting dalam prognosis dan pertimbangan stadium sistem klasifikasi TNM. *Systemic immune-inflammation index* (SII), sebagai parameter inflamasi mengintegrasikan limfosit, netrofil dan platelet memiliki peran penting sebagai biomarker keberlangsungan hidup dan prognosis pasien kanker paru.

**Tujuan:** Penelitian ini bertujuan untuk mengetahui korelasi antara volume tumor pada pemeriksaan CT scan toraks dengan *systemic immune-inflammation index* (SII) pada pasien adenokarsinoma paru

**Metode:** Penelitian cross sectional ini dilakukan di RSUP Dr. Sardjito pada April 2024 dengan mengambil data sekunder pasien adenokarsinoma paru periode Januari 2022-Desember 2023. Data diambil dari PACS dan rekam medis elektronik RS. Volume tumor dinilai dari pemeriksaan CT scan toraks sejumlah 42 subjek yang memenuhi kriteria inklusi, *systemic immune-inflammation index* dihitung dari angka netrofil, angka platelet dan angka limfosit absolut pemeriksaan darah lengkap pasien. Dilakukan uji normalitas dengan Shapiro-Wilk test selanjutnya dianalisis menggunakan uji Spearman.

**Hasil:** Analisis bivariat dengan uji Spearman menunjukkan korelasi yang signifikan antara volume tumor dengan *systemic immune-inflammation index* ( $p=0,031$ ,  $\rho=0,33$ )

**Kesimpulan:** Terdapat korelasi signifikan antara volume tumor pada pemeriksaan CT scan toraks dengan *systemic immune-inflammation index* (SII) pada pasien adenokarsinoma paru

**Kata Kunci:** Adenokarsinoma paru, volume tumor, *systemic immune inflammation index*

**CORRELATION BETWEEN TUMOR VOLUME ON CHEST CT SCAN AND  
SYSTEMIC  
IMMUNE-INFLAMMATION INDEX IN PATIENTS WITH LUNG  
ADENOCARCINOMA**

**Marlina Candra Dewi<sup>1</sup>, Yana Supriatna<sup>2</sup>, Evi Artsini<sup>2</sup>**

<sup>1</sup>Resident and <sup>2</sup>Staff of the Radiology Department  
Faculty of Medicine, Public Health and Nursing Gadjah Mada University  
Yogyakarta-Indonesia

**ABSTRACT**

**Background:** Lung cancer incidence and mortality rates are high in Indonesia, with adenocarcinoma being the most common type of lung cancer. Tumor size, both the largest tumor diameter and tumor volume based on chest CT scan, is an important factor in prognosis and staging consideration in the TNM classification system. The systemic immune-inflammation index (SII), as an inflammatory parameter that integrates lymphocytes, neutrophils, and platelets, plays an important role as a biomarker for survival and prognosis in lung cancer patients.

**Objective:** This study aimed to determine the correlation between tumor volume on chest CT scan and systemic immune-inflammation index (SII) in patients with lung adenocarcinoma.

**Methods:** This cross-sectional study was conducted at Dr. Sardjito Hospital in April 2024, using secondary data from lung adenocarcinoma patients during the period of January 2022 to December 2023. Data were collected from the PACS and electronic medical records of the hospital. Tumor volume was assessed from chest CT scans of 42 subjects who met the inclusion criteria. The systemic immune-inflammation index was calculated from the neutrophil count, platelet count, and absolute lymphocyte count from the patients' complete blood count. Normality tests were performed using the Shapiro-Wilk test, and further analysis was conducted using the Spearman test.

**Results:** Bivariate analysis using the Spearman test showed a significant correlation between tumor volume and systemic immune-inflammation index ( $p=0.031$ ,  $r=0.33$ ).

**Conclusion:** There is a significant correlation between tumor volume on chest CT scan and systemic immune-inflammation index (SII) in patients with lung adenocarcinoma.

**Keywords:** Lung adenocarcinoma, tumor volume, systemic immune inflammation index