

KORELASI KATEGORI LUNG-RADS VERSI 2022 BERDASARKAN MODALITAS CT SCAN TORAKS TANPA KONTRAS DENGAN DERAJAT KEGANASAN LESI PARU

**Alberta Vania Handoko¹, Yana Supriatna², Wigati Dharmiyati²,
Bambang Purwanto Utomo², Anita Ekowati²**

¹Residen Radiologi, ²Staf Departemen Radiologi

Fakultas Kedokteran, Kesehatan Masyarakat

dan Keperawatan Universitas Gadjah Mada, Yogyakarta, Indonesia

INTISARI

Latar Belakang: Skrining kanker paru menggunakan CT dosis rendah terbukti menurunkan mortalitas, namun masih menghadapi tantangan berupa tingginya angka hasil positif palsu. Sistem klasifikasi Lung Imaging Reporting and Data System (Lung-RADS) dikembangkan untuk menstandarkan pelaporan dan meningkatkan akurasi penilaian lesi paru. Meskipun performa statistik Lung-RADS telah banyak diteliti, kajian mengenai korelasinya dengan temuan histopatologi sebagai standar emas diagnosis masih terbatas, khususnya untuk Lung-RADS versi 2022.

Tujuan: Mengetahui korelasi antara kategori Lung-RADS versi 2022 pada CT scan toraks tanpa kontras dengan temuan histopatologi lesi paru.

Metode: Penelitian analitik observasional dengan desain potong lintang dilakukan secara retrospektif di RSUP Dr. Sardjito Yogyakarta. Subjek penelitian adalah 54 pasien berusia ≥ 18 tahun dengan lesi paru pada CT toraks tanpa kontras yang memiliki hasil histopatologi. Kategori Lung-RADS versi 2022 ditentukan secara independen oleh dua dokter spesialis radiologi dan diuji reliabilitas interobserver menggunakan Cohen's weighted kappa. Analisis korelasi antara kategori Lung-RADS dan temuan histopatologi dilakukan menggunakan uji korelasi Spearman.

Hasil: Reliabilitas interobserver penilaian kategori Lung-RADS menunjukkan kesepakatan sangat kuat (weighted kappa = 0,946; $p < 0,001$). Sebanyak 64,8% lesi terbukti ganas secara histopatologi. Terdapat korelasi yang signifikan, kuat, dan searah positif antara kategori Lung-RADS dan keganasan histopatologi ($r = 0,704$; $p < 0,001$), menunjukkan bahwa peningkatan kategori Lung-RADS berhubungan dengan peningkatan probabilitas keganasan.

Kesimpulan: Terdapat korelasi yang kuat dan bermakna antara kategori Lung-RADS versi 2022 pada CT toraks tanpa kontras dengan temuan histopatologi lesi paru. Hasil ini mendukung validitas klinis Lung-RADS sebagai sistem pelaporan terstruktur dalam penilaian risiko keganasan lesi paru.

Kata kunci: Lung-RADS 2022, CT toraks, lesi paru, histopatologi, kanker paru

CORRELATION OF LUNG-RADS VERSION 2022 CATEGORIES BASED ON NON-CONTRAST CHEST CT WITH THE MALIGNANCY GRADE OF PULMONARY LESIONS

Alberta Vania Handoko¹, Yana Supriatna², Wigati Dharmiyati²,
Bambang Purwanto Utomo², Anita Ekowati², Tri Wibowo³

¹Radiology Resident, ²Staff of Radiology Department,

³Staff of Master in Clinical Medicine

Faculty of Medicine, Public Health, and Nursing Gadjah Mada University,
Yogyakarta, Indonesia

ABSTRACT

Background: Low-dose computed tomography (CT) screening has been shown to reduce lung cancer mortality; however, a high false-positive rate remains a major limitation. The Lung Imaging Reporting and Data System (Lung-RADS) was developed to standardize reporting and improve diagnostic accuracy of pulmonary lesions. Despite extensive evaluation of its statistical performance, evidence regarding its correlation with histopathological findings as the diagnostic gold standard remains limited, particularly for Lung-RADS version 2022.

Objective: To evaluate the correlation between Lung-RADS version 2022 categories on non-contrast chest CT and histopathological findings of pulmonary lesions.

Methods: This retrospective cross-sectional analytical study was conducted at Dr. Sardjito General Hospital, Yogyakarta. A total of 54 patients aged ≥ 18 years with pulmonary lesions on non-contrast chest CT and available histopathological results were included. Lung-RADS v2022 categories were independently assessed by two experienced radiologists. Interobserver reliability was analyzed using Cohen's weighted kappa. The correlation between Lung-RADS categories and histopathological outcomes was evaluated using Spearman's correlation test.

Results: Interobserver agreement for Lung-RADS categorization was excellent (weighted kappa = 0.946; $p < 0.001$). Histopathological examination revealed malignancy in 64.8% of cases. A significant, strong, and positive correlation was found between Lung-RADS categories and histopathological malignancy ($r = 0.704$; $p < 0.001$), indicating that higher Lung-RADS categories were associated with a greater probability of malignancy.

Conclusion: There is a strong and statistically significant correlation between Lung-RADS version 2022 categories on non-contrast chest CT and histopathological findings of pulmonary lesions. These results support the clinical validity of Lung-RADS as a structured reporting system for assessing malignancy risk in pulmonary lesions.

Keywords: Lung-RADS 2022, chest CT, pulmonary lesions, histopathology, lung cancer