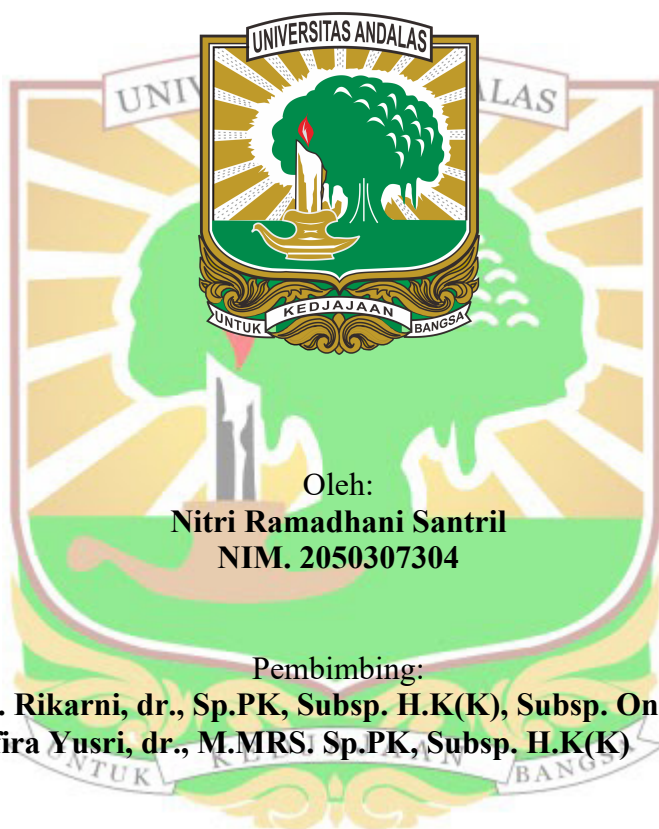Tesis

NILAI DIAGNOSTIK *CYTOKERATIN 19 FRAGMENT ANTIGEN* SEBAGAI PENANDA TUMOR PADA KANKER PARU

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PROGRAM STUDI PATOLOGI KLINIS PROGRAM SPESIALIS
FAKULTAS KEDOKTERAN UNAND / RSUP Dr. M. DJAMIL
PADANG
2024

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ABSTRAK

Latar Belakang: Kanker paru merupakan keganasan ketiga terbanyak di Indonesia. Keterlambatan diagnosis memengaruhi tingkat survival dari kanker paru. Pemeriksaan *cytokeratin 19 fragment antigen* (CYFRA 21-1) digunakan sebagai penanda tumor untuk mendiagnosis kanker paru secara cepat, dan tidak invasif. Penelitian ini bertujuan untuk mengetahui nilai diagnostik CYFRA 21-1 sebagai penanda tumor pada kanker paru.

Metode: Penelitian analitik dengan rancangan potong lintang dilakukan pada 52 pasien dengan tumor paru di RSUP Dr. M.Djamil padang sejak bulan Januari 2024 hingga Juni 2024. Parameter pemeriksaan meliputi kadar CYFRA 21-1 dan pemeriksaan histopatologi. Pemeriksaan CYFRA 21-1 menggunakan alat *immunology analyzer* dengan metode *Electrochemiluminescence Immunoassay* (ECLIA). Kurva ROC digunakan untuk menunjukkan besaran nilai sensivitas berbanding 1-spesifisitas. Penentuan nilai *cut-off* berdasarkan kurva *Youden index*. Analisis statistik terhadap uji diagnostik diperoleh sensitivitas, spesifisitas, *positive predictive value* (PPV) dan *negative predictive value* (NPV).

Hasil: Median usia subjek penelitian adalah 56,50 (22-65) tahun. Klasifikasi kanker paru yang terbanyak adalah *squamous cell carcinoma* sebesar 53,12%. Median kadar CYFRA 21-1 ditemukan lebih tinggi pada kelompok kanker paru 15,55 (1,40-190,6) ng/mL dibandingkan kelompok non kanker paru 2,48 (1,11-6,44) ng/mL. Analisis nilai *cut off* CYFRA 21-1 ditemukan sebesar 3,97 ng/mL. Analisis uji diagnostik kadar CYFRA 21-1 diperoleh sensitivitas 78,13%, spesifisitas 85%, PPV 89,29% dan NPV 70,83%.

Simpulan: Nilai diagnostik CYFRA 21-1 memiliki nilai diagnostik yang baik dan dapat digunakan sebagai penanda tumor untuk mendiagnosis kanker paru.

Kata Kunci: *cytokeratin 19 fragment antigen*, penanda tumor, kanker paru

DIAGNOSTIC VALUE OF CYTOKERATIN 19 FRAGMENT ANTIGEN AS A TUMOR MARKER IN LUNG CANCER

ABSTRACT

Background: *Lung cancer is the third most common malignancy in Indonesia. Delay in diagnosis affects the survival rate of lung cancer. Cytokeratin 19 fragment antigen (CYFRA 21-1) examination is used as a marker to diagnose lung cancer quickly and non-invasively. This study aims to determine the diagnostic value of CYFRA 21-1 as tumor marker in lung cancer.*

Method: *Analytical research with a case-control design was conducted on 62 patients with lung tumors at Dr. M. Djamil Padang General Hospital from January 2024 to June 2024. Examination parameters included CYFRA 21-1 level and histopathological examination. CYFRA 21-1 examination used an immunology analyzer with the Electrochemiluminescence Immunoassay (ECLIA) method. The ROC curve was used to show the magnitude of the sensitivity value compared to 1-specificity. Determination of the cut-off value was based on the Youden index curve. Statistical analysis of the diagnostic test obtained sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV).*

Results: *The median age of the study subjects was 56,50 (22-65) years. The most common classification of lung cancer is squamous cell carcinoma at 53,12%. The median CYFRA 21-1 level was found to be higher in the lung cancer group 15,55 (1,40-190,6) ng/mL compared to the non-lung cancer group 2,48 (1,11-6,44) ng/mL. Analysis of the CYFRA 21-1 cut-off value was found to be 3,97 ng/mL. Analysis of the CYFRA 21-1 diagnostic test level obtained a sensitivity of 78,13%, specificity of 85%, PPV of 89,29%, and NPV of 70,83%.*

Conclusion: *The diagnostic value of CYFRA 21-1 is a good diagnostic value and can be used as a tumor marker to diagnose lung cancer.*

Keywords: *cytokeratin fragment 19, tumor marker, lung cancer*