

HUBUNGAN EKSPRESI PD-L1 TERHADAP OVERALL SURVIVAL PADA PASIEN NSCLC MUTASI EGFR POSITIF DI RSUP dr. SARDJITO

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Latar Belakang: Non-Small Cell Lung Cancer (NSCLC) dengan mutasi EGFR merupakan subtype kanker paru yang responsif terhadap terapi tyrosine kinase inhibitors (TKI). Ekspresi PD-L1 pada tumor dapat mempengaruhi mekanisme penghindaran imun dan berpotensi mempengaruhi prognosis pasien. Hubungan antara ekspresi PD-L1 dengan overall survival (OS) pada pasien NSCLC mutasi EGFR positif yang mendapat terapi TKI belum banyak diteliti di Indonesia.

Tujuan: Mengidentifikasi perbedaan karakteristik pasien NSCLC dengan mutasi EGFR berdasarkan status ekspresi PD-L1 dan menganalisis hubungan ekspresi PD-L1 terhadap overall survival pada pasien yang mendapat terapi TKI di RSUP dr. Sardjito.

Metode: Penelitian kohort retrospektif dilakukan pada 60 pasien NSCLC adenokarsinoma stadium IIIB-IV dengan mutasi EGFR positif yang mendapat terapi TKI di RSUP dr. Sardjito periode Januari 2022-April 2025. Ekspresi PD-L1 dinilai menggunakan imunohistokimia dengan metode Tumor Proportion Score (TPS), dikategorikan positif bila $TPS \geq 1\%$ dan negatif bila $TPS < 1\%$. Mutasi EGFR dideteksi menggunakan metode PCR. Analisis survival menggunakan kurva Kaplan-Meier dan Cox proportional hazards regression untuk menilai faktor prognostik yang mempengaruhi OS.

Hasil: Dari 60 pasien, 52 pasien (86,7%) memiliki ekspresi PD-L1 positif dan 8 pasien (13,3%) PD-L1 negatif. Tidak terdapat perbedaan signifikan karakteristik demografis dan klinis antara kedua kelompok ($p > 0,05$). Median OS kelompok PD-L1 positif lebih pendek (8,3 bulan) dibandingkan PD-L1 negatif *not reached* (NR) dengan log rank $p = 0,050$.

Kesimpulan: Ekspresi PD-L1 positif bukan faktor prognostik independen yang berhubungan dengan penurunan overall survival pada pasien NSCLC dengan mutasi EGFR positif yang mendapat terapi TKI.

Kata kunci: NSCLC, mutasi EGFR, PD-L1, TKI, overall survival

Association Between PD-L1 Expression And Overall Survival in EGFR-Mutant Non-Small Cell Lung Cancer Patients At Dr. Sardjito General Hospital

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Background: Non-Small Cell Lung Cancer (NSCLC) with EGFR mutations is a subtype of lung cancer that is responsive to tyrosine kinase inhibitor (TKI) therapy. PD-L1 expression on tumors can influence immune evasion mechanisms and potentially affect patient prognosis. The relationship between PD-L1 expression and overall survival (OS) in EGFR-mutant NSCLC patients receiving TKI therapy remains controversial and has not been extensively studied in Indonesia.

Objective: To identify the characteristics of NSCLC patients with EGFR mutations based on PD-L1 expression status and to analyze the association between PD-L1 expression and overall survival in patients receiving TKI therapy at RSUP dr. Sardjito.

Methods: A retrospective cohort study was conducted on 60 patients with stage IIIB-IV EGFR-mutant NSCLC adenocarcinoma who received TKI therapy at RSUP dr. Sardjito from January 2022 to April 2025. PD-L1 expression was assessed using immunohistochemistry with the Tumor Proportion Score (TPS) method, categorized as positive if $TPS \geq 1\%$ and negative if $TPS < 1\%$. EGFR mutations were detected using PCR method. Survival analysis was performed using Kaplan-Meier curves and Cox proportional hazards regression to assess prognostic factors affecting OS.

Results: Of 60 patients, 52 patients (86.7%) had positive PD-L1 expression and 8 patients (13.3%) had negative PD-L1 expression. There were no significant differences in demographic and clinical characteristics between the two groups ($p > 0.05$). Median OS in the PD-L1 positive group was shorter (8.3 months) compared to the PD-L1 negative group not reached (NR) with log-rank $p = 0.050$.

Conclusion: Positive PD-L1 expression is not an independent prognostic factor associated with decreased overall survival in EGFR-mutant NSCLC patients receiving TKI therapy.

Keywords: NSCLC, EGFR mutation, PD-L1, TKI, overall survival