

Systemic Immune-inflammation Indeks sebagai Prediktor Kesintasan Retinoblastoma Risiko Tinggi = Systemic-Immune Inflammation Index as High-Risk Retinoblastoma Survival Predictor

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Abstrak

Latar belakang: Systemic Immune-inflammation Index adalah suatu indeks hasil perhitungan antara trombosit (T), neutrofil (N), dan limfosit (L) dengan rumus $SII = T \times N/L$. Retinoblastoma risiko tinggi, diantaranya: Rb bilateral, trilateral, grup D-E pada klasifikasi tumor intraokular berdasarkan International Classification of Retinoblastoma (ICRB), stadium III-IV menurut klasifikasi tumor ekstraokular berdasarkan International Staging System for Retinoblastoma (ISSRB), dan gambaran histologi unfavorable.

Tujuan: Mengetahui kemampuan SII sebagai prediktor kesintasan tiga tahun Rb risiko tinggi.

Metode: Kohor retrospektif, Agustus – September 2024, di RS Dr. Cipto Mangunkusumo.

Hasil: Analisis dilakukan terhadap 157 subjek Rb risiko tinggi antara 2016 – 2024. Titik potong berdasarkan kurva Receiver Operating Characteristic (ROC) dengan nilai maksimal indeks Youden berada pada SII 351,72. Overall survival (OS) dan Event free survival (EFS) Rb risiko tinggi pada 36 bulan, berturut-turut adalah 39,5% (SE±4,5%) dan 38,1% (SE±4,5%). Median OS dan EFS 36 bulan, berturut-turut adalah 17 bulan dan 16 bulan. Nilai SII 351,72 memiliki median OS 11 bulan dan adjusted HR (aHR) sebesar 1,98 (p=0,02; IK 95% 1,13 – 3,35).

Kesimpulan: SII dapat memprediksi kesintasan Rb risiko tinggi.

.....Background: The Systemic Immune-Inflammation Index (SII) is an index calculated from platelets (T), neutrophils (N), and lymphocytes (L) using the formula $SII = T \times N/L$. High-risk Rb includes bilateral Rb, trilateral Rb, group D-E in the intraocular tumor classification based on the International Classification of Retinoblastoma (ICRB), stage III-IV in the extraocular tumor classification based on the International Staging System for Retinoblastoma (ISSRB), and unfavorable histological features.

Objective: To determine the ability of SII as a predictor of three-year survival in high-risk Rb.

Methods: A retrospective cohort study, from August to September 2024 at Dr. Cipto Mangunkusumo Hospital.

Results: The analysis was conducted on 157 high-risk Rb subjects between 2016 and 2024. The cut-off point based on the Receiver Operating Characteristic (ROC) curve, with the maximum Youden index value, was identified at an SII of 351.72. The overall survival (OS) and event-free survival (EFS) rates at 36 months for high-risk Rb were 39,5% (SE±4,5%) dan 38,1% (SE±4,5%), respectively. The median OS and EFS were 17 months and 16 months, respectively. An SII value 351.72 was associated with a median OS of 11 months

and adjusted HR (aHR) of 1,98 ($p=0,02$; 95% CI 1,13 – 3,35).

Conclusion: SII may predict survival in high-risk Rb.