

ABSTRAK

Amos Immanuel Chandra (01071190070)

Hubungan *Neutrophil-Lymphocyte Ratio* (NLR) dengan respons radioterapi *Gamma Knife* pada Tumor Otak Sekunder

(xvi + 34 halaman; 5 bagan; 7 tabel; 3 lampiran)

Latar Belakang : Tumor otak sekunder merupakan salah satu komplikasi yang sering terjadi akibat dari kanker sistemik. Insidensi terjadinya tumor otak sekunder sebesar 9-17% dari seluruh kanker. Nilai *neutrophil-lymphocyte ratio* (NLR) sering kali diasosiasikan dengan tingkat kelangsungan hidup hasil terapi kanker, namun hubungan NLR dengan respons dari radioterapi *Gamma Knife* tumor otak sekunder masih belum banyak diteliti. Maka dari itu penelitian ini dilakukan untuk mencari hubungan NLR dengan respons terhadap radioterapi *Gamma Knife* pada tumor otak sekunder.

Tujuan Penelitian : Mengetahui hubungan NLR dengan respons terhadap radioterapi *Gamma Knife* pada tumor otak sekunder.

Metode Penelitian : Penelitian ini adalah penelitian potong-lintang dengan melihat data rekam medis Siloam Hospital Lippo Village pada tahun 2015-2021. Metode *chi-square* digunakan untuk mencari hubungan antara NLR dengan respons radioterapi *Gamma Knife* pada pasien tumor otak sekunder, kurva *Receiver Operating Characteristics* (ROC) untuk menganalisa batas nilai NLR dan *logistic binary regression* untuk analisa multivariat.

Hasil Analisa Data : Sebanyak 52 pasien masuk kriteria inklusi penelitian ini. Analisa kurva ROC menunjukkan bahwa batas NLR 5 memiliki luas dibawah kurva sebesar 0,373 (95% CI, 0,22-0,525) dan sensitivitas 0,296 dan 1-spesifisitas 0,48. Terdapat hubungan NLR dengan respons terhadap radioterapi *Gamma Knife* pada tumor otak sekunder, namun hasil tidak signifikan (OR 1,86 ; 95% CI, 0,59-5,85 ; P = 0,46). Analisa multivariat menunjukkan hanya kelas RPA < 2 merupakan faktor prognostik independen untuk respons terapi baik (OR 10,40 ; 95% CI, 1,30-83,07 ; P = 0,02).

Kata Kunci : *Neutrophil-Lymphocyte Ratio, Gamma Knife*

Referensi : 44 (2011-2022)

ABSTRACT

Amos Immanuel Chandra (01071190070)

RELATIONSHIP OF NEUTROPHIL-LYMPHOCYTE RATIO (NLR) WITH RESPONSE TO GAMMA KNIFE RADIOTHERAPY IN BRAIN METASTASIS

(xvi + 34 pages; 5 figures; 7 tables; 3 attachments)

Background : Brain metastasis is one of the most common complications of systemic cancer. The incidence of brain metastasis is 9%-17% of all cancers. The value of neutrophil-lymphocyte ratio (NLR) is often associated with survival rates for cancer treatment outcomes, but the relationship between NLR and response to gamma knife radiotherapy for brain metastasis is still being studied. Therefore, this study was conducted to find out the relationship between NLR and response to Gamma Knife radiotherapy in brain metastasis.

Objectives : To determine the relationship between NLR with response to Gamma Knife radiotherapy in brain metastasis.

Methods : This study is a cross-sectional study by the medical records of Siloam Hospital Lippo Village in 2015-2021 as data collection. The chi-square method was used to find the relationship between NLR and Gamma Knife radiotherapy response in brain metastasis, Receiver Operating Characteristics (ROC) curve to analyse the cut-off of NLR values and logistic binary regression for multivariate analysis.

Results : A total of 53 patients met the inclusion criteria of this study. ROC curve analysis showed that the NLR 5 cut-off had an area under the curve of 0.373 (95% CI, 0.22-0.525) and a sensitivity of 0.296 and a specificity of 0.48. There was a relationship between NLR and response to Gamma Knife radiotherapy in brain metastasis, but the results were not significant (OR 1.86; 95% CI, 0.59-5.85; $P = 0.46$). Multivariate analysis showed only RPA class < 2 was an independent prognostic factor for good response (OR 10.40; 95% CI, 1.30-83.07; $P = 0.02$)

Keywords : Neutrophil-Lymphocyte Ratio, Gamma Knife

References : 44 (2011-2022)