

EFEK PROTOKOL *ENHANCED RECOVERY AFTER SURGERY* TERHADAP
NEUTROPHIL LYMPHOCYTE RATIO PADA PROSEDUR SISTEKTOMI RADIKAL DI
RSUP DR. SARDJITO YOGYAKARTA

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Latar Belakang: Sistektomi radikal merupakan salah satu operasi yang paling invasif, kompleks dan memiliki potensi menyebabkan morbiditas di bidang urologi. Salah satu cara untuk mengurangi morbiditas akibat operasi sistektomi radikal adalah dengan menggunakan protokol *Enhanced Recovery After Surgery* (ERAS). Tujuan dari protokol ini adalah untuk mencapai masa penyembuhan yang cepat dan mengurangi respon stress setelah operasi. Bersamaan dengan ini marker *Neutrophil to Lymphocyte Ratio* (NLR) dapat menjadi indikator terjangkau untuk menilai derajat inflamasi sistemik

Tujuan: Mengetahui efek protokol ERAS terhadap nilai NLR setelah dilakukan operasi sistektomi radikal

Metode: Penelitian ini bersifat *cohort retrospective* yang diambil dari data rekam medis di RSUP Dr. Sardjito periode Januari 2016 sampai dengan Desember 2020. Total 74 pasien yang menjalani operasi sistektomi radikal yang dibagi menjadi dua kelompok ERAS dan non-ERAS. Nilai NLR dilihat sebelum dan setelah operasi dan dihitung selisihnya (delta-NLR). Setelah itu nilai delta-NLR akan dibandingkan antara dua kelompok dan dianalisis menggunakan uji Mann-Whitney

Hasil: Delta-NLR meningkat pada kedua kelompok, namun meningkat signifikan pada kelompok non-ERAS dibandingkan kelompok ERAS (*mean rank* 42.6 vs 32.6) dengan nilai $p < 0.05$.

Kesimpulan: Protokol ERAS dapat mengurangi peningkatan NLR setelah operasi sistektomi radikal.

Kata kunci : Sistektomi Radikal, ERAS, NLR

ABSTRACT

THE EFFECT OF ENHANCED RECOVERY AFTER SURGERY PROTOCOL ON THE INCREASE OF NEUTROPHIL TO LYMPHOCYTE RATIO IN RADICAL CYSTECTOMY PROCEDURE

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Background: Radical cystectomy is regarded as one of the most invasive, complex, and potentially morbid surgeries in the urologic field. One improvement to lower morbidity, the Enhanced Recovery After Surgery (ERAS) protocol, aims to achieve early recovery and reduce stress response following surgery. In conjunction with this, Neutrophil to Lymphocyte Ratio (NLR) could be an inexpensive indicator of the degree of systemic inflammation and has been linked to a more unsatisfactory outcome

Objective: To understand the effect of ERAS protocol on the NLR after a radical cystectomy operation

Methods: A total of 74 patients who underwent the radical cystectomy procedure (January 2016 and December 2020) in Sardjito Hospital, Yogyakarta was evaluated and grouped into ERAS (n=38) and Non-ERAS (n=36). Pre-operative and Postoperative NLR was calculated, and the difference is counted to be the delta-NLR. The delta-NLR was then compared between the two groups.

Result: The postoperative NLR was rising significantly in both groups. However, the increase of NLR was significantly higher in the Non-ERAS group compared to the ERAS group, with mean ranks 42.6 and 32.6, respectively ((+),=0.045). In this study, open surgery (63%) was more frequent than laparoscopic, with the choice of urinary diversion are Transuretero-ureterocutaneostomy (TUUC) (48.6%), followed by ileal conduit (45.9%), neobladder (2.7%), and ureterocutaneostomy (2.7%).

Conclusion: The ERAS protocol can reduce the increase of NLR post radical cystectomy significantly. Furthermore, more samples are needed to compare the laparoscopic versus open surgery and different urinary diversion methods such as transuretero-ureterocutaneostomy and ileal conduit.

Keywords: Radical Cystectomy, The Enhanced Recovery After Surgery (ERAS), Neutrophil to Lymphocyte Ration (NLR)