ABSTRAK

Latar Belakang: Pada tindakan operasi onkoginekologi dapat terjadi komplikasi diantaranya yaitu perdarahan intraoperatif. Perdarahan intraoperatif menyebabkan hipovolemia, iskemia, vasokonstriksi, cedera endotel, dan aktivasi proses inflamasi, yang dapat berkembang menjadi disfungsi organ. Ginjal dapat menjadi organ yang dapat mengalami disfungsi. *Neutrophil Gelatinase Associated Lipocalin* (NGAL) urin bisa sebagai penanda awal cedera pada ginjal sedangkan kreatinin serum merupakan pemeriksaan yang paling sering digunakan saat ini. Penelitian ini bertujuan untuk mengetahui hubungan jumlah perdarahan intraoperasi terhadap kadar NGAL urin dan kreatinin serum pada pasien pascaoperasi *surgical staging* kanker ovarium.

Metode: penelitian observasional analitik dengan desain *cross sectional* di RSUD Prof. Dr. Margono Soekarjo pada bulan Nopember – Desember 2024. Pasien kanker ovarium yang menjalani operasi elektif laparotomi *surgical staging* dengan kriteria inklusi : usia ≥ 18 sampai dengan ≤ 50 tahun, tidak memiliki komorbid, tidak menggunakan obat nefrotoksik dalam 7 hari sebelum operasi, dan kriteria eksklusi : mengalami komplikasi berat pascaoperasi seperti syok hipovolemik atau hipotensi persisten yang memerlukan vasopressor. Jumlah perdarahan intraoperasi diukur, selanjutnya diukur kadar NGAL urin dan kreatinin serum secara bersamaan pada saat 4 jam pascaoperasi. Total sampel penelitian 52 orang. Data dianalisis menggunakan uji Kolmogorov-Smirnov dan uji Spearman's.

Hasil: Terdapat hubungan signifikan jumlah perdarahan terhadap kadar NGAL urin pada pasien pasca operasi *surgical staging* kanker ovarium dengan nilai p-value 0,033 (p value > 0,05), dan nilai koefisien korelasi sebesar 0,296. Tidak ada hubungan yang signifikan antara jumlah perdarahan terhadap kreatinin pasien pascaoperasi *surgical staging* kanker ovarium dengan p-value 0,345 (p value > 0,05), dan nilai koefisien korelasi sebesar 0,134.

Kesimpulan : Jumlah perdarahan intraoperatif mempunyai hubungan yang signifikan terhadap kadar NGAL urin pada pasien pascaoperasi *surgical staging* kanker ovarium tetapi tidak mempunyai hubungan yang signifikan jumlah perdarahan intraoperatif dengan kreatinin serum pada pasien pascaoperasi *surgical staging* kanker ovarium

Kata kunci: Kanker ovarium, Kreatinin serum, Laparotomi *surgical staging*, NGAL, Perdarahan

ABSTRACT

***Background**: In oncogynecological surgery, complications can occur, including intraoperative bleeding. Intraoperative bleeding causes hypovolemia, ischemia, vasoconstriction, endothelial injury, and activation of the inflammatory process, which can develop into organ dysfunction. Kidneys organs that can experience dysfunction. Urinary Neutrophil Gelatinase Associated Lipocalin (NGAL) can be an early marker of kidney injury while serum creatinine is the most commonly used examination today. This study aims to determine the relationship between the amount of intraoperative bleeding and urinary NGAL and serum creatinine levels in postoperative patients with surgical staging of ovarian cancer.*

***Methods**: observational analytical study with a cross-sectional design at Prof. Dr. Soetomo General Hospital. Margono Soekarjo in November - December 2024. Ovarian cancer patients undergoing elective laparotomy surgical staging with inclusion criteria: age ≥ 18 to*

< 50 years, no comorbidities, no use of nephrotoxic drugs within 7 days before surgery, and exclusion criteria: experiencing severe postoperative complications such as hypovolemic shock or persistent hypotension requiring vasopressors. The amount of intraoperative bleeding was measured, then urinary NGAL and serum creatinine levels were measured simultaneously at 4 hours postoperatively. The total study sample was 52 people. Data were analyzed using the Kolmogorov-Smirnov test and Spearman's test with SPSS version 25.

***Results:** There is a significant relationship between the amount of bleeding and urinary NGAL levels in patients after surgical staging of ovarian cancer with a p-value of 0.033 (p value> 0.05), and a correlation coefficient value of 0.296. There is no significant relationship between the amount of bleeding and creatinine in patients after surgical staging of ovarian cancer with a p-value of 0.345 (p value> 0.05), and a correlation coefficient value of 0.134. **Conclusion:** The amount of intraoperative bleeding has a significant relationship with urinary NGAL levels in patients after surgical staging of ovarian cancer but does not have a significant relationship between the amount of intraoperative bleeding and serum creatinine in patients after surgical staging of ovarian cancer*

***Keywords:** Bleeding, Laparotomy surgical staging, Serum creatinine, NGAL, Ovarium cancer*