



UNIVERSITAS ANDALAS

**HUBUNGAN RASIO NEUTROFIL-LIMFOSIT DAN PROKALSI-
TONIN TERHADAP LUARAN PENDERITA ABSES LEHER DALAM**



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ABSTRAK

HUBUNGAN RASIO NEUTROFIL-LIMFOSIT DAN PROKALSTONIN
TERHADAP LUARAN PENDERITA ABSESLEHER DALAM

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Latar Belakang: Rasio Netrofil-Limfosit (RNL) dan Prokalsitonin (PCT) telah banyak digunakan sebagai penanda inflamasi pada kasus sepsis. Kegunaan RNL dan prokalsitonin pada kasus abses leher dalam masih menjadi perdebatan. **Tujuan:** Penelitian ini bertujuan untuk menilai kegunaan RNL dan prokalsitonin sebagai prediktor luaran pada kasus abses leher dalam. **Metode:** Penelitian ini menggunakan desain kohort observasional prospektif di RSUD Dr. M. Djamil Padang, Indonesia pada periode Maret 2022-Mei 2023. Sampel penelitian adalah pasien abses leher dalam yang dikonfirmasi dengan aspirasi nanah di unit gawat darurat. Pasien dengan abses peritonsil dan selulitis dikeluarkan dari penelitian. Pemeriksaan laboratorium rutin dan prokalsitonin serum dilakukan sebelum intervensi bedah seperti insisi drainase, dengan atau tanpa prosedur lain seperti nekrotomi-sternotomi. Pasien kemudian ditangani sesuai protokol di rumah sakit, yaitu pemberian antibiotik empiris spektrum luas, perawatan luka pasca operasi, dan terapi lain sesuai kebutuhan pasien. Perkembangan pasien dipantau hingga pasien dipulangkan sesuai kriteria. Hasil yang dinilai meliputi: mortalitas, syok septik, kegagalan organ, mediastinitis, empiema/efusi pleura, fasciitis nekrotikans serviks, trakeostomi, fistula faringokutaneus, rawat inap di ICU >24 jam, dan lama rawat inap. **Hasil:** Sebanyak 35 pasien abses leher dalam memenuhi kriteria inklusi. Keterlibatan beberapa ruang leher potensial pada 74,3% kasus, intervensi bedah pada 93,4% kasus, mortalitas 28,6%, syok septik 20%, mediastinitis 14,3%, empiema/efusi pleura 11,4%, fasciitis nekrotikans servikal 8,6%, trakeostomi 5,7%, faringokutaneus fistula 8,6%, rawat inap di ICU >24 jam 20%, dan lama rawat inap $9,03 \pm 7,90$ hari. Rerata prokalsitonin saat masuk adalah $0,313 \pm 0,677$ ng/mL. Terdapat 6 (17,1%) kasus dengan peningkatan kadar PCT >0,5 ng/mL. Tidak ada hubungan antara NLR, prokalsitonin dan hasil. Analisis kurva ROC didapatkan nilai PCT $\geq 0,14$ ng/mL dikaitkan dengan risiko mortalitas <5 hari dengan sensitivitas 85,7%, spesifisitas 78,4%, AUC: 0,773 p: 0,027. **Kesimpulan:** Kadar RNL dan Prokalsitonin tidak selalu mencerminkan tingkat keparahan klinis abses leher dalam, terutama pada populasi yang kemungkinan mendapat pengobatan baik secara mandiri maupun dari fasilitas kesehatan sebelumnya. Kecenderungan ditemukannya kadar prokalsitonin serum yang rendah pada pemeriksaan awal tidak serta merta menghilangkan risiko komplikasi yang fatal.

Kata Kunci: abses leher dalam, prokalsitonin, rasio netrofil-limfosit, mediastinitis

ABSTRACT

CORRELATION BETWEEN NEUTROPHIL-LYMPHOCYTE RATIO AND PROCALCITONIN ON THE OUTCOME OF DEEP NECK ABSCESS PATIENTS

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Background: Neutrophil-lymphocyte ratio (NLR) and Procalcitonin (PCT) has been widely used as an inflammatory marker in sepsis cases. The usefulness of NLR and procalcitonin in the deep neck abscess cases is still being debated. **Aims:** This study aims to assess the usefulness of NLR and procalcitonin as a predictor of outcome in cases of deep neck abscess. **Methods:** This study used a prospective observational cohort design in a tertiary hospital Dr. M. Djamil Hospital, Padang, Indonesia between March 2022-May 2023. The research samples were patients with deep neck abscess who were confirmed by aspiration of pus under local anesthesia in the emergency department. Patients with peritonsillar abscess and cellulitis were excluded from the study. Routine laboratory and serum procalcitonin tests were performed prior to surgical interventions such as drainage incisions, with or without other procedures such as necrotomies-sternotomies. The patient was then managed according to the protocol at the hospital, namely administration of broad-spectrum empiric antibiotics, postoperative wound care, and other therapies according to the patient's needs. The patient's progress was followed until the patient was discharged according to the criteria. The outcomes assessed included: mortality, septic shock, organ failure, mediastinitis, empyema/pleural effusion, cervical necrotizing fasciitis, tracheostomy, pharyngocutaneous fistula, ICU stay >24 hours, and length of stay. **Results:** A total of 35 patients with deep neck abscess met the inclusion criteria. Involvement of multiple potential neck spaces in 74.3% cases, surgical intervention in 93.4% of cases, mortality 28.6%, septic shock 20%, mediastinitis 14.3%, empyema/pleural effusion 11.4%, cervical necrotizing fasciitis 8.6%, tracheostomy 5.7%, pharyngocutaneous fistula 8.6%, ICU stay >24 hours 20%, and length of stay 9.03 ± 7.90 days. The mean procalcitonin at admission was 0.313 ± 0.677 ng/mL. There were 6 (17.1%) cases with increased PCT levels >0.5 ng/mL. There is no relationship between NLR, procalcitonin and outcome. The ROC curve analysis found that a PCT value of ≥ 0.14 ng/mL was associated with a risk of <5 days mortality with a sensitivity of 85.7%, specificity of 78.4%, AUC: 0.773 p: 0.027. **Conclusion:** NLR and Procalcitonin levels do not always reflect the clinical severity of deep neck abscesses, especially in populations who are likely to receive treatment either independently or from previous health facilities. The tendency to find low serum procalcitonin levels at the initial examination does not necessarily eliminate the risk of fatal complications.

Keywords: *deep neck abscess, procalcitonin, netrophyl-lymphocyte ratio, mediastinitis*

