

ABSTRAK

PENGARUH TINDAKAN BRONCHOALVEOLAR LAVAGE TERHADAP PENURUNAN ANGKA MORTALITAS, LAMA RAWAT INAP, PROKALSITONIN, NEUTROFIL TO LIMFOSIT RATIO, INDEKS ROX DAN SKOR APACHE II PADA PASIEN PNEUMONIA BERAT DI RSUP DR. SARDJITO

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Latar Belakang

Pneumonia berat memiliki morbiditas dan mortalitas yang tinggi di perawatan intensif. Tindakan *Bronchoalveolar lavage* (BAL) sebagai terapeutik memiliki efektivitas baik pada pasien pneumonia berat di studi sebelumnya. Penelitian komprehensif menilai efektivitas BAL pada mortalitas, lama rawat inap, prokalsitonin, *neutrofil to limfosit ratio*, indeks ROX dan skor APACHE II pada pneumoni berat masih terbatas di Indonesia.

Tujuan

Pengaruh tindakan BAL terhadap mortalitas, lama rawat inap, prokalsitonin, *neutrofil to limfosit ratio*, indeks ROX dan skor APACHE II pada pasien pneumonia berat di RSUP Dr. Sardjito.

Metode

Penelitian kohort retrospektif pada pasien pneumonia berat periode Januari 2021 – Desember 2024. Subjek dipilih dengan *consecutive sampling*. Data diperoleh dari rekam medis elektronik dan dianalisis untuk mengetahui mortalitas, lama rawat inap, prokalsitonin, *neutrofil to limfosit ratio*, indeks ROX dan skor APACHE II.

Hasil

Sebanyak 147 pasien (tindakan BAL : 73, tanpa BAL : 74). Tidak ditemukan perbedaan signifikan kejadian mortalitas pada kelompok tindakan BAL (41%) vs tanpa BAL (31%), ($p = 0.2$). Ditemukan perbedaan signifikan lama rawat inap kelompok tindakan BAL median LOS (11.0 hari) vs tanpa BAL (12.0 hari) ($p < 0.033$). Pada kelompok BAL didapatkan Penurunan indeks ROX ($p = 0.353$), Penurunan prokalsitonin ($p = 0.690$), Peningkatan NLR ($p = 0.766$) dan peningkatan Skor APACHE II ($p = 0.904$) dibanding tanpa BAL.

Kesimpulan

Tindakan BAL tidak menunjukkan perbedaan signifikan terjadinya mortalitas dan parameter lainnya, sedangkan pada lama rawat inap didapatkan lebih singkat dibanding tanpa BAL secara signifikan.

Kata Kunci : Bronchoalveolar lavage, pneumonia berat, mortalitas, lama perawatan, Prokalsitonin

ABSTRACT

EFFECT OF BRONCHOALVEOLAR LAVAGE ON REDUCING MORTALITY, LENGTH OF STAY, PROCALCITONIN, NEUTROPHIL TO LYMPHOCYTE RATIO, ROX INDEX, AND APACHE II SCORE IN SEVERE PNEUMONIA PATIENTS AT DR. SARDJITO HOSPITAL

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Background :

Severe pneumonia has high morbidity and mortality in intensive care. Bronchoalveolar lavage (BAL) as a therapeutic procedure has been shown to be effective in patients with severe pneumonia in previous studies. Comprehensive studies assessing the effectiveness of BAL on mortality, length of hospital stay, procalcitonin, neutrophil-to-lymphocyte ratio, ROX index, and APACHE II score in severe pneumonia are still limited in Indonesia.

Objective:

To determine the effect of BAL on mortality, length of hospital stay, procalcitonin, neutrophil-to-lymphocyte ratio, ROX index, and APACHE II score in patients with severe pneumonia at Dr. Sardjito General Hospital.

Methods

This was a retrospective cohort study of patients with severe pneumonia from January 2021 to December 2024. Subjects were selected using consecutive sampling. Data were obtained from electronic medical records and analyzed to determine mortality, length of hospital stay, procalcitonin, neutrophil-to-lymphocyte ratio, ROX index, and APACHE II score.

Results

A total of 147 patients (BAL: 73, without BAL: 74) were included. No significant difference in mortality was found in the BAL group (41%) versus the group without BAL (31%) ($p = 0.2$). A significant difference in median length of stay (LOS) was found in the BAL group (11.0 days) versus the group without BAL (12.0 days) ($p < 0.033$). The BAL group experienced a decrease in the ROX index ($p = 0.353$), a decrease in procalcitonin ($p = 0.690$), an increase in the NLR ($p = 0.766$), and an increase in the APACHE II score ($p = 0.904$) compared to the group without BAL.

Conclusion

BAL did not significantly affect mortality and other parameters, but the length of hospital stay was significantly shorter compared to those without BAL.

Keywords: Bronchoalveolar lavage, severe pneumonia, mortality, length of stay, procalcitonin.