

## Absolute Lymphocyte Count as Predictor of Pneumocystis Pneumonia in Patients With Unknown HIV Status at a Private Tertiary Hospital

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**Abstract :** Pneumocystis jirovecii pneumonia (PCP) is the most common opportunistic infection among people with HIV. Early consideration of PCP should be made even in patients whose HIV status is unknown as delay in treatment may be fatal. The use of absolute lymphocyte count (ALC) has been suggested as an alternative predictor of PCP especially in resource limited settings where PCR testing is costly or delayed. Objective: To determine whether the absolute lymphocyte count (ALC) can be used as a screening tool to predict Pneumocystis pneumonia in patients with unknown HIV status admitted at a private tertiary hospital. Methods: A retrospective cross-sectional study was conducted at a private tertiary medical center. Inpatient medical records of patients aged 18 years old and above from January 2012 to May 2014, in whom a clinical diagnosis of Pneumocystis jirovecii pneumonia was made were reviewed for inclusion. Demographic data, clinical features, hospital course, PCP PCR and HIV results were recorded. Independent t-test and chi-square analysis was used to determine any statistical difference between PCP-positive and PCP-negative groups. Mann-Whitney U-test was used for comparison of hospital stay. Results: There were no statistically significant differences in baseline characteristics between PCP positive and negative groups. While both the percent lymphocyte count ( $0.14 \pm 0.13$  vs  $0.21 \pm 0.16$ ) and ALC ( $1160 \pm 528.67$  vs  $1493.70 \pm 988.61$ ) were lower for the PCP-positive group, only the percent lymphocyte count reached a statistically significant difference ( $p= 0.067$  vs  $p= 0.042$ ). Conclusion: A quick determination of the ALC may be useful as an additional parameter to help screen for and diagnose pneumocystis pneumonia. In our study, the ALC of patients with PCP appear to be lower than in patients without PCP. A low ALC (e.g. below 1200) may help with the decision regarding empiric treatment. However, it should be used in conjunction with the patient's clinical presentation, as well as other diagnostic tests. Larger, prospective studies incorporating the ALC with other clinical predictors are necessary to optimally predict those who would benefit from empiric or expedited management for potential PCP.

**Keywords :** Pneumocystis carinii pneumonia, Absolute Lymphocyte Count, infection, PCP

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