HIV-Associated Burkitt Lymphoma in the Modern Era: The Prognostic Impact of CD4 <200 Cells/µL

A. Y. MEJÍA-CASTRO[1], V. S. CORRAL HERRERA[2], I. K. PELLÓN-TÉLLEZ[1], R. FIGUEROA-MÉNDEZ[1], A. CARPINTERO-DÍAZ[1], D. L. DE LA TORRE-TORRES[1], K. J. LÓPEZ-CISNEROS[1], C. BRACAMONTES-NOLASCO[1], K. A. SÁNCHEZ-HERNÁNDEZ[1], L. F. RUBALCAVA-LARA[1], G. P. AGREDA VÁZQUEZ[3], J. RANGEL PATIÑO[3] and A. LLORENTE-CHÁVEZ[1]

1. Instituto Nacional de Cancerologia, Mexico City, Mexico
2. The American British Cowdray Medical Center, Mexico City, Mexico
3. Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico City, Mexico

INTRODUCTION

Burkitt lymphoma (BL) remains clinically relevant in low- and middle-income countries despite effective antiretroviral therapy.

Outcomes in HIV-associated BL remain poorly characterized in real-world Latin American cohorts.

The prognostic role of baseline immune status, particularly CD4 count, requires further definition.

AIM

To evaluate the prognostic impact of HIV status and baseline CD4 count on survival outcomes in patients with Burkitt lymphoma, with particular emphasis on CD4 counts <200 cells/µL.

Primary outcomes

Progression-free survival (PFS)
Overall survival (OS)

METHOD

- Retrospective multicenter cohort study of patients diagnosed with BL from 2010 to 2025.
- Baseline disease characteristics and HIV status were collected.
- Clinical outcomes were compared between HIV-positive and HIV-negative patients.
- HIV-positive patients were stratified by baseline CD4 count: <200 vs ≥200 cells/µL.
- PFS and OS were estimated using Kaplan–Meier method and compared with log-rank test.

CONCLUSIONS

HIV status alone was not associated with significantly different survival outcomes. CD4 <200 cells/µL identified a high-risk subgroup with inferior PFS and OS. Infection-related morbidity and early mortality likely contribute to adverse outcomes.

RESULTS

A total of 76 patients were included; median age was 41 years (SD 15.9), and 60.5% were male (Table 1). HIV infection was identified in 33 patients (43.4%). Compared with HIV-negative patients, HIV-positive patients were significantly younger (36.2 ± 8.7 vs 46.1 ± 18.8 years, p=0.003) and had a higher frequency of central nervous system (CNS) involvement (68.2% vs 31.8%, p=0.005; OR 4.2, 95% CI 1.4–12.3). However, PFS and OS did not differ significantly between HIV-positive and HIV-negative patients. Median OS for the HIV-positive cohort was 86 months (95% CI, 15.0–135.0 months).

Among the 32 HIV-positive patients with available baseline CD4 counts, those with CD4 counts <200 cells/mm³ had significantly inferior PFS compared with patients with CD4 ≥200 cells/mm³ (median PFS 5 months [95% CI, 3.7–6.3] vs 28 months [95% CI, 11.3–44.7], respectively; p=0.002) (Figure 1) Similarly, patients with CD4 counts <200 cells/mm³ had significantly inferior OS compared with those with CD4 ≥200 cells/mm³ (Figure 2). Although relapse rates were similar between groups, patients with CD4 counts <200 cells/mm³ experienced higher rates of early mortality.

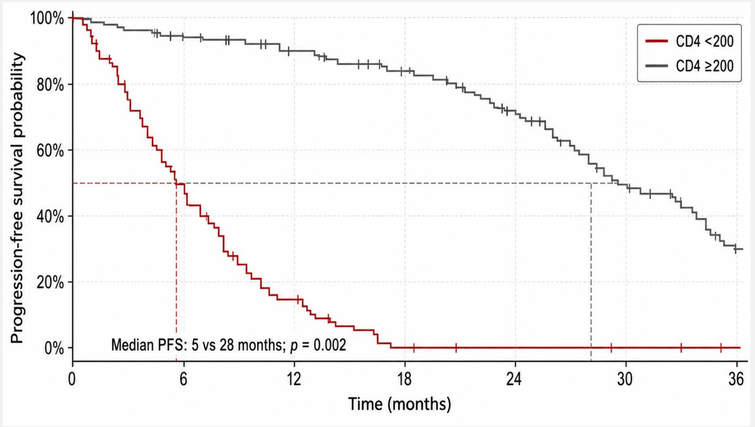

Figure 1: Median PFS among HIV-positive patients by CD4 count

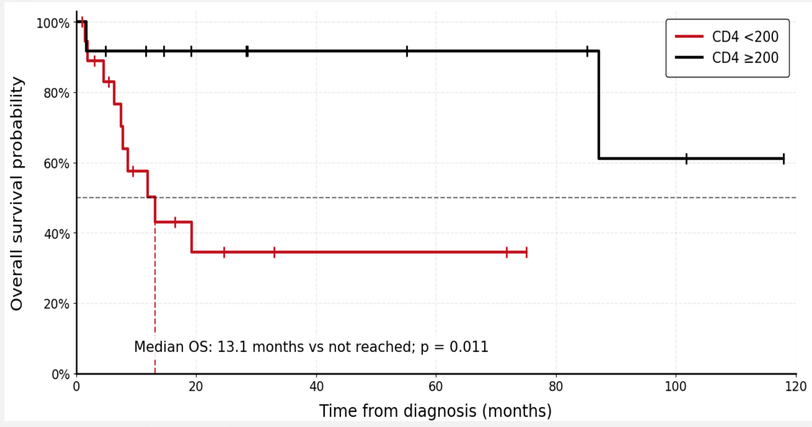

Figure 2: Overall survival among HIV-positive patients by CD4 count

BL = Burkitt lymphoma; CNS = central nervous system; HIV = human immunodeficiency virus; OS = overall survival; PFS = progression-free survival.

Table 1. Baseline demographic, clinical, and biological characteristics of the study cohort

	(%)
Sex	Male: 46 (60.5%) Female: 30 (39.5%)
Age	41 (17-77)
MYC IHQ	40 (52.6%)
BCL6	62 (81.6%)
BCL2	8 (10.8%)
FISH MYC	16 (61.5%)
ECOG	0: 12 (15.8) 1: 33 (43.4) 2: 24 (31.6) 3: 7 (9.2)
HIV positive	33 (43.4)
CD4	218
CD4 <200	20 (62.5)
CD4 ≥200	12 (37.5%)

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CONTACT INFORMATION

Presenting author:Verónica Steffania Corral Herrera, MD
Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán, Mexico City, Mexico
The American British Cowdray Medical Center
Mexico City, Mexico
veroscorralh@gmail.com

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