ALK STATUS, CLINICAL FEATURES, AND OUTCOMES IN ANAPLASTIC LARGE CELL LYMPHOMA: EXPERIENCE FROM A NATIONAL REFERENCE CENTER IN HISPANIC POPULATION

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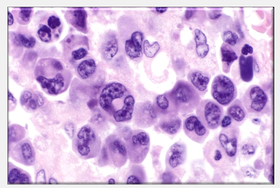
INTRODUCTION

Anaplastic large cell lymphoma (ALCL) is an uncommon peripheral T-cell lymphoma, classified into ALK-positive and ALK-negative subtypes, each with distinct biological and prognostic implications.

Limited evidence from Latin American populations

AIM

To compare clinical characteristics, types of treatment, and outcomes between ALK-positive and ALK-negative ALCL patients at a national referral center.



METHOD

Retrospective cohort study of adult patients (≥18 years) diagnosed with ALCL between 2011 and 2025. Diagnosis confirmed by histopathology and immunohistochemistry. Statistical analysis with IBM SPSS v25 (p<0.05).

1. Variables Categorical were expressed as number (percentage), n (%).Continuous variables were expressed as mean ± standard deviation (SD) or median (interquartile range, IQR).

2. Normality — K-S Test
Mean SD ± / Median (IQR)

3. Comparation χ^2 / Fisher
t-Student / U Mann-Whitney

4. Survival — OS, PFS, PFS HSCT: Hematopoietic stem cell transplantation **Kaplan-Meier + log-rank (α=0.05)**

CONCLUSIONS

Our findings confirm the aggressive clinical course of ALCL.

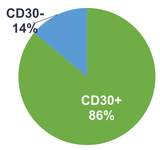
The disease predominantly presented at an advanced stage and was associated with unfavorable outcomes, particularly among ALK-negative cases.

These findings were likely attributable to delayed diagnosis, biological heterogeneity, and disparities in access to treatment.

RESULTS: survival and prognosis

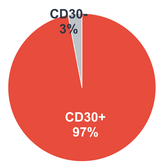
Patology

ALK-positive



CD5, granzyme B, perforin, CD45

ALK-negativo



CD3, CD4, CD5, CD45, granzyme B

Cohort (n=75)

- **ALK-negative:** 62.7% (n=47)
- **ALK-positive:** 37.3% (n=28)
- **ALK-positive patients were younger:** 35±14 years
- **ALK-negative patients:** 51±17 years
- **Sex:** female predominance (52%, n=39)
- **ECOG 0–1:** 65.6% (n=49)
- **ECOG ≥ 2:** 34.4% (n=22)

Advanced disease: 68%;
bulky disease: 23%;
B symptoms: 57.3%
Extranodal involvement:

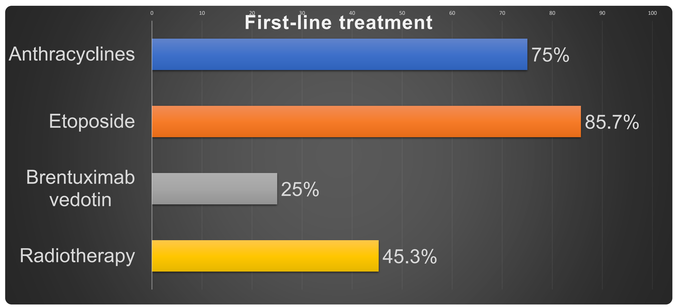
- **Skin:** 37%
- **Bone marrow:** 17.3%
- **CNS:** 2.7%

Transplant (HSCT)

- **12% (n=9)**
- **Autologous in most cases**
- **Status at HSCT: CR1 (33%) and RR (66%)**
- **Post-HSCT progression: 44.4%**

Prognostic factors

Factor	Outcome	p
ECOG 0–1	OS	0.002
No visceromegaly	OS	0.001
Albumin >3.5 g/dL	OS	0.003
Low IPI (0–1)	OS	0.008
CR1	OS / PFS	0.0001
Brentuximab vedotin	PFS	0.025

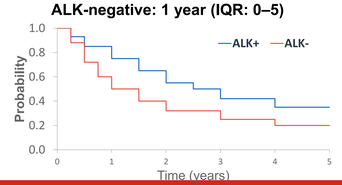


Response

- **Overall response:** 57%
- **CR1** (40%):
- **ALK-positive** (50%)
- **ALK-negative** (34%)

OS — Kaplan-Meier (p=0.94)

ALK-positive: 2.5 years (IQR: 0–6)
ALK-negative: 1 year (IQR: 0–5)

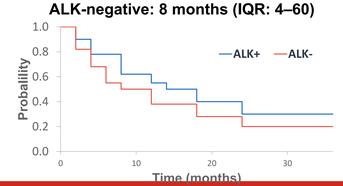


Relapse / Progression (R/R)

- **Overall:** 36% (27/75)
- **ALK-positive:** 28.6%
- **ALK-negative:** 40.4%

PFS— Kaplan-Meier (p=0.85)

ALK-positive: 14 months (IQR: 2–65)
ALK-negative: 8 months (IQR: 4–60)



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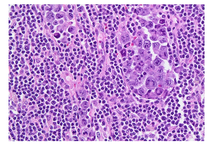

REFERENCES

Civallero M, et al. Long-term outcome of peripheral T-cell lymphomas: Ten-year follow-up of the International Prospective T-cell Project. *Br J Haematol*. 2024;205(1):166-174. doi: 10.1111/bjh.19433.

Horwitz S, et al; ECHELON-2 Study Group. Brentuximab vedotin with chemotherapy for CD30-positive peripheral T-cell lymphoma (ECHELON-2): a global, double-blind, randomised, phase 3 trial. *Lancet.* 2019;393(10168):229-240. doi: 10.1016/S0140-6736(18)32984-2.

Abbreviations. Anaplastic large cell lymphoma **(ALCL)**; ALK-positive **(ALK +)**; ALK-negative **(ALK -)**; overall survival **(OS)**; progression-free survival **(PFS)**; after hematopoietic stem cell transplantation **(post-HSCT)**; Hematopoietic stem cell transplantation **(HSCT)**; Complete response in first line **(CR1)**