Histologic transformation drives the adverse prognosis of POD24 in a cohort of patients with follicular lymphoma in Mexico

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INTRODUCTION

- Progression of disease within 24 months (POD24) and histologic transformation (HT) are established markers of high-risk follicular lymphoma (FL).
- POD24 is biologically and clinically heterogeneous, and the extent to which HT drives its adverse prognosis remains unclear in Latin American populations.

AIM

To characterize POD24 in a Mexican cohort of patients with follicular lymphoma (FL) and assess the impact of histologic transformation (HT).

METHOD

- We retrospectively analyzed adults with grade 1-3A FL between 2002 and 2025 at a Mexican tertiary-care center.
- POD24 was defined as progression or relapse within 24 months from first-line treatment initiation.
- HT was defined by biopsy-confirmed transformation to aggressive lymphoma during follow-up.
- Survival (OS) and progression-free survival (PFS) were estimated using Kaplan-Meier methods.
- POD24 was assessed using a 24-month landmark analysis, and survival among POD24 patients was compared by HT status.
- Cox regression explored predictors of POD24 and HT.

RESULTS

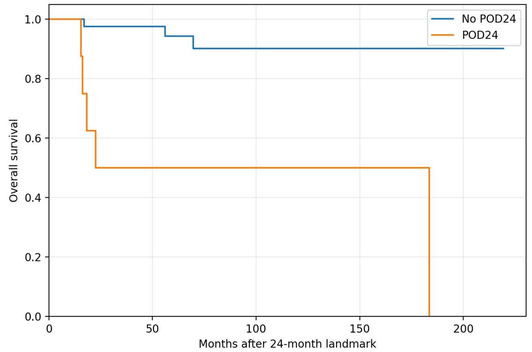
- N = 90 patients.
- Median age was 59.5 years; 60.0% were women, 87.8% had stage III–IV disease.
- Median follow-up was 62.8 months.
- Among 30 patients with documented relapse, 27 underwent biopsy (90.0%).
- POD24 occurred in 20.5% of evaluable cases (17/83) and HT in 20.0% of the total cohort (18/90), predominantly to DLBCL (94.4%).
- Median OS was not reached; 24- and 60-month OS were 92.2% and 83.9%.
- Median PFS was 112.5 months, with 24- and 60-month PFS of 77.8% and 66.5%.
- In the 24-month landmark analysis, POD24 was associated with inferior OS: 36-month post-landmark OS was 50.0% versus 97.6% without POD24 (log-rank p<0.001).
- Among 15 POD24 patients with relapse histology available, 6 had HT and 9 had retained FL.
- PFS was numerically shorter in POD24 patients with HT versus retained FL, with median PFS of 5.5 versus 13.2 months (log-rank p=0.391).
- HT identified inferior post-progression survival: median OS from the POD24/relapse event was 4.5 months versus 205.2 months in patients with retained FL (log-rank p=0.037).

Baseline characteristics according to POD24 status

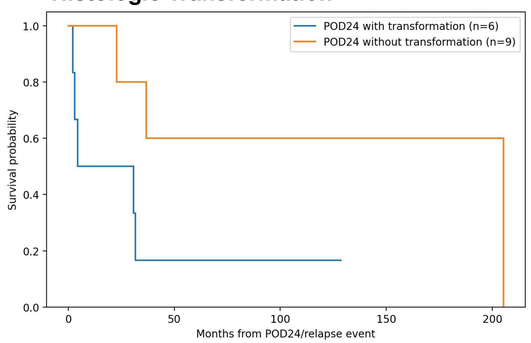
Characteristic	No POD24 (N=66)	POD24 (N=17)	p value
Age at diagnosis, median (IQR)	59.0 (48.2–67.2)	55.0 (49.0–65.0)	0.986
Female sex	40 (60.6)	9 (52.9)	0.591
Grade 3A	13 (20.0)	3 (17.6)	—
Ann Arbor IV	31 (47.0)	12 (70.6)	0.106
B symptoms	31 (47.0)	12 (70.6)	0.106
Bulky disease	24 (36.9)	10 (58.8)	0.166
Bone marrow involvement	17 (25.8)	8 (47.1)	0.136
LDH, median (IQR)	197 (162–240)	239 (190–364)	**0.024**
β2-microglobulin, median (IQR)	2.60 (2.15–3.42)	2.80 (2.09–5.67)	0.268
Low-risk FLIPI	22 (33.3)	2 (12.5)	0.210
Intermediate-risk FLIPI	18 (27.3)	7 (43.8)	—
High-risk FLIPI	26 (39.4)	7 (43.8)	—

- HT was associated with inferior OS, with 60-month OS of 55.6% versus 93.6% without HT (log-rank p=0.009).
- Bone marrow involvement and grade 3A histology remained independently associated with HT.

Overall survival by POD24 status



Post-Progression overall survival by Histologic Transformation



CONCLUSIONS

POD24 was not prognostically homogeneous in this Mexican FL cohort. Patients with POD24 and biopsy-confirmed HT had inferior survival, suggesting that transformation is a key driver of POD24-associated mortality and supporting systematic re-biopsy.

CONTACT INFORMATION

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