TOTAL LESION GLYCOLYSIS ON INTERIM PET/CT AS A PREDICTOR OF OUTCOMES IN CLASSIC HODGKIN LYMPHOMA WITH DEAUVILLE SCORE 4–5: A LATIN-AMERICAN RETROSPECTIVE COHORT

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INTRODUCTION

Interim PET/CT (iPET) has historical importance in classic Hodgkin lymphoma (cHL) and still guides response-adapted therapy in many scenarios, especially in resource-constrained countries.

Patients with a positive iPET represent a high-risk subgroup with heterogeneous outcomes.

Total lesion glycolysis (TLG) and total metabolic tumor volume (TMTV) are emerging prognostic biomarkers, but their role in iPET-positive patients remains poorly defined.

AIM

To evaluate TLG on iPET as predictors of outcomes in cHL with a Deauville score of 4–5.

Endpoints

Primary: progression-free survival (PFS)

Secondary: complete metabolic response (CMR); early relapse (≤ 12 months)

METHODS

Retrospective cohort of patients with cHL and a Deauville score of 4–5 on iPET, treated at two referral hospitals in Brazil.

MTV was measured using the 41% of SUVmax relative threshold.

Analyses: univariable and multivariable Cox regression, ROC curves, and Kaplan–Meier estimates with log-rank testing.

The multivariable model was adjusted for advanced stage, bulky disease, age, sex, iPET Deauville score and escalation to BEACOPDAC.

CONCLUSIONS

TLG on iPET showed a consistent, biologically plausible trend toward worse outcomes across all analyses in iPET-positive cHL, without reaching statistical significance — likely reflecting the limited sample size.

Prospective studies are warranted to validate TLG as a prognostic biomarker in this population.

RESULTS

58
patients with Deauville 4–5 on iPET

67 g
ROC-derived TLG cut-point

1.23
adjusted HR for PFS (95% CI 0.90–1.68)

TLG on iPET according to outcome

Outcome	Yes	No	p
Progression	48.9	36.5	0.22
CMR not achieved	49.4	33.1	0.25
Early relapse (≤ 12 months)	48.4	39.9	0.43

TLG expressed in g. Median values shown for patients with (Yes) and without (No) each outcome.

Cox regression for progression-free survival

Model (TLG)	HR (95% CI)	p
Univariable	1.22 (0.95–1.57)	0.11
Multivariable*	1.23 (0.90–1.68)	0.19

**Adjusted for advanced stage, bulky disease, age, sex, iPET Deauville score and escalation to BEACOPDAC.*

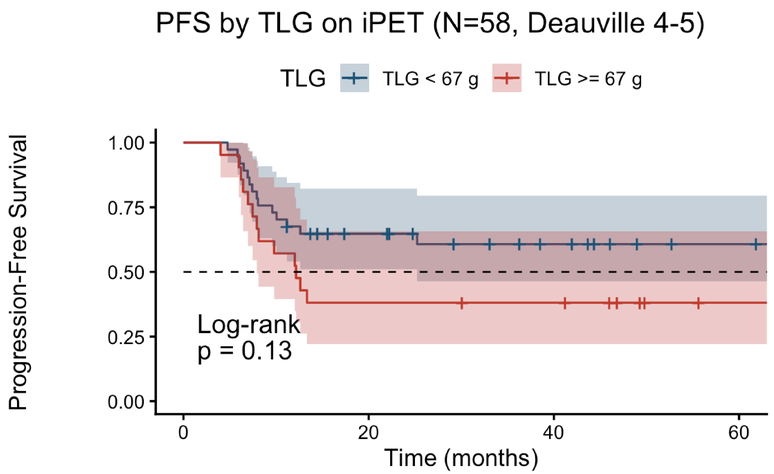

Figure 1. Progression-free survival by TLG on iPET (cut-point 67 g); log-rank p = 0.13.

- ROC showed modest discriminative capacity for progression (AUC = 0.595) and for CMR (AUC = 0.590).
- With the ROC-derived cut-point, patients with TLG ≥ 67 g showed consistently inferior PFS (log-rank p = 0.13).
- The trend was stronger among patients escalated to BEACOPDAC (log-rank p = 0.079).

LIMITATIONS

- Retrospective, two-center design;
- Limited sample size (n = 58); analyses were underpowered.

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