Myocardial [¹⁸F]FDG uptake and cardiac biomarkers in lymphoma

Exploratory analysis within a 30-patient longitudinal cohort

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FACTS & FIGURES

- ✓ 30 adults with completed follow-up
- ➢ Median age 58 years (range 18–81)
- ➢ 19 men (63.3%) and 11 women (36.7%)

Diagnoses (n=30)

- Diffuse large B-cell lymphoma: 45.0%
- Classical Hodgkin lymphoma: 30.0%
- Follicular lymphoma: 20.0%
- Peripheral T-cell lymphoma: 5.0%

Stage (Ann Arbor, n=30)

I: 19.2% II: 19.2% III: 15.4% IV: 46.2%

Treatment (n=30)

- 17 R-CHOP-containing or modified regimens (56.7%)
- 8 ABVD-containing regimens (26.7%)
- 4 other systemic treatments (13.3%)
- 1 radiotherapy alone (3.3%)

Median PET interval (n=13): 238 days (136–580)

COMPASS: Mar 2026 to Feb 2031
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CHALLENGE

Troponin reflects myocardial injury and natriuretic peptides reflect wall stress.[1] Their relationship with myocardial [¹⁸F]FDG uptake changes during lymphoma treatment remains uncertain.[2]

OBJECTIVE: describe myocardial SUV and pattern changes between initial and final PET/CT, and explore their relationship with troponin and natriuretic peptide evolution.

APPROACH & METHODOLOGY

Study population: 30 adults with lymphoma who completed follow-up within an ongoing longitudinal study. This preliminary report uses available paired records.

PET acquisition: same PET/CT scanner; six-hour fast; blood glucose <180 mg/dL; acquisition 55–65 min after [¹⁸F]FDG administration.

PAIRED ASSESSMENTS

Myocardial SUVmax and visual uptake patterns at initial and final PET/CT. Troponin sampled on each PET day; proBNP assessed with its documented sampling interval.

Analysis: descriptive changes and uptake–biomarker comparisons using evaluable pairs. Troponin <1.9 was retained as reported, without imputation. Continuous ΔSUVmax–biomarker analyses are ongoing.

Further analyses: echocardiography within 15 days of PET and gated PET will provide functional context. Recruitment and additional data analysis are ongoing.

RESULTS (PRELIMINARY)

No consistent relationship apparent on preliminary review

Available outcomes: PET/troponin n=30; proBNP n=30.

Recorded myocardial uptake change

SUVmax increase >30%	**30.8%**
SUVmax decrease >30%	**23.1%**
No recorded increase	**38.5%**
Slight RV-only increase	**7.7%**

Cardiac biomarker evolution

Troponin: increase	**76.9%**
Troponin: <1.9 at both PETs	**23.1%**
proBNP: increase	**41.7%**
proBNP: decrease	**58.3%**

Biomarker increase by uptake group*

Troponin ↑ with uptake ↑	**80.0%**
Troponin ↑ without uptake ↑	**75.0%**
proBNP ↑ with uptake ↑	**50.0%**
proBNP ↑ without uptake ↑	**37.5%**

INTERPRETATION

This exploratory review cannot establish an association or its absence. Small evaluable samples, treatment heterogeneity and physiological uptake variability limit interpretation.

VALUE OF IHI COLLABORATION

Nuclear medicine teams acquire and analyse PET. Pharmacy teams document treatment exposure. Cardiology teams assess cardiac function. Matching these records links imaging findings to treatment and biomarker timing.

The proposed contribution to COMPASS is a longitudinal dataset linking these measurements. Common definitions for PET assessment, assays and sampling times will support future collaborative analyses and validation.[3]

CAREER IMPACT

Coordinating this study develops my skills in longitudinal PET research. COMPASS offers opportunities to strengthen multidisciplinary collaboration, data harmonisation and clinical validation

Ethics: CE-255-2024. Exploratory analysis ongoing.

[1] Lyon et al. Eur Heart J. 2022;43:4229–4361.
[2] Lin et al. PLoS One. 2025;20:e0319442.
[3] IHI COMPASS factsheet: ihi.europa.eu/projects-results/project-factsheets/compass

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