# TREATMENT OUTCOMES AND PROGNOSTIC FACTORS IN ELDERLY PATIENTS WITH NEWLY DIAGNOSED PERIPHERAL T-CELL LYMPHOMA

Omar Elghawy MD[1], Steven Sher MD, PhD[1] Colin J. Thomas MD[1], Elise A. Chong MD[1], Jordan S. Carter MD[1], Daniel J. Landsburg MD[1], Jakub Svoboda MD[1], Sunita D. Nasta MD[1], Stephen J. Schuster MD[1], Stefan K. Barta MD, MS[1]

[1]Lymphoma Program, Abramson Cancer Center, University of Pennsylvania, Philadelphia, PA, USA

Penn Medicine

## INTRODUCTION

- Peripheral T-cell lymphomas (PTCLs) are rare, heterogeneous hematologic malignancies with a median age at diagnosis of approximately 65 years.
- Despite this demographic shift, outcomes and optimal management strategies in patients 80 years and older remain poorly characterized.
- Older patients are frequently underrepresented in clinical trials, complicating evidence-based decision-making and goals-of-care planning.
- Previous research in B-cell lymphomas have shown that elderly patients can benefit from an adapted curative approach with dose-modified treatment regimens.

## AIMS

- Characterize overall survival (OS) and progression-free survival (PFS) in patients ≥80 years with PTCL
- Identify clinical and laboratory factors associated with improved outcomes
- Evaluate the prognostic utility of IPI and PIT scoring systems in this population
- Assess treatment patterns, including rates of cytotoxic vs. non-cytotoxic vs. supportive-only approaches
- Characterize causes of death, including non-relapse mortality (NRM)

## METHODS

- A single-center retrospective study of patients with PTCL diagnosed between January 2010 and March 2026 was performed.
- Patients aged ≥80 years at diagnosis with adequate follow-up were included regardless of subtype
- Coprimary endpoints were overall survival (OS) and progression-free survival (PFS), analysed using the Kaplan–Meier method, log-rank testing, and multivariable Cox regression models.
- Causes of death were categorized as progressive disease, infection, bleeding, or “other”.
- Two-sided p-value <0.05 were considered statistically significant for all analyses

## CONCLUSIONS

- Poor survival and high non-relapse mortality (NRM) 2nd to infection and bleeding highlight the urgent need for lower-intensity therapies in patients ≥80 years with PTCL.
- IPI and PIT effectively stratify risk in elderly patients with PTCL and should inform treatment selection and goals-of-care discussions
- Significant NRM warrants prospective evaluation of better-tolerated treatment regimens in this vulnerable population.
- Novel non-cytotoxic agents merit evaluation in this population.
- Larger multicenter retrospective and prospective studies are needed to validate these findings and guide evidence-based management.

## RESULTS

- Forty-six patients were identified with patient characteristics as in Table 1.
- Median duration of follow-up was 11.4 months (range, 0.2–127 months).
- The overall response rate (N=42 evaluable) to frontline therapy was 64% (27 patients), including 16 (38%) complete responses and 11(26%) partial responses.
- Median PFS for the entire cohort was 8.7 months (95% CI 4.8–13 months), and median OS was 11.0 months (95% CI 7.1–18 months).
- Both the IPI and PIT score were significantly associated with PFS and OS (Figure 1A-D).
- Bulky disease (≥7.5 cm) was also associated with worse OS (HR 3.58, 95% CI 1.22–10.52, p=0.02) and PFS (HR 3.02, 95% CI 1.04–8.76, p=0.04)
- Causes of death included progression of disease (61%), infections (18%) and bleeding events (10%).
- Thirteen patients (28%) remained alive, including 9 (20%) without evidence of active lymphoma.

**Table 1. Patient and Disease Characteristics**

*Summary of baseline characteristics for 46 patients meeting inclusion criteria.*

| Characteristic | n (%) |
|---|---|
| **Total patients** | 46 (100%) |
| **Median age, years** | 83 |
| **Sex** | |
| **Male** | 27 (59%) |
| **Female** | 19 (41%) |
| **Histologic subtype** | |
| **PTCL, not otherwise specified** | 20 (43%) |
| **T-follicular helper T-cell lymphoma** | 13 (28%) |
| **ALK-negative anaplastic large cell lymphoma** | 5 (11%) |
| **Other subtypes** | 8 (17%) |
| **ECOG performance status** | |
| **< 2** | 28 (61%) |
| **≥ 2** | 18 (39%) |
| **LDH** | |
| **Elevated** | 36 (78%) |
| **Normal** | 10 (22%) |
| **Stage at diagnosis** | |
| **III/IV** | 28 (61%) |
| **I/II** | 18 (39%) |
| **Bulky disease (> 7.5 cm)** | |
| **Yes** | 6 (13%) |
| **No** | 40 (87%) |
| **Frontline therapy** | |
| **Cytotoxic chemotherapy** | 26 (56%) |
| **Non-cytotoxic regimen** | 13 (28%) |
| **Supportive care alone** | 7 (15%) |

*ECOG, Eastern Cooperative Oncology Group; LDH, lactate dehydrogenase; PTCL, peripheral T-cell lymphoma.*

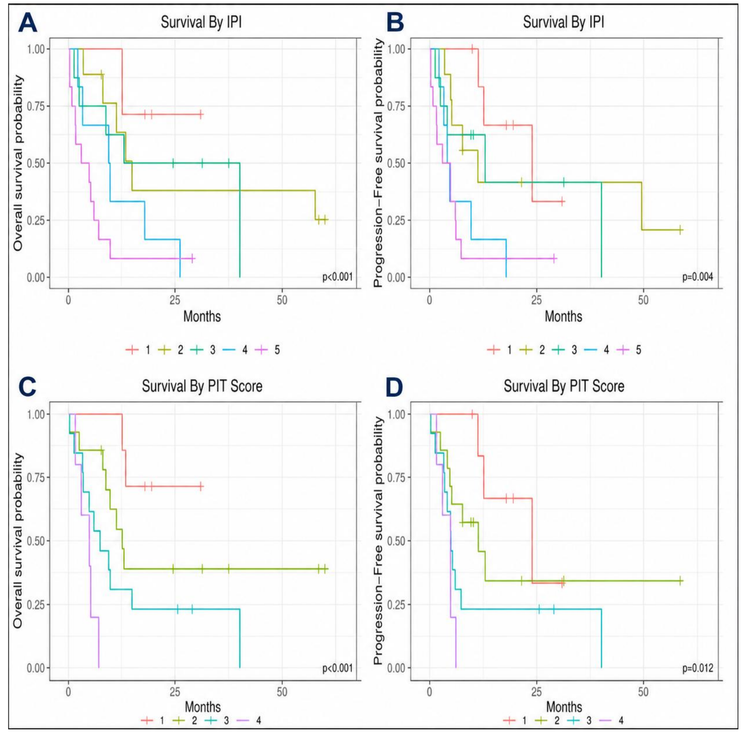


**Figure 1.** Kaplan Meier curve depicting survival trends amongst the cohort. **A)** Overall survival by IPI **B)** Progression free survival by IPI **C)** Overall survival by PIT **D)** Progression free survival by PIT.

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## CONTACT INFORMATION

ElghawyO@pennmedicine.upenn.edu

University of Pennsylvania
The Perelman Center for Advanced Medicine TRC-2 West
3400 Civic Center Blvd
Philadelphia, PA 19104, United States

## REFERENCES

1. Vose J, Armitage J, Weisenburger D; International T-Cell Lymphoma Project. International peripheral T-cell and natural killer/T-cell lymphoma study. J Clin Oncol. 2008;26(25):4124-4130.
2. Bellei M, Foss FM, Foyil KV, et al. The outcome of peripheral T-cell lymphoma in first complete remission with and without consolidative stem-cell transplantation. Ann Oncol. 2014;25(6):1278-1283.
3. Gallamini A, Stelitano C, Calvi R, et al. Peripheral T-cell lymphoma unspecified (PTCL-U): a new prognostic model from a retrospective multicentric clinical study. Blood. 2004;103(7):2474-2479. [PIT score]
4. Ellin F, Landström J, Jerkeman M, Relander T. Real-world data on prognostic factors and treatment in peripheral T-cell lymphomas: a study from the Swedish Lymphoma Registry. Blood. 2014;124(10):1570-1577.
5. Mead M, Cederleuf H, Björklund M, et al. Impact of comorbidity in older patients with peripheral T-cell lymphoma: an international retrospective analysis of 891 patients. *Blood Adv.* 2022;6(7):2120-2128.