Impact of treatment facility on outcomes in Waldenstrom macroglobulinemia in the immunotherapy era: A nationwide analysis.

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Introduction

Waldenström Macroglobulinemia (WM) is a rare B-cell malignancy with variable prognosis. While advances in treatment have improved outcomes, the influence of treatment facility type—academic vs non-academic—on survival remains unclear in the U.S.

Aim

To evaluate whether treatment at different facility types influences overall survival in patients diagnosed with Waldenström Macroglobulinemia.

Objectives

- Assess survival differences across four types of treatment centers.
- Identify demographic and clinical factors associated with improved or worse outcomes.
- Examine predictors for receiving treatment at academic vs community centers.

Methods

Design: Retrospective cohort study using the National Cancer Database (2010–2020).
Population: 6,252 WM patients.
Facility Types:
Academic/Research Programs (ARP)
Integrated Network Cancer Programs (INCP)
Community Cancer Programs (CCP)
Comprehensive Community Cancer Programs (CCCP)
Analysis:
Kaplan-Meier survival estimates.
Accelerated Failure Time (AFT) models.
Multivariate logistic regression (facility predictors).
STROBE guidelines followed.

Results

Patient Distribution
- ARP: 36.5%
- CCCP: 38.1%
- INCP: 17.5%
- CCP: 7.9%

Demographics
- Age ≥ 65: 72.5%
- White: 92.9%
- Male: 61.2%
- Medicare: 66.5%

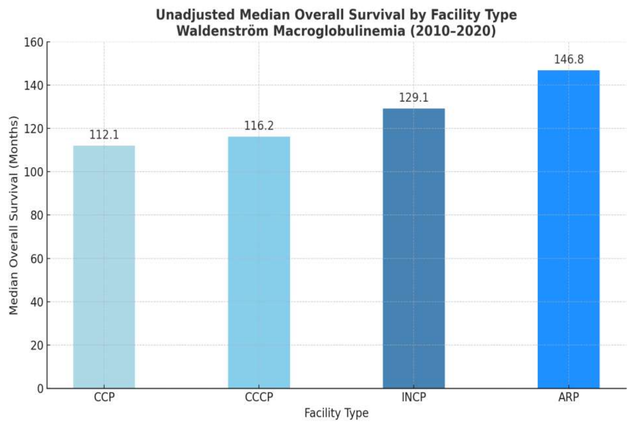
Median Overall Survival (Unadjusted)
- ARP: 146.8 months
- INCP: 129.1 months
- CCCP: 116.2 months
- CCP: 112.1 months
  ($p < 0.05$)

Adjusted Hazard Ratios (AFT model)
- ARP: HR 0.74 (95% CI: 0.62–0.89, $p < 0.05$)
- CCCP & INCP: No significant survival benefit vs CCP

Negative Prognostic Factors
- Age ≥ 65: HR 2.40
- Black race: HR 1.32
- Charlson-Deyo Score (CDS ≥3): HR 2.79

Positive Prognostic Factors
- Private insurance: HR 0.48
- Female sex: HR 0.84

Facility Access Predictors
Black patients more likely to be treated at ARP (OR: 1.64)
High comorbidity (CDS ≥3): less likely to receive care at ARP (OR: 0.68)



Summary

Academic centers (ARP) are associated with significantly **better survival** in WM patients. Disparities exist in who accesses these centers—patients with high comorbidity are underrepresented. Socioeconomic and demographic factors also influence outcomes and access.

Discussion

- Results support the hypothesis that **center type affects WM outcomes**, possibly due to access to advanced therapies, multidisciplinary care, and clinical trials.
- Comorbidity and insurance status play key roles in both outcome and care site selection.
- While racial disparities in survival were observed, Black patients had higher odds of accessing ARP, possibly reflecting referral patterns or urban academic center locations.

Conclusion

- Treatment at academic centers improves survival in WM.
- Policymakers and health systems should focus on reducing barriers to academic care access and addressing comorbidity-related disparities.

Conflict of Interest

No Conflict of Interest by the Authors