Patient Outcome Variation in Aggressive B-cell Non-Hodgkin's Lymphoma (NHL) Based on Regional Proximity to the Cancer Treatment Center in Central Missouri

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Background

- Non-Hodgkin's lymphoma (NHL) is the eighth most common cancer in the U.S.
- Access to care in rural areas differs from metropolitan areas.
- Factors such as transportation barriers, socioeconomic status, and limited specialized care access may affect outcomes.

Aim

- To identify the association between the patients' distance to the cancer center and outcomes such as
  - treatment delays
  - missed appointments
  - composite outcome of cancer progression, death or treatment switch.

Methods

- Retrospective chart review.
- Population included: patients with aggressive B-cell NHL treated at Ellis Fischel Cancer Center (EFCC) between 7/1/2018 to 6/30/2024.
- Mantle cell lymphoma was excluded due to treatment heterogeneity.
- Descriptive statistics were used to summarize baseline characteristics.
- Spearman correlations assessed relationships between distance and treatment adherence, missed appointments, and clinical outcomes. (ρ = correlation coefficient)

Table 1. Baseline Characteristics

Characteristics	Value
Mean age at diagnosis, yr	61.4
Male sex, n (%)	61 (55%)
White race, n (%)	101 (91%)
Insurance: Medicare, n (%)	46 (41.6%)
Insurance: Commercial/Private, n (%)	34 (30.6%)
Insurance: Medicaid, n (%)	20 (18%)
PCP listed in EMR, n (%)	91 (82%)
Mean distance to cancer center, miles (range)	39.4 (1.1-157.1)
Most common NHL subtype: DLBCL, n (%)	80 (72.1%)
Most common regimen: R-CHOP, n (%)	36 (32.4%)

Results

- 111 patients were included.
- Baseline characteristics were noted in Table 1.
- Mean numbers of oncology clinic visits and infusion unit or treatment visits were 6.5 and 7 days, respectively.
- Figure A and Figure B show the proportion and reasons for missed appointments.
- Most common patient-related reason was lack of transportation.
- The mean number of treatment cycles planned was 5.5. 74.8% of treatments were given on schedule.

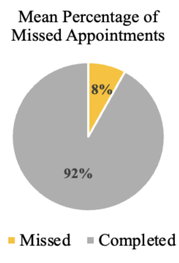


Figure A

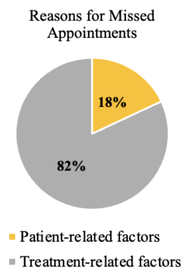


Figure B

No significant correlations were found between patients' distance from the cancer center and

- treatment delays, ρ = 0.063 (p value = 0.514)
- missed appointments, ρ = 0.011 (p value = 0.911), or
- progression/death/treatment switch, ρ = 0.262 (p value = 0.075).

Discussion

- Distance from the cancer center was not associated with inferior outcomes.
- Potential contributing factors could include
  (1) Intensive but time-limited nature of first-line aggressive lymphoma treatments,
  (2) High primary care provider involvement
  (3) Strong referral networks, and
  (4) Efficient patient intake processes.
- Limitations of our study:
  - Retrospective design
  - Limited sample size
  - Reliance on EMR to document missed-appointments and reasons.
- Prospective studies are needed to confirm these findings and explore how EFCC's approach can help reduce geographic disparities in care.

References

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