Sex-based Differences in Demographics and Outcomes of Active Chronic Lymphocytic Leukemia Patients Admitted for Bloodstream Infection Due to Central Venous Catheter

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Introduction

Aggressive treatment regimens used in the management of Non-Hodgkin lymphoma(NHL) patients can have lasting effects, predisposing them to various secondary malignancies, including colorectal cancer(CRC).
The demographics of male and female NHL survivors with CRC are not well-documented. We aim to provide an update.

Methods

We queried for males and females with a history of NHL who were admitted with active CRC. We used the 2016-2021 National Inpatient Sample, an all-payer discharge record, for this purpose. The two sexes' baseline demographics and hospital characteristics were explored using chi-squared and T-tests.

Results

Our analysis included 4,495 non-Hodgkin lymphoma (NHL) survivors diagnosed with colorectal cancer (CRC), comprising 53.3% males and 46.7% females. Notable age differences were observed, with males representing a younger cohort (mean age: 70.48 years) compared to females (mean age: 73.77 years) ($p < 0.01$).

Insurance and Socioeconomic Characteristics
Medicare was the primary insurance provider, covering 75.7% of females and 68.5% of males. Regarding income distribution, males were more frequently represented in the highest income quartile (76th–100th percentile: 28.8%), whereas females were more commonly found in the 51st–75th percentile (29.8%).

Race and Geographic Location
The majority of patients identified as Caucasian—84.1% of females and 80.3% of males. Hispanic individuals comprised 5.9% of females and 4.4% of males, while 9.3% of males and 6.1% of females identified as Black. Most patients received care at urban hospitals, with only 11.2% of females and 8.8% of males treated at rural centers.

Comorbidities and Lifestyle Factors
There were significant gender-based differences in comorbidities and risk factors ($p < 0.05$ throughout). Males exhibited higher prevalences of:

- Smoking history (41.1% vs. 33.6%)
- Diabetes (26.1% vs. 22.6%)
- Prior irradiation (16.3% vs. 12.9%)
- Long-term aspirin use (16.7% vs. 12.1%)
- In contrast, females had higher rates of:
- Anemia (51.0% vs. 44.7%)
- Depression (10.5% vs. 8.1%)
- Chronic obstructive pulmonary disease (COPD) (14.3% vs. 10.6%)
- Obesity (12.6% vs. 8.8%)
- Liver cirrhosis (8.3% vs. 6.5%)

Conclusion

NHL male and female survivors with CRC differ in demographics and comorbidities. Strategies to fortify screening campaigns and provide sufficient preventive protocols should be evaluated.