Racial Disparities in the Treatment & Outcome of Stage I Non-Small Cell Lung Cancer

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Background

• NSCLC is the most common and deadly malignancy in men and women combined
• One-fourth of NSCLC patients are diagnosed at an early and potentially curable stage
• Definitive treatment options for early stage NSCLC (Lobectomy, VATS, SBRT) have become more widely available and contributed to higher survival rates

• **Purpose:** To understand if racial disparities in the treatment and outcome of stage I NSCLC have diminished given the increased adoption of recent advancements in diagnosis and treatment
Methods

• N=62,213

• Population-based study (SEER 18)
  • Age 60+
  • Biopsy-proven stage I NSCLC (T1 or T2,N0)
  • 2004-2012
  • Excluding patients who lacked definitive data about treatment

• Race:
  • Caucasian (C)
  • African-American (AA)
  • American Indian (AI)
  • Asian/Pacific Islander (API)
  • Unknown/Other (U)

• Unavailable: chemotherapy, comorbidities, radiation modality/dose
Results

Key:
Surgery
Radiation
Both Surgery & Radiation
No Treatment

$p < 0.0001$
Survival by Race

Overall Survival

<table>
<thead>
<tr>
<th>Race</th>
<th>Median CSS (in months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian/Pacific Islander</td>
<td>&gt;96</td>
</tr>
<tr>
<td>Caucasian</td>
<td>&gt;96</td>
</tr>
<tr>
<td>African Americans</td>
<td>80</td>
</tr>
<tr>
<td>American Indians</td>
<td>49</td>
</tr>
</tbody>
</table>

Cancer-Specific Survival

Median CSS:
- Overall: 107
- Asian/Pacific Islander: >96
- Caucasian: >96
- African Americans: 80
- American Indians: 49

p<0.0001
Survival Analysis

Multivariate Analysis

**Favorable**
- T1
- Younger Age
- Female Gender
- Definitive Treatment
- Asian / PI Race (HR 0.77)

**Unfavorable**
- T2
- Older Age
- Male Gender
- No treatment
- American Indian Race (HR 1.35)

**Survival differences for African Americans became insignificant when accounting for definitive therapy, despite a higher likelihood of male sex, T2, and younger age (HR 0.98)**
Conclusions

• Despite recent advancements, racial disparities in management and outcomes of NSCLC persist.

• Although the median CSS for African-American patients was more than two years shorter than the population median, the difference was no longer significant after controlling for patient, disease and treatment factors.

• American Indian populations require dedicated study.

• Improved access to care for minority groups may diminish racial impact on lung cancer outcomes.