The Pervasive Crisis of Diminishing Radiotherapy Access for African-Americans in the United States

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BACKGROUND

- African-Americans suffer the highest burden of cancer incidence and mortality in the United States, yet have been persistently less likely to receive interventional care even when such care has been proven superior to conservative management by randomized controlled trials. (American Cancer Society, Cancer Facts & Figures for African Americans 2016-2018)
- These disparities have been repeatedly demonstrated in the surgical realm, spanning many subspecialties including pediatric surgery, neurosurgery, colorectal surgery, and cardiothoracic surgery. (Patzer et al., Am J Transplant 2013; Shavers and Brown J Nati Cancer Inst 2002; Curry and Barker J Neurooncol 2009; McClelland et al., Arch Neurol 2010; Morris et al., J Am Coll Surg 2006)
- These disparities have proven to persist even after accounting for socioeconomic variables such as income and insurance status, and have also been prevalent in the field of Radiation Oncology. (Steele et al., J Nati Med Assoc 2011; McClelland et al., J Radiat Oncol 2016)
- The presence of disparities in access to radiotherapy (RT) for African-American cancer patients has rarely been examined in an expansive fashion.

MATERIALS AND METHODS

- To accurately assess the literature regarding disparities in RT access for African-American patients, a comprehensive search of the PubMed database (pubmed.gov) was made for articles up to and including April 15, 2017
- Search terms used were “African American”, “radiotherapy”, and “disparities” in concert
- The search revealed 72 articles, the earliest of which was published in 2001
- Of these articles, 55 investigated RT access by directly examining whether African-American patients were more, less, or equally likely than Caucasian patients to receive RT.

Table 1: African-American radiotherapy disparities studies

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Number of studies</th>
<th>Population-Based Data Source*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>23</td>
<td>20 of 23</td>
</tr>
<tr>
<td>Prostate</td>
<td>7</td>
<td>6 of 7</td>
</tr>
<tr>
<td>Lung</td>
<td>2</td>
<td>2 of 2</td>
</tr>
<tr>
<td>Colorectal</td>
<td>3</td>
<td>3 of 3</td>
</tr>
<tr>
<td>Gyn</td>
<td>5</td>
<td>5 of 5</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>5</td>
<td>5 of 5</td>
</tr>
<tr>
<td>CNS</td>
<td>3</td>
<td>3 of 3</td>
</tr>
<tr>
<td>Sarcoma</td>
<td>3</td>
<td>3 of 3</td>
</tr>
<tr>
<td>Pancreas</td>
<td>2</td>
<td>2 of 2</td>
</tr>
<tr>
<td>Head and Neck</td>
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<td>0 of 1</td>
</tr>
<tr>
<td>Esophageal</td>
<td>1</td>
<td>1 of 1</td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>50 of 55 (90.9%)</td>
</tr>
</tbody>
</table>

*Surveillance, Epidemiology and End Result (SEER) = 26 studies
SEER-Medicare = five studies
National Cancer Database = three studies
State tumor registry = 13 studies
Medicare = 1 study
Other (i.e. single-institution databases) = seven studies

RESULTS

- The 55 studies found spanned 11 organ systems
- Disparities in RT access for African-Americans were most prominently reported for cancers of the breast (23 studies), prostate (7 studies), gynecologic system (5 studies), and hematologic system (5 studies).
- Disparities in RT access for African-Americans were prevalent regardless of organ system studied, and often occurred independently of socioeconomic status
- 50/55 studies (91%) involved analysis of a population-based database such as SEER, SEER-Medicare, National Cancer Database, or a state tumor registry.

CONCLUSIONS

- African-Americans in the United States have diminished access to RT compared to Caucasian patients.
- This diminished access is independent of, but often in concert with low socioeconomic status.
- These findings underscore the importance of finding systemic and systematic solutions to address these inequalities to reduce the barriers that patient race provides in receipt of optimal cancer care.

DISCLOSURES

McClelland – nothing to disclose
Page, Deville – nothing to disclose
Jaboin – nothing to disclose
Chapman – nothing to disclose
Thomas – nothing to disclose