Abstract

IMPORTANCE: Outcome information is useful in planning care for patients diagnosed with upper aerodigestive tract (UADT) cancer. In some circumstances, patients choose not to pursue surgery or radiotherapy. Survival data on patients with UADT cancer who underwent neither surgery nor radiation might assist in counseling patients making treatment decisions.

METHODS: The 18-registry National Cancer Institute’s Surveillance, Epidemiology, and End Results (SEER) database was examined to identify patients with microscopically confirmed invasive cancer of the oral cavity, oropharynx, hypopharynx, nasopharynx, and larynx diagnosed between 1983 and 2011. We excluded patients under age 70 at diagnosis and those with any prior cancers in the SEER database. Patients were classified as “treated” (surgery and/or radiotherapy in the first course of treatment) or “untreated” (neither surgery nor radiotherapy in the first round of treatment). Untreated and treated cohorts were compared descriptively. Kaplan-Meier observed survival estimates were computed and stage-specific actuarial estimates of survival were computed using the individual-year expected survival life table from National Center for Health Statistics.

RESULTS: We identified 36,954 patients, of which 32,245 were defined as treated and 3589 as untreated (1120 had unknown treatment status). An equal proportion of men and women (10%) were untreated. 13.7% of Blacks were untreated, compared to 9.5% Whites and 9.2% all other races (p < 0.0001). 11.9% of patients with Stage IV disease were untreated compared with 3.8% with Stage I disease (p < 0.0001). Patients with pharyngeal primary tumors were more likely to be untreated than those with laryngeal or oral cavity primaries. Median survival was 27 months treated patients and 4 months for untreated patients.

CONCLUSION: The median survival for patients over 70 years old diagnosed with UADT between 1983-2011 who did not undergo guideline-based curative treatment is 4 months. There is a statistically significant difference in the rate at which black patients are treated compared to those of other racial backgrounds. This disparity may merit further investigation. The study is limited by the lack of data on chemotherapy. While length of survival is not the main factor leading patients to choose palliative treatment, this information can lead to a better understanding of prognosis, and may assist in developing a treatment plan.

Methods

• National Cancer Institute’s Surveillance, Epidemiology, and End Results (SEER) cancer registry examined
• Patients age 70 and older with diagnosis of cancer of the oral cavity (OC), oropharynx (OP), hypopharynx (HP), larynx, and nasopharynx (NP) included
• Classified as “treated” if received surgery and/or radiation as initial treatment
• Classified as “untreated” if surgery or radiation included as initial treatment
• Demographic information of treated and untreated groups compared
• Subsites of primary tumor compared for treated vs. untreated
• Overall stage compared for treated vs. untreated
• Actuarial estimates of relative survival were computed using the individual-year expected survival life table from National Center for Health Statistics; this was compared to observed survival

Results

<table>
<thead>
<tr>
<th>Race</th>
<th>White</th>
<th>Black</th>
<th>Other</th>
<th>Unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treated</td>
<td>29118</td>
<td>2363</td>
<td>1844</td>
<td>122</td>
<td>32245</td>
</tr>
<tr>
<td>Untreated</td>
<td>2934</td>
<td>374</td>
<td>187</td>
<td>94</td>
<td>35834</td>
</tr>
<tr>
<td>Total</td>
<td>30850</td>
<td>2737</td>
<td>2031</td>
<td>216</td>
<td>35834</td>
</tr>
</tbody>
</table>

13.7% blacks vs. 9.5% whites vs. 9.2% others are untreated. Chi-sq p < 0.0001

<table>
<thead>
<tr>
<th>SITE</th>
<th>OP</th>
<th>OC</th>
<th>NP</th>
<th>HP</th>
<th>Larynx</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treated</td>
<td>857</td>
<td>10944</td>
<td>743</td>
<td>2181</td>
<td>11500</td>
<td>12245</td>
</tr>
<tr>
<td>Untreated</td>
<td>988</td>
<td>1064</td>
<td>136</td>
<td>403</td>
<td>998</td>
<td>35834</td>
</tr>
<tr>
<td>Total</td>
<td>1845</td>
<td>12028</td>
<td>879</td>
<td>2584</td>
<td>12498</td>
<td>35834</td>
</tr>
</tbody>
</table>

More pharynx primaries (13.0% OP; 15.5% NP) were untreated compared to 8.8% of OC and 8.0% larynx primaries. Chi-sq p < 0.0001

Discussion

• Median survival for patients 70+ years old who do not undergo guideline-directed curative therapy for UADT cancer is 4 months
• Black patients are untreated at a higher rate than patients of other racial backgrounds
• This warrants further investigation into differences in healthcare access and education
• Patients with primary UADT tumors of the pharynx are more likely to be untreated than those with primary tumors of the oral cavity or larynx
• Pharyngeal primaries are typically treated with radiation +/- chemotherapy
• Are patients more likely to choose/receive treatment if primary surgery is an option?