Pretreatment swallowing assessment in head and neck cancer patients

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OBJECTIVE
To discuss patient variables associated with swallowing dysfunction in head and neck cancer (HNCA) patients prior to intervention.

METHODS AND MATERIALS
138 consecutive patients with newly diagnosed HNCA underwent instrumental swallowing evaluations prior to oncologic management

- FEES Fiberoptic Endoscopic Evaluation of Swallowing
- VFSS Videofluoroscopic Swallowing Study

The primary swallowing outcome variable chosen was Penetration Aspiration Score (PAS).

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Does not enter airway</td>
</tr>
<tr>
<td>2</td>
<td>Enters airway, remains above cords, is ejected</td>
</tr>
<tr>
<td>3</td>
<td>Enters airway, remains above cords, not ejected</td>
</tr>
<tr>
<td>4</td>
<td>Enters airway, contacts cords, is ejected</td>
</tr>
<tr>
<td>5</td>
<td>Enters airway, contacts cords, not ejected</td>
</tr>
<tr>
<td>6</td>
<td>Enters airway, below cords, ejected out or into larynx</td>
</tr>
<tr>
<td>7</td>
<td>Enters airway, below cords, not ejected despite effort</td>
</tr>
<tr>
<td>8</td>
<td>Enters airway, below cords, no attempt to eject</td>
</tr>
</tbody>
</table>

PAS scores were defined as an ordinal variable (scores ≥3 were abnormal while those <3 were considered normal) as well as a nominal variable. Outcomes were analyzed by primary tumor site, tumor stage, and standard demographic variables.

RESULTS
The mean age of participants was 59 years (range, 16-95). Patients were predominantly male (83%) and African American (77%). Earlier T-stage (T1-T2) was more common (68%) as were oropharyngeal primaries (48%).

Elevated PAS scores were associated with:
- Higher T-stage
- Laryngeal/hypopharyngeal primary site

DISCUSSION
Previous series have demonstrated increased risk of dysphagia and aspiration in individuals with advanced T-stage larynx, and hypopharyngeal tumors. This study demonstrates that aspiration risk is elevated for these individuals, even in the pre-treatment state. This finding highlights the importance of pre-treatment instrumental assessment of swallowing in patients with HNCA. Such assessment allows for identification of individuals in need of intensive rehabilitation efforts prior to, during, or after oncologic management.

Additionally, for individuals found to have dysfunctional larynges, decision making regarding most oncologic treatment may suggest that “organ preservation” approaches may not yield ideal functional outcomes. We propose that integration of the pretreatment swallowing evaluation into the multidisciplinary team evaluation provides an excellent opportunity for patient evaluation, education, and intervention.

CONCLUSIONS
This series demonstrates that swallowing dysfunction may be present in the pretreatment state and should be considered when determining candidacy for organ preservation modalities. These data highlight the importance of instrumental swallowing evaluations prior to intervention for HNCA.

REFERENCES