Abstract

At the conclusion of this presentation, the participants should be able to demonstrate an understanding of the differential diagnosis of minor salivary gland tumors, compare the histopathologic characteristics of common tumors, explain what carcinoma ex-pleomorphic adenoma is, and discuss the treatment options and outcomes for these tumors.

Case report and literature review.

Methods:
The patient’s medical record was reviewed and presented. A literature search of PubMed was performed using the terms “carcinoma ex-pleomorphic,” “minor salivary tumors,” and “malignant.”

Results:
The patient presented with dysphagia and a base of tongue mass. This was confirmed on physical exam and CT of the neck. Panendoscopy and biopsy were performed with final pathology suggesting a low-grade salivary neoplasm. Operative excision was performed with a CO2 laser and the final pathology demonstrated CXPA with microscopic extension to the specimen margin. The patient was subsequently treated with radiation therapy.

A literature review revealed that salivary gland neoplasms represent approximately 2-3% of all head and neck malignancies with minor salivary glands accounting for 22% of these. Unlike parotid and submandibular gland tumors, the majority of minor salivary gland tumors are malignant. Adenoid cystic carcinomas and mucopidermoid carcinomas are noted to be the most common histologic types. Surgery with or without post-operative radiation therapy is the mainstay of treatment for these carcinomas. Indicators significant to outcome include T stage, histologic type, cervical nodal or distant metastases, surgical margin status, and perineural invasion.

Conclusions:
Pleomorphic adenoma of the tongue base is extremely rare and to our knowledge this is the first report of CXPA of the tongue base.

Introduction

Minor Salivary Glands
- Present throughout upper aerodigestive tract
- Simple tubulo-alveolar glands
- Total 500-1000
- 450-750 glands in oral cavity, majority on palate
- Heterotopic glands have been reported
- Salivary gland unit
  - acini of serous or mucous cell
  - intercalated duct, striated duct, & excretory duct
  - Myoepithelial cells surround the acinar cells and the intercalated duct

Case Report

HPI: 61 year old man presented with globus sensation and mild pharyngeal dysphagia
PMH: HTN, BPH, PUD
FH: none
SH: Vietnamese, quit smoking 10 yrs ago (10 PYH), no ETOH
FF: firm palpable mass at right tongue base, normal tongue motion, no anodontpy or other findings
PF: Ulcerated 3.5cm mass at the right tongue base, normal larynx anatomy and cord motion
CT, MBS, and Endoscopy findings are shown in Figures 1-3 respectively confirming R base of tongue mass
Initial biopsy thought to be low grade salivary neoplasm with features of mixed tumor, therefore WLE was performed
Surgical resection was performed with a CO2 laser (Figures 4-5)
Surgical pathology, shown in Figure 6, demonstrates CXPA which was supported by mucocarcinoma and PAS staining.
Adjuvant radiation therapy was given since microscopic tumor extended to the specimen margins.

Table 1. Reported cases of pleomorphic adenoma of the tongue base.

<table>
<thead>
<tr>
<th>Author(s)/Yr</th>
<th>Age</th>
<th>Sex</th>
<th>Size (cm)</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goepfert et al, 1976</td>
<td>39</td>
<td>F</td>
<td>NA</td>
<td>Surgery/XRT</td>
</tr>
<tr>
<td>Greal et al, 1984</td>
<td>35</td>
<td>M</td>
<td>4</td>
<td>Surgery</td>
</tr>
<tr>
<td>Deitmer &amp; Stoll, 1985</td>
<td>29</td>
<td>M</td>
<td>2 X 3</td>
<td>Surgery</td>
</tr>
<tr>
<td>Banerjee, 1987</td>
<td>32</td>
<td>M</td>
<td>2 X 3</td>
<td>Surgery</td>
</tr>
<tr>
<td>Magliulo et al, 1996</td>
<td>82</td>
<td>F</td>
<td>3 X 4</td>
<td>Surgery</td>
</tr>
<tr>
<td>Yoshihara &amp; Suzuki, 2000</td>
<td>87</td>
<td>F</td>
<td>2 X 3</td>
<td>Surgery</td>
</tr>
<tr>
<td>Vaamonde et al, 2004</td>
<td>42</td>
<td>M</td>
<td>NA</td>
<td>Surgery-TOR</td>
</tr>
<tr>
<td>Berry et al, 2004</td>
<td>66</td>
<td>F</td>
<td>2 X 2</td>
<td>Surgery</td>
</tr>
<tr>
<td>Eikohnen et al, 2007</td>
<td>70</td>
<td>F</td>
<td>NA</td>
<td>Surgery-TOR</td>
</tr>
</tbody>
</table>

Discussion

Minor Salivary Gland Tumors
- Incidence of 2-3% of all malignant neoplasms of upper aerodigestive tract (23% of all salivary tumors)
- Most common sites are palate and maxillary antrum
- 56% malignant rate among studies reviewed
- Etiologies include ionizing radiation and wood dust exposure
- Histologic representation among studies reviewed
  - Mucoepidermoid carcinoma (38%)
  - Adenoid cystic carcinoma (22%)
  - Adenocarcinoma (22%)
  - Malignant Mixed (5%)
  - Acinic cell (5%)
- Cervical mets seen in ~20% (38% of malignant mixed tumors)
- Distant mets in ~25% (7% of malignant mixed tumors)
- Factors influencing survival
  - Histology (i.e. mucoepidermoid > adenoid cystic)
  - Site (oral/oropharynx > sinuses > larynx)
  - Cervical or distant mets
- Indications for post-op XRT: perineural invasion, positive margins, high-grade histology, recurrence, cervical mets

Carcinoma Ex-pleomorphic Adenoma
- One of three types of mixed malignant tumors
- Site: 70% parotid, 15% submandibular, 15% minor
- Few cases of PA at tongue base as noted in Table 1
- Merts from the carcinomatous element alone (most common histologic type is adenocarcinoma)
- Prognosis better if carcinomatous component is contained within a benign mixed capsule
- Prognosis better in minor glands than major glands (typically more favorable histologic subtypes)

Malignant Salivary Gland Tumors of the Tongue Base
- Common histologies: adenoid cystic & mucoepidermoid
- High rate of regional and distant mets
- Difficult to completely excise => frequent positive margins
- Planned combined approach is the most effective treatment strategy

Conclusions
- Pleomorphic adenoma of the tongue base is extremely rare and to our knowledge this is the first report of CXPA of the tongue base.
- Majority of minor salivary gland neoplasms are malignant
- Most common malignant histologic types:
  - Mucoepidermoid
  - Adenoid cystic carcinoma
  - Adenocarcinoma
- Optimal management considers:
  - Local surgical control
  - Neck treatment as indicated (possibly elective for high grade lesions)
- Post operative XRT
- Long term follow-up is mandatory due to propensity of late and distant mets