A Study on Submandibular Gland Tumors

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The histopathology of submandibular gland tumors is diverse, and in many cases, it is also difficult to make a correct diagnosis preoperatively. A clinical study was performed on 38 cases of submandibular gland tumor surgically resected between 1995 and 2011. There were 33 benign and 5 malignant tumors. The most common benign tumor was pleomorphic adenoma (97.0%). Three of the 5 malignant tumors were low-grade mucoepidermoid carcinomas, and two were adenoid cystic carcinomas. We compared the preoperative diagnosis with final diagnosis. We considered that fine-needle aspiration (FNA) biopsy was very useful for the surgical management of submandibular gland tumor, and in malignant cases, the use of both FNA and frozen section biopsy (FSB) could improve the precision of the preoperative diagnosis. We performed supraomohyoid neck dissection in patients with clinically negative neck metastasis, and total neck dissection in patients with clinically positive neck metastasis. Postoperative radiotherapy was performed in patients with perineural invasion, a narrow safety margin, high-grade malignancy, multiple neck metastasis and extranodal extension. Following extirpation of the submandibular gland and tumor, facial paresis occurred in 8 (27.6%) cases. We compared postoperative complications following the non-identified method with the identified method. Facial paresis occurred in 1 (5.9%) cases following the non-identified method, and occurred in 7 (50.0%) cases following the identified method. Our results suggested that the non-identified method was safer and more useful in preventing postoperative complications following extirpation of the submandibular gland and associated tumors.

**Keywords**: submandibular gland tumor, fine-needle aspiration biopsy, facial paresis

**References**


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### Profile of the cases

<table>
<thead>
<tr>
<th>Number (cases)</th>
<th>Sex</th>
<th>Mean Age (years)</th>
<th>Time before arrival (months)</th>
<th>Histology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benign</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Male: 9 Female: 24</td>
<td>52.9</td>
<td>79.9</td>
<td>Pleomorphic adenoma: 32 Myoepithelioma: 1</td>
</tr>
<tr>
<td>Malignant</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Male: 2 Female: 3</td>
<td>46.4</td>
<td>28.8</td>
<td>Mucoepidermoid carcinoma: 3 Adenoid cystic carcinoma, solid: 1 Adenoid cystic carcinoma, tubular: 1</td>
</tr>
</tbody>
</table>

### Fine needle aspiration cytology

<table>
<thead>
<tr>
<th>Benign tumor</th>
<th>33 cases</th>
<th>Malignant tumor</th>
<th>5 cases</th>
</tr>
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<tbody>
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<td>Class II</td>
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</tr>
<tr>
<td>Class III</td>
<td>1</td>
<td>Class III</td>
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<tr>
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<td>1</td>
</tr>
<tr>
<td>Class V</td>
<td>1</td>
<td>Class V</td>
<td>1</td>
</tr>
</tbody>
</table>

Specificity 97.0% Sensitivity 40.0%