A Clinical Study on Cervical Tumors Initially Suspected of Schwannomas

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Schwannomas are tumors arising from schwann cells and typically occur in the cranial, autonomic and peripheral nerves. It is difficult to diagnose schwannomas prior to surgery, and it is not unusual to find a different tumor during the actual surgery. The differential diagnosis of a mass in the head and neck region is broad, and patients referred with a suspected schwanna require careful review of the findings and clinical scenario because of the presence of other rare tumors. Surgery was performed in accordance with the working diagnosis for patients referred to our hospital with suspected schwannoma, but a histopathological examination indicated that rather than schwannoma, the patients had abdominal wall desmoid tumors, malignant lymphomas, hemangiomas, angiosarcomas or relatively rare carotid body tumors. Therefore, in this study, we examined whether a differential diagnosis might have been possible prior to surgery. The results revealed factors important for differential diagnosis as follows: clinical course, tumor mobility and pain and hard, MRI, ultrasound, fine-needle aspiration cytology and FDG-PET. If all these fundamental factors are reconfirmed during the initial examination of referred patients, we believe that clues will appear that will discount schwannoma in many cases. However, with rare tumors, there were still cases where it was difficult to make a definitive diagnosis that it was not schwannoma.

Keywords : cervical tumor, schwannoma, diagnosis

References
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Axial gadolinium-enhanced T1-weighted MRI of case 1 showing a homogeneously enhanced tumor. The tumor was diagnosed as an extra-abdominal desmoid tumor after surgery.

Coronal T2-weighted MRI of case 6 showing a heterogeneous tumor lodged between the internal jugular vein and the sternocleidomastoid muscle. The final histological diagnosis was angiosarcoma.

### Summary of the cases

<table>
<thead>
<tr>
<th>Case</th>
<th>Supposed nerve origin</th>
<th>Final diagnosis</th>
<th>Useful preoperative findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cervical plexus</td>
<td>Desmoid tumor</td>
<td>Palpation, MRI</td>
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<tr>
<td>2</td>
<td>Accessory nerve</td>
<td>Malignant lymphoma</td>
<td>Rapid growth, FNA</td>
</tr>
<tr>
<td>3</td>
<td>Great auricular nerve</td>
<td>Hemangioma</td>
<td>FNA</td>
</tr>
<tr>
<td>4</td>
<td>Superior laryngeal nerve</td>
<td>Hemangioma</td>
<td>US</td>
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<td>5</td>
<td>Vagus or sympathetic nerve</td>
<td>Carotid body tumor</td>
<td>MRI, angiography</td>
</tr>
<tr>
<td>6</td>
<td>Accessory nerve</td>
<td>Angiosarcoma</td>
<td>Palpation, rapid growth, FDG-PET</td>
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</tbody>
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