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Case report

A case of schwannoma in the parotid-masseteric region

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ABSTRACT

Schwannoma is a benign tumor derived from abnormal growth of Schwann cells. We report a case of a schwannoma in the parotid-masseteric region. A 24-year-old woman was referred to our department because of the swelling in the right preauricular area. Clinical examination showed a movable, elastic-hard mass, 22 mm × 31 mm in diameter, in the parotid-masseteric region. Magnetic resonance images showed a well-defined lesion that was hypointense on T1-weighted images and hyperintense on T2-weighted images in the right parotid-masseteric region. Under tentative diagnosis of benign tumor, the lesion was enucleated under general anesthesia. The excised specimen had a pale yellowish surface, measured 28 mm × 19 mm × 15 mm in size. The histopathological diagnosis was a schwannoma (Antoni A). The postoperative course of the patient is uneventful for 5 years.

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1. Introduction

Schwannomas are benign tumors originating from Schwann cells in the nerve sheath that show a predilection for the head and neck region [1]. While there have been occasional reports on schwannomas in the parotid region, there are very rare on those in the parotid gland masseter muscles [2]. Here, we describe a case of schwannoma located under the skin in the parotid gland masseter muscle.

2. Case report

In August 2002, a 24-year-old woman referred the Department of Oral and Maxillofacial Surgery at Osaka Dental University Hospital with swelling in the anterior part of her right ear. Neither medical nor family history was contributory. The patient had noticed swelling in the anterior part of her right ear about a year prior, but did not attend to it as it was painless. She decided to visit our department because the swelling had gradually worsened.

[☆] AsianAOMS: Asian Association of Oral and Maxillofacial Surgeons; ASOMP: Asian Society of Oral and Maxillofacial Pathology; JSOP: Japanese Society of Oral Pathology; JSOMS: Japanese Society of Oral and Maxillofacial Surgeons; JSOM: Japanese Society of Oral Medicine; JAMI: Japanese Academy of Maxillofacial Implants.

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Extraoral observation revealed an elastic, hard and mobile spherical mass 22 mm × 31 mm in size under the skin, 15 mm anterior to the center of the right tragus. The skin surface was a healthy color and no tenderness was present. There was no trismus or facial palsy (Fig. 1). Intraoral examination showed good flow of saliva from the parotid papilla and did not reveal any other abnormalities.

Ultrasonography revealed a spherical lesion with clear boundaries and internal ultrasound showed non-uniform density (Fig. 2). Magnetic resonance imaging (MRI) showed a lesion with a non-uniform internal shape, clear boundaries, low signal intensity on coronal T₁-weighted imaging and high signal intensity on T₂-weighted imaging. High signal intensity and clear boundaries were observed on transverse T₂-weighted imaging and a lesion with clear boundaries and high signal intensity was seen on fat-suppressed T₂-weighted imaging. No connection was seen between the lesion and the parotid region (Fig. 3).

A clinical diagnosis of a benign tumor in the right parotid gland masseter muscle was made and the tumor was surgically extracted under general anesthesia in December 2002. We approached via an incision in the anterior part of the ear and found a tumor just under the skin that was not connected to parotid gland tissue. No facial nerves were exposed and the tumor was relatively easily excised from the surrounding tissue and extracted. The postoperative course was satisfactory and there were no obstructions in any facial nerves or other areas. There was no recurrence in the 5 years after surgery.

The extracted mass was 28 mm × 19 mm × 15 mm with a pale yellow surface. It was an elastic and hard lesion encapsulated



Fig. 1. Photo of the patient's face before surgery. Mass formation was confirmed in the right parotid gland masseter muscle.

in a smooth membrane. The cut surface was moist, pale yellow in color and solid and there was a hemorrhagic focus in the center (Fig. 4). Histopathological examination revealed a solid tumor encapsulated in a membrane with some bone formation and numerous dilated blood vessels. Tumor cells with spherical or elliptical nuclei had multiplied in bundles and the nuclei were arranged in palisades (Fig. 5A). One part exhibited myxomatous growth. Immunohistochemical staining using S-100 protein antibodies showed numerous spindle-shaped S-100 protein-positive cells among the tumor cells (Fig. 5B). Histopathology thus confirmed the diagnosis of schwannoma (Antoni A).

3. Discussion

Schwannomas are benign tumors originating from Schwann cells of the nerve sheath and reportedly have a predilection for

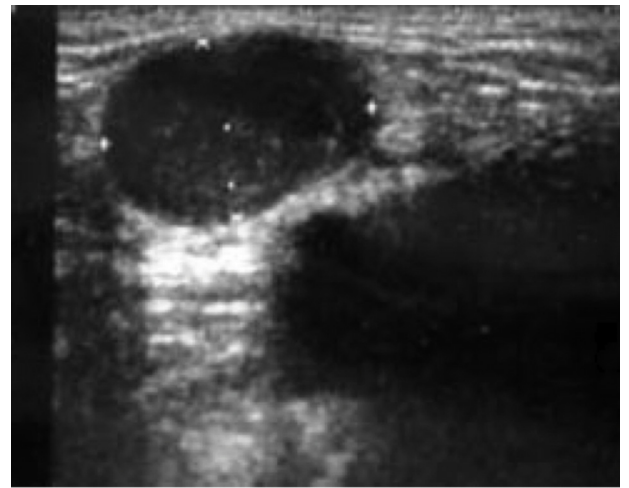


Fig. 2. Ultrasound image before surgery. The lesion was spherical with clear boundaries, and internal ultrasound revealed partial non-uniform density.

the head and neck region [1]. Das Gupta et al. [2] reviewed 303 cases of solitary benign neurogenic tumors. Of these, the tumor was in the head and neck region in 136 patients (45%), in the parotid gland in 10 patients (3.3%) and in the preauricular region in only 2 patients (0.6%). Hinohara et al. [3] reviewed 195 cases of schwannoma in the ear, nose and throat region. Two patients (1.0%) were reported to have a tumor in the parotid gland and there were no reports of schwannomas in the preauricular region or the parotid gland masseter muscles. In the oral and maxillofacial regions, schwannomas are predominantly found in the tongue, and the reported frequency of occurrence in other areas varies. Kun

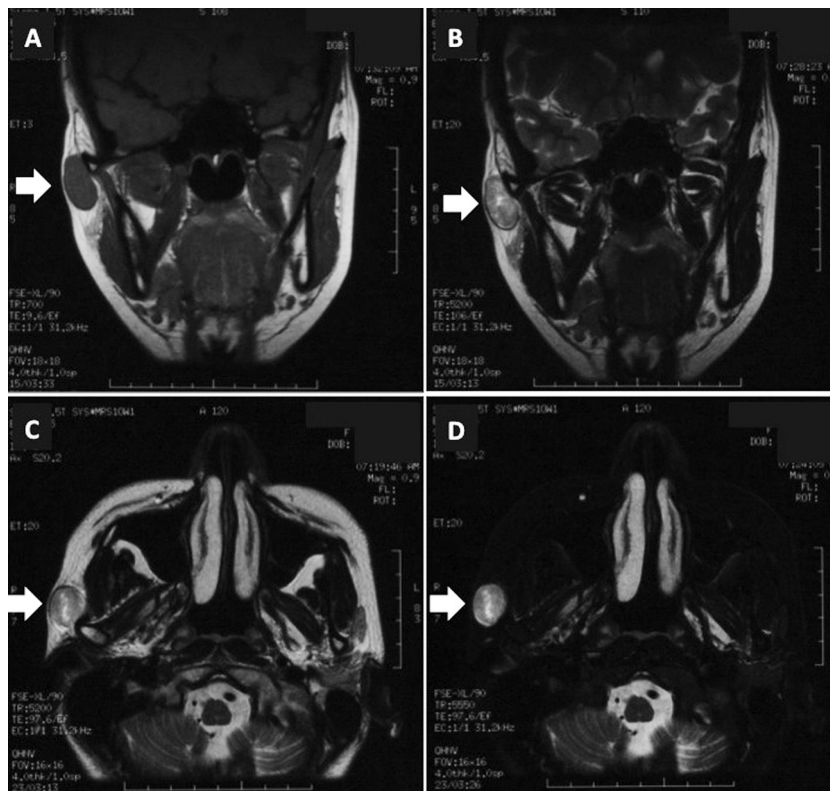


Fig. 3. Coronal and transverse magnetic resonance imaging prior to surgery. (A, C) T_1 -weighted imaging, and (B, D) T_2 -weighted imaging tumorous lesion with a non-uniform internal shape, clear boundaries, low signal intensity on T_1 -weighted imaging, high signal intensity on T_2 -weighted imaging and high signal intensity on fat-suppressed T_2 -weighted imaging.

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