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# Surgically excising an intraoral schwannoma of the soft palate using a buccinator flap: A case report



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#### ABSTRACT

INTRODUCTION: Schwannomas are benign tumors derived from Schwann cells. However, schwannomas in the soft palate is considered rare.

*PRESENTATION OF CASE:* We report a case of a 17-year-old girl who presented with a 20-mm nodular lesion in the soft palate. After surgical resection, a buccinator musculomucosal flap was used for soft palate reconstruction. At 6 months post-operation, velopharyngeal insufficiency was not observed. *DISCUSSION:* In this report, palatal muscles are examined, and the necessity of palatal muscle preservation

and reconstruction of the defect in the soft palate mucosa after surgical resection of a schwannoma in the soft palate is presented.

*CONCLUSION:* Following resection of an approximately 20 × 19-mm-sized schwannoma of the soft palate, which is a relatively rare site of occurrence for schwannomas, we performed reconstruction of the defect using a BMMF to prevent scar contracture. This was an effective method of reconstruction in consideration of velopharyngeal function.

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#### 1. Introduction

A schwannoma is a tumor arising from Schwann cells and was first described as a distinct pathological entity by Verocay in 1908 [1]. Later, in 1935, Shout recognized the histological origins of a tumor arising from Schwann cells and thus called it a schwannoma [2]. Approximately 25–40% of schwannomas occur in the head and neck regions, of which 1–12% affect the intraoral area, most frequently the tongue or mouth floor [3].

Intraoral schwannoma is not commonly seen in the palate. Such lesions are usually treated by conservative surgical excision with no reported risk for velopharyngeal insufficiency [4]. However, in the soft palate, which are important in the proper functioning of palatal muscles such as tensor veli palatini and levator veli palatini muscles.

In this report, palatal muscles are examined, and the necessity of palatal muscle preservation and reconstruction of the defect in the soft palate mucosa after surgical resection of a schwannoma in the soft palate is presented. This case report is in line with the SCARE criteria [5].

#### 2. Case presentation

The patient was a 17-year-old girl who began to notice swelling of her soft palate one year prior to presentation, but she had taken no prior action. She later demonstrated pharyngeal pain and redness, prompting her to visit our department for examination. She had no particular past history of illness.

Initial physical examination revealed a nodular lesion in the soft palate approximately  $20 \times 19$  mm in size (Fig. 1a). The tumor was not visible in the nasal mucosa on nasal endoscopy (Fig. 1b). T1-weighted magnetic resonance imaging (MRI) showed the lesion with low signal intensity, while T2-weighted MRI demonstrated the lesion with pale and uneven high signal intensity. A contrast-enhanced fat suppression T1-weighted MRI demonstrated a strong but uneven contrast effect (Fig. 2). The tumor was  $20 \times 19 \times 17$  mm in size (Fig. 3a).

Histopathologically, the tumor demonstrated hyperplastic spindle cells with strong S-100 protein reactivity and nuclear palisading (Fig. 3b and c).

Following local injection of 1% xylocaine with epinephrine around the tumor under general anesthesia, the area within the 2-mm radius of the tumor was incised. The tumor bed included a portion of the levator veli palatini muscle, and simple excision was performed. No nasal mucosal defect was found from the tumor site, and an evident nerve pathway could not be confirmed. The internal nasal tissue defect was closed by reconstruction using a buccinator musculomucosal flap (BMMF). The flap has a semi-spindle shape

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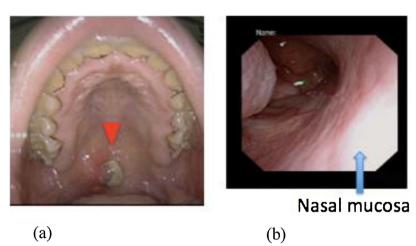
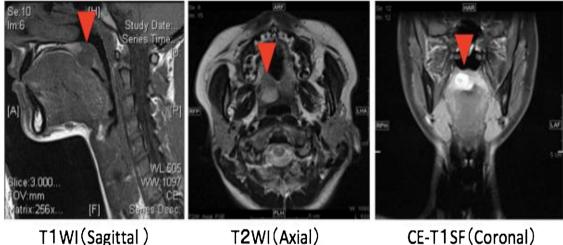


Fig. 1. (a) Schwannoma of the soft palate (♥). (b) View obtained from a nasal endoscopy.



T1WI(Sagittal)

## T2WI (Axial)

Fig. 2. Magnetic resonance imaging Schwannoma (**\Vec{s}**).

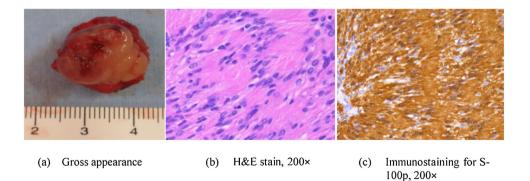


Fig. 3. (a-c) The lesion contained Antoni type A tissue with Verocay bodies. Positive immunoreactivity of neoplastic cells for S-100.

that extends from the angle of the mouth to the defect with a maximum transverse diameter of 16 mm (Fig. 4a). The buccinator was identified and elevated until the defect could be closed using 5-0 vicryl sutures (Fig. 4b and c). The BMMF was engrafted without necrosis. Separation of the pedicle via a two-stage surgery was unnecessary.

At 6 months post-operation, the patient did not demonstrate any scar contracture of the buccal mucosa or the soft palate. There was no evidence of trismus or velopharyngeal insufficiency (Fig. 5a), and recurrence was not observed (Fig. 5b).

#### 3. Discussion

On MRI, schwannomas demonstrate low signal intensity in T1weighted images, high signal intensity in T2-weighted images, and a contrast effect in gadolinium-diethylenetriamine pentaacetic acid-enhanced images [6]. These same findings were observed in the present case. The positional relationship between palatal muscles and tumor is also observed by MRI. It is useful to conduct nasal endoscopy to observe the nasal mucosa and confirm the absence of tumor exposure [7].

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