Recurrent Schwannoma of Upper Neck —
A Case Report

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Abstract

Schwannoma or neurilemoma is an uncommon benign neural neoplasm of Schwann cell origin that may affect any peripheral, cranial, or autonomic nerve. It is relatively rare with about 25% - 50% of the predilection in the head and neck region. Due to its encapsulated characteristic, complete excision should not be followed by recurrence. However, the following is an unusual case report which happened in a 19 years old girl with a Schwannoma over right upper neck occurred twice at the same site after 12 yrs.

Key words: schwannoma, recurrent, upper neck.

INTRODUCTION

The extracranial schwannoma, also referred to as neurilemoma, is a benign neoplasm with no known cause of stimulus. It is derived from proliferation of Schwann cell (neural crest origin) of the nerve sheath neurilemma that surrounds peripheral nerves. Schwannomas have a predilection for the head and neck region where 25%~50% of them may be found. The age of those affected may range from 16 to 60 years old with mean age of 40 years old. The Schwannoma usually is a solitary asymptomatic nodule mass, slow growing in the soft tissue, but may be undergoing a sudden increase in size. They are usually painless unless they are causing pressure on adjacent nerves. Bony lesions produce radiolucent pattern and may also cause pain or paresthesia. The best treatment of the Schwannoma is surgical excision. Since it is an encapsulated tumor, little difficult is usually encountered in its complete removal, and recurrence is unlikely. Malignant transformation is also extremely rare. The following case report is that Schwannoma occurred in the same site of upper neck with interval over 12 years.

CASE REPORT

A 19 years old girl presented to the
Clinic of Oral and Maxillofacial Surgery at the Department of Dentistry of Kaohsiung Veterans General Hospital in Taiwan on Sep 14, 1992. She was bothered by a firm mass over the right submandibular region for 3 months (Figure 1). The personal and family histories were unremarkable. The lesion was 1.5 cm in diameter, freely movable, firm in consistency and no tenderness. The size increased gradually with time but no size changes or fluctuation associated when having meal. The salivary flow was clear and copious. Sialography of the right submandibular gland was performed with good filling of the duct system and parenchyma was obtained. Salivary gland tumor was then ruled out after the examination. Surgical removal of the tumor was arranged under general anesthesia. A yellowish and well encapsulated tumor was identified beneath the platysma muscle layer and in front of the submandibular gland, which was removed completely without any difficulty (Figure 2). The final pathologic report was Schwannoma. The healing course was smooth and patient was discharged after a few days. She was regularly followed up in our OPD for 3 years without any abnormal finding. However, after 12 years post the initial surgery, the patient came back to the Clinic with complaint of a palpable mass noted again over the previous operation site, on Dec 24, 2004 (Fig 3). Physical examination in OPD revealed a 2.5 cm mass was palpable over the right submandibular region. It was the same site as before. CT-scan and MRI imaging was then arranged for further evaluation. The CT-scan report showed a solitary tumor mass was identified which located in the right submandibular and submental area, deeper than the previous lesion. The images of MRI showed a heterogeneous enhancing well-defined tumor mass with some lobulated appearance with relative iso- to hypo- signal intensity on T1-weighted image and inhomogeneous hyper-signals intensity on T2-weighted image (Figure 4). Surgical excision was done and the tumor was easily dissected from the surrounding tissue en bloc (Figure 5). Yellow colored tumor mass was delivered, similar to the specimen from 12 yrs ago. The final pathological report was schwannoma again. During these two operations, no obvious nerve fiber was identified associated with the tumor mass. The post-operative course was smooth with no complication. The sections of the specimen showed a picture composed of Antoni A areas which contain quite cellular spindle cells in palisading fashion and Antoni B areas which contain loosely arranged spindle cells separated by abundant edematous stroma. (Figure 6, 7)

**DISCUSSION**

There are no distinctive features of Schwannoma that allow identification of this lesion on clinical grounds and diagnosis is usually confirmed by microscopic examination\(^5\). Differential diagnosis would include other benign mesenchymal neoplasm, salivary gland tumors, and traumatic fibroma. Malignant transformation or malignant Schwannoma are rarely seemed and the prognosis is poor if associated with neurofibromatosis or von Reckinghausen disease. Radical excision is still the best choice of treatment in malignant Schwannoma, but the neck lymph node dissection is not necessary\(^1\). In this case, both specimens from two operations didn’t show any evidence of malignant changes.

In the treatment of Schwannoma, complete excision usually means no recurrence; reported recurrent case was few\(^3\). However, in this case the tumors occurred in the same site twice
Fig. 1. Clinical appearance of the tumor mass over the patient’s right submandibular region.

Fig. 2. The surgical specimen from the first operation showing yellowish appearance.
Fig. 3. Clinical pictures showing the swelling mass over right submandibular region.

Fig. 4. The MRI images showing the multilobular shape of the tumor mass over mouth floor region.
Fig. 5. The surgical specimen from the last operation.

Fig. 6. The first removed tissue show a typical feature of schwannoma with presence of either Antoni A and B (Verocay body seen in the inlet). The well encapsulate fibrous capsule located on the left of the picture (H&E, 100X).
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After 12 years, would it be a recurrent tumor of before? During the first treatment course, the tumor was so superficially located and therefore no CT or MRI images were taken to rule out any multiplicity. Although in the second time treatment, radiographic images confirmed a solitary lesion, the possibility of another tumor left after first surgery could not be ruled out. But will it be taking 12 years to grow or just a new lesion developed, no-one can sure about that. One thing the operator was quite sure that is the complete excision of the tumor in both operations with no residual tumor tissue left, as seen on the specimen pictures. In our opinion, we prefer this case to be a recurrence of Schwannoma of upper neck after 12 yrs, may be along a peripheral nerve fiber.

As mentioned above, no obvious nerve fiber was identified associated with the tumor during the operation of this case. There was no nerve fiber resection has been done. Nerve can be identified only in 50% of the cases from previous report\textsuperscript{5,9}. The nerve is usually pushed aside and doesn’t become enmeshed within the tumor\textsuperscript{7}. The encapsulation of the tumor, mostly facilitate complete removal without difficulty. From the literature reviewed, it seems that using neurectomy to prevent recurrence is not necessary. While some authors advocated nerve resection with grafting reconstruction to prevent recurrence, conservative surgery is still the best choice of treatment in extracranial schwannoma\textsuperscript{2,4,6,8}.

Fig. 7. Schwannoma of the second time operation reveals the same histologic features as the first operation (H&E 100X).
REFERENCE

上頸部復發性神經鞘瘤—病例報告

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摘 要

神經鞘瘤是一少見之良性神經組織細胞所衍生出的腫瘤，多侵犯周邊、中樞或自主神經，約25-50%發生在頭頸部。由於其有完整包覆之被膜，在完整手術切除後極少復發，然而以下報告為一少見之病例，發生在一名19歲之女性患者，因右上頸部良性神經鞘瘤，術後12年又發生在同一部位之相同腫瘤的病例探討。

關鍵詞：神經鞘瘤，復發性，上頸部。