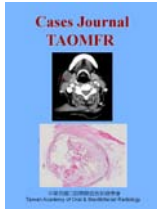


## Cervical Subcutaneous Epidermoid Cyst Mimicking Lymph Node Metastasis for a Patient with Oral Carcinoma

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**A**lthough cervical lymph node metastases are present in at least 40% of patients with head and neck squamous-cell carcinoma (SCC) at the time of diagnosis [1]. However, it has been reported that occasionally other types of cervical lymphadenopathy such as tuberculosis has also been found for patients with head and neck SCC during neck dissection [2]. Here, we report an interesting case of neck subcutaneous epidermoid cyst occurred in a patient with a clinical history of ranging from oral premalignancy (verrucous hyperplasia) to malignancy (verrucous carcinoma and SCC respectively) and radiologically mimicking a delayed metastatic cervical lymph node.

### CASE PRESENTATION

An 80-year-old Taiwanese aboriginal female patient, with heavy habits of betel-quid chewing, cigarette smoking and alcohol drinking, was suffered from verrucous hyperplasia over the right lower lip in 2003. About one and a half years later, the patient had verrucous carcinoma (Figure 1), and subsequently, in 2008, well-differentiated SCC was confirmed over the same site (Figure 2). Until recently (November, 2009), a fixed non-tender right submandibular swelling was palpated. Computerized

tomography (CT) of this cervical swelling revealed a well-defined circumscribed soft tissue mass (approximately 2-cm in diameter) with slight enhanced rimming (Figure 3). Hence, a delayed metastatic cervical lymph node is clinically and radiologically suspected.

Upon general anesthesia, the cervical swelling was surgically removed. The specimen was subsequently sent for pathological examination. Grossly, the tissue specimen was measured about

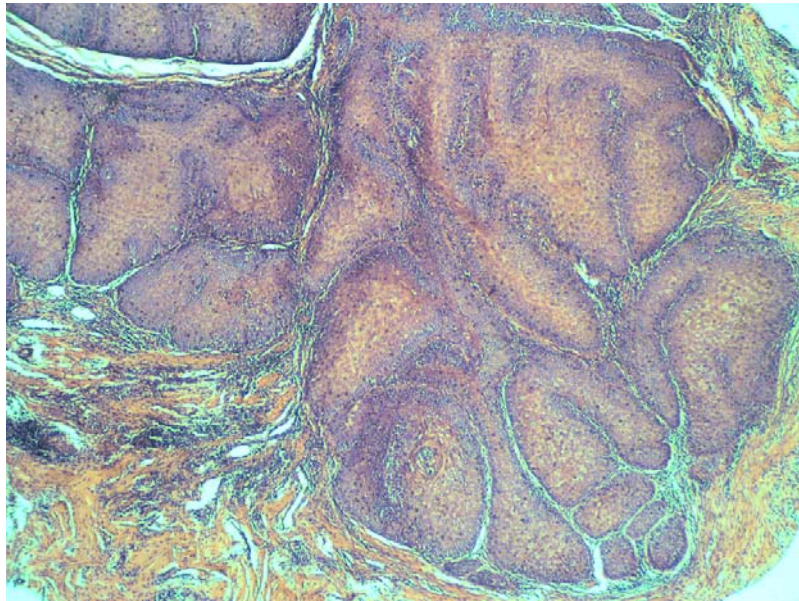
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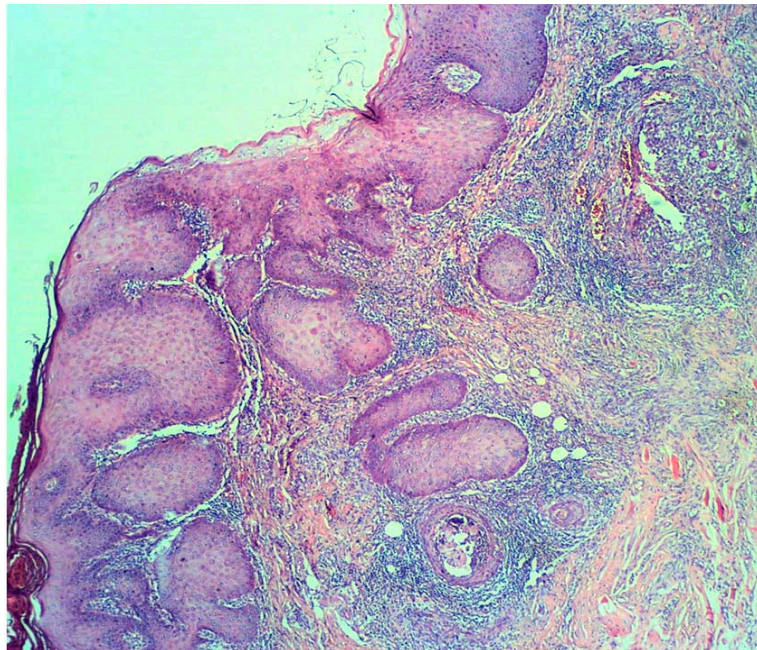
2×2 cm in diameter, and on cut section, it revealed a cystic space completely filled with yellowish-brown substance. Histological examination of this cervical swelling revealed a fibrous-walled cyst (Figure 4), entirely lined by orthokeratinizing stratified squamous epithelium (Figure 5) and with no skin

### Cervical epidermoid cyst mimick lymph node metastasis

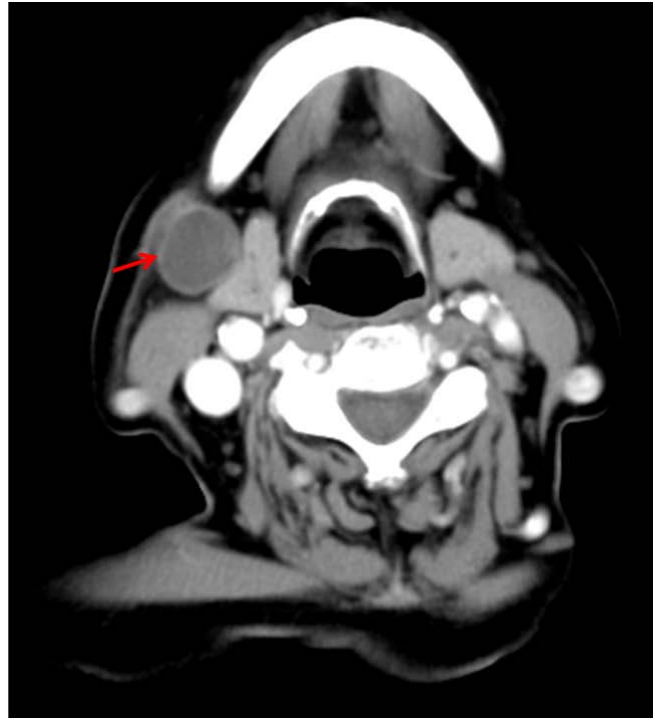
adenexae evident in the cystic wall. The lumen is filled with eosinophilic degenerating keratin (Figure 6). Therefore, a pathological diagnosis of epidermoid cyst was rendered for this right cervical lesion. The patient recovered well from the operation and was under regular clinical follow-up.



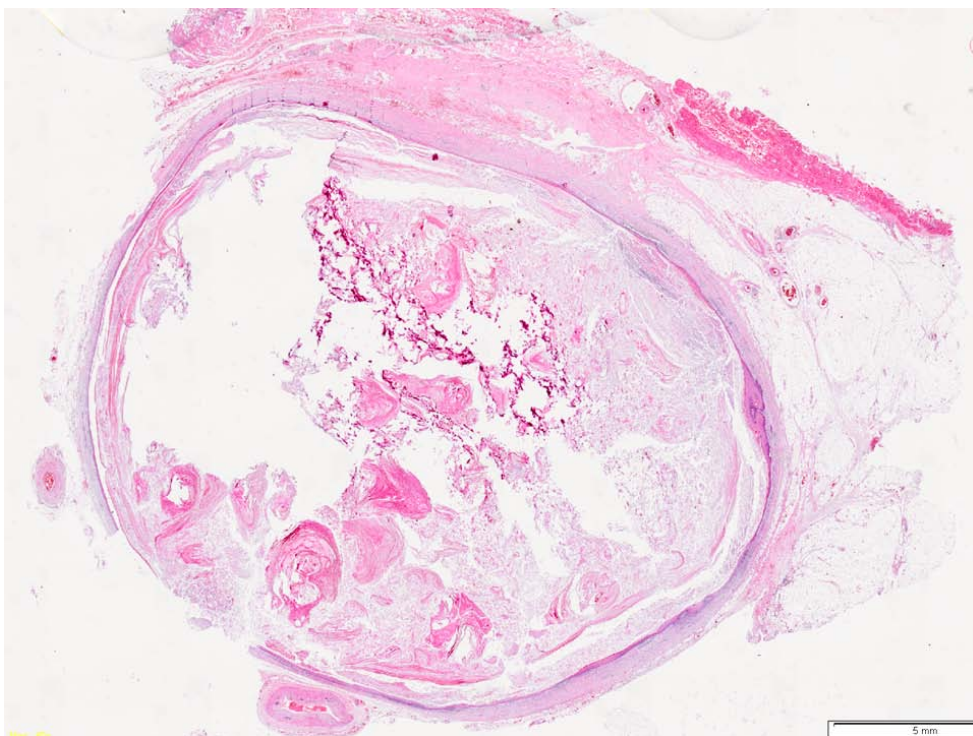
**Figure 1** Histological diagnosis of the verrucous carcinoma over the right lower lip (Hematoxylin-eosin stain ×100)



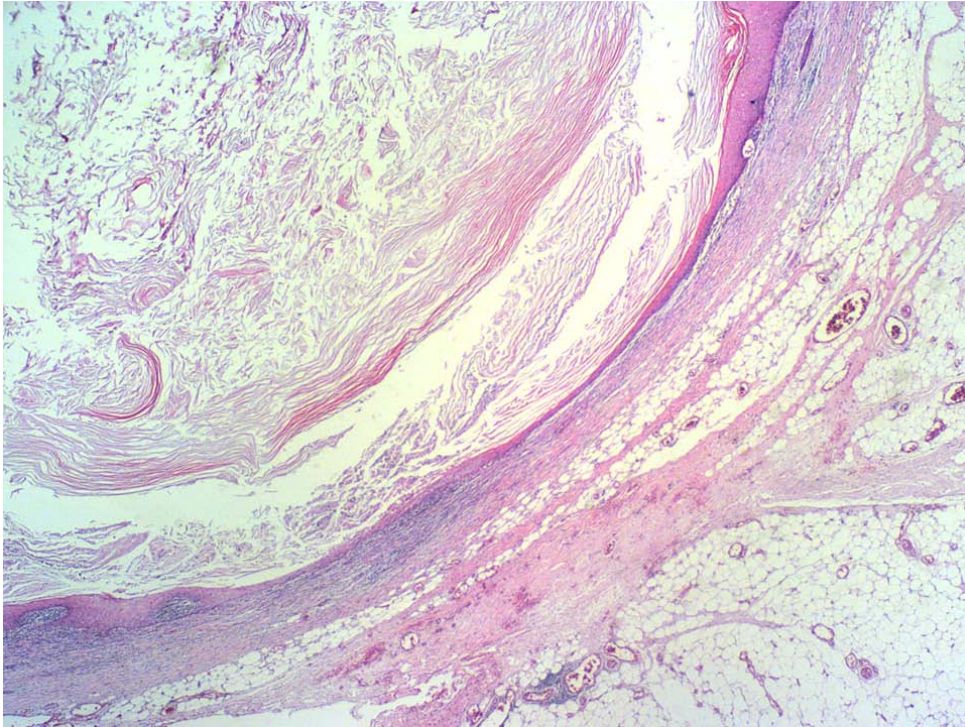
**Figure 2** Histological diagnosis of the well-differentiated squamous-cell carcinoma over the right lower lip (Hematoxylin-eosin stain ×40)



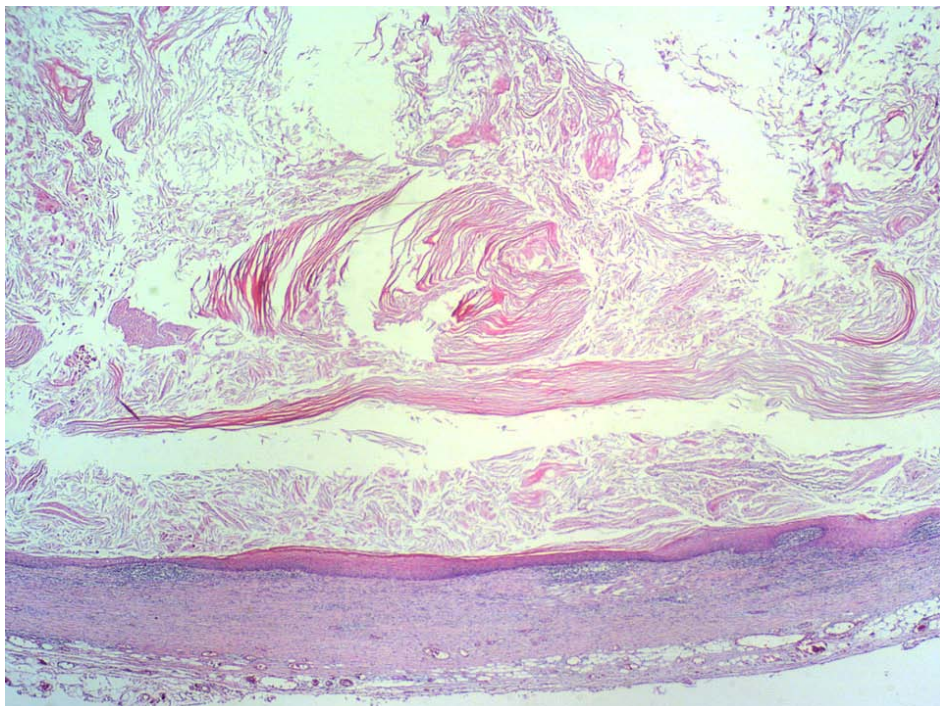
**Figure 3** Axial view of computerized tomography revealed a well-defined circumscribed soft tissue mass with slight enhanced rimming over the right submandibular area (arrow)



**Figure 4** Lower power view of the right submandibular mass revealed a well encapsulated cystic cavity containing multiple eosinophilic materials (Hematoxylin-eosin stain  $\times 20$ )



**Figure 5** Medium power view revealed an encapsulated cavity surrounded by a thin epithelial lining containing keratin-like materials (Hematoxylin-eosin stain  $\times 100$ )



**Figure 6** High power view revealed fibrous-walled cyst, completely lined by orthokeratinizing stratified squamous epithelium and with no skin adnexae evident in the cystic wall. The lumen is filled with degenerating keratin (Hematoxylin-eosin stain  $\times 200$ )

**COMMENTS**

In the assessment of patients with cervical swelling, thorough clinical history and physical examination is utmost important. This is supplemented with radiological examinations such as CT, magnetic resonance imaging and/or other valuable diagnostic facilities. Then, further evaluation using fine needle aspiration biopsy (FNAB) and an open biopsy can assist to make the diagnosis of a head and neck malignancy [3]. FNAB may have benefits superior to open biopsy because there is no risk of tumor spread and its simplicity to perform [4, 5]. For the present case, the patient had a long clinical history ranging from oral premalignancy (verrucous hyperplasia) to malignancy (verrucous carcinoma and SCC respectively). Moreover, the CT finding also strongly suggested a high possibility of delayed cervical lymph node metastasis. Therefore, instead of the advantages of FNAB, the oral surgeon preferred to have the open biopsy directly. However, if FNAB were performed, with the clinically history of oral malignancy, there could have been a possibility for pathologist to make a misdiagnosis of cervical lymph node metastasis due to a great chance to attain a limited specimen from the cystic epithelial lining as well as from the cystic content of keratin-like material. Indeed, the problem of the presence of squamous cells in needle aspirates of subcutaneous lesions causing a diagnostic problem has been reported by Ramzy et al who had reported two-needle aspirates from 1000 cases were incorrectly diagnosed as SCC [6]. Careful assessment of nuclear and cytoplasmic features, cellular background, clinical findings, and history is crucial to avoid a false positive diagnosis of SCC.

Presence of cervical lymph node metastasis for patients with oral SCC is not an uncommon event [1, 7]. However, as aforementioned, cervical tuberculosis other than oral SCC metastasis has sporadically been reported for oral SCC patients undergone neck dissection [2]. Furthermore, coexistence of cervical tuberculosis and metastatic SCC in a single lymph node group has also been reported [8]. Both clinically and radiologically, a delayed cervical lymph node metastasis was highly suspected for our patient. However, upon histological examination, a subcutaneous epidermoid cyst was actually occurred in the submandibular area. On the other hand, reviewing English-language literature, to our knowledge, metastatic SCC presenting as a subcutaneous cyst on the neck has also been reported [9]. Hence, taken together, our findings and previously reported case [9] highlight the importance to have a careful histological inspection of all the cervical swellings in order to have a proper pathological diagnosis and then an adequate treatment planning. □

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**REFERENCES**

1. Leemans CR, Tiwari R, Nauta JJ, van der Waal I, Snow GB. Regional lymph node involvement and its significance in the development of distant metastases in head and neck carcinoma. *Cancer* 1993;**71**:452-6.
2. Wang WC, Chen JY, Chen YK, Lin LM. Tuberculosis of the head and neck: a review of 20 cases. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2009;**107**:381-6.
3. Saboorian MH, Ashfaq R. The use of fine needle aspiration biopsy in the evaluation of lymphadenopathy. *Semin Diagn Pathol* 2001;**18**:110-23.
4. Adoga AA, Silas OA, Nimkur TL. Open cervical lymph node biopsy for head and neck cancers: any benefit? *Head & Neck Oncology* 2009;**1**:9.
5. Matsumoto F, Itoh S, Ohba SI, Yokoi H, Furukawa M, Ikeda K. Biopsy of cervical lymph node. *Auris Nasus Larynx* 2009;**36**:71-4.
6. Ramzy I, Rone R, Schantz HD. Squamous cells in needle aspirates of subcutaneous lesions: a diagnostic problem. *Am J Clin Pathol* 1986;**85**:319-24.
7. Chen YK, Huang HC, Lin LM, Lin CC. Primary oral squamous cell carcinoma: an analysis of 703 cases in southern Taiwan. *Oral Oncol* 1999;**35**:173-9.
8. Gheriani H, Hafidh M, Smyth D, O'Dwyer T. Coexistent cervical tuberculosis and metastatic squamous cell carcinoma in a single lymph node group: a diagnostic dilemma. *Ear Nose Throat J* 2006;**85**:397-9.
9. Burgess KL, Hartwick RW, Bedard YC. Metastatic squamous carcinoma presenting as a neck cyst. Differential diagnosis from inflamed branchial cleft cyst in fine needle aspirates. *Acta Cytol* 1993;**37**:494-8.