

原文題目(出處)：	Elective management of the neck in oral cavity squamous carcinoma: current concepts supported by prospective studies. Br J Oral & Maxillofac Surg 2009;47:5-9
原文作者姓名：	Ferlito A, Silver CE, Rinaldo A
通訊作者學校：	Department of Surgical Sciences, ENT Clinic, University of Udine, Udine, Italy; Departments of Surgery and Otolaryngology – Head and Neck Surgery, Albert Einstein College of Medicine, Montefiore Medical Center, Bronx, NY, USA
報告者姓名(組別)：	廖國良(Intern I 組)
報告日期：	98/06/09

內文：

#### Incidence of occult metastasis

- The reported incidence of occult regional lymph node metastasis from such tumours varies from 6 to 46%.  
→ traditional techniques of pathologic analysis of neck dissections may fail to detect isolated neoplastic cells and micrometastases
- When new and highly sensitive investigations that may detect subpathological as well as subclinical disease are employed, the incidence of metastases detected has been found to be higher than previously indicated. These newer technologies include immunohistochemistry and molecular analysis.

#### Site of the tumour and nodal metastases

- Oral cavity consists of the mucosa of the upper and lower lips, cheek mucosa, retromolar areas, upper and lower bucco-alveolar sulci (vestibule of mouth), upper alveolus and gingiva (upper gum), lower alveolus and gingiva (lower gum), hard palate, anterior two-thirds of the tongue, and floor of the mouth.
- The great majority of primary tumours of the oral cavity are squamous carcinomas.
- The two most common subsites of the oral cavity involved by squamous carcinoma are the mobile (oral) tongue and the floor of the mouth.
- Tumours arising from each of these structures, including those found in patients with early (T1–T2) disease, have a significant propensity to metastasize to the regional lymph nodes.
- Early stage tongue and floor-of-mouth cancers have a significant incidence of occult cervical metastasis. Depth of invasion and tumour thickness are significant predictors of lymph node metastasis in these tumours.
- The risk of lymph node metastases for the other subsites is also significant in patients with intermediate and advanced mucosal tumours. Only lower alveolar ridge cancers have a low potential for neck metastases.

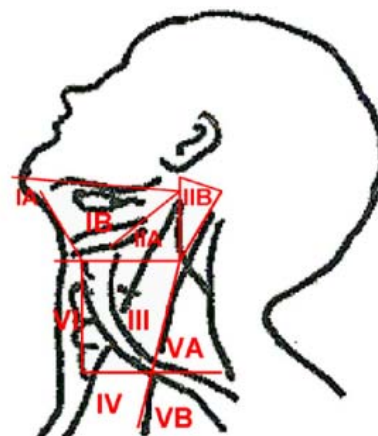
#### Evaluation of the clinically negative (N0) neck

- Weiss et al.→established a threshold of a 20% possibility of cervical metastasis as the indication for elective treatment of the neck in squamous cell cancer of the head and neck.
- Others have suggested that this threshold be lowered to 15%, because of the highly adverse impact of lymph node metastasis on survival once they become evident on clinical examination, and change in the risk–benefit ratio during the past two decades due to the use of more conservative surgical procedures.
- The advent of modern methods of clinical, pathological and molecular analysis has indicated that the incidence of occult metastatic disease for most oral cavity

- cancers is higher than previously believed.
- Despite advances in imaging technology, none of the currently available imaging modalities is able to detect reliably the presence of micrometastases in the lymph nodes of clinically N0 necks. Twenty-five percent of tumour-positive elective neck dissection specimens of clinically N0 necks contain micrometastases smaller than 3mm.
  - Various immunohistochemical investigations have found micrometastases in 5–58% of patients who had no evidence of metastatic disease on routine pathological assessment.
  - Molecular analysis permits detection of micrometastases in approximately 20% of patients staged pN0 by conventional light microscopy.
  - At present no pretreatment study can replace the accuracy. The goal of identifying subclinical disease without surgical intervention remains elusive.

#### Management of the neck – supraomohyoid (levels I–III) and extended supraomohyoid (levels I–IV) neck dissections

- Elective neck dissection is the usual treatment of choice for oral cavity squamous carcinoma.
- Clinical and pathological studies have supported the concept that modified radical neck dissection (levels I–V) comprises unnecessary overtreatment in the elective management of oral cavity squamous carcinoma.
- A multi-institutional prospective study designed to compare modified radical neck dissection with supraomohyoid neck dissection in the management of the clinically negative neck in patients with oral squamous carcinoma, the rates of recurrence and survival were similar in both groups of patients.
- Other clinical, pathologic and genetic studies have shown that level V is rarely involved in cancers of the oral cavity never in cases without clinical disease at other levels.
- The efficacy of supraomohyoid neck dissection is based on the usual distribution of metastasis from oral cavity cancer. Scintigraphic studies have shown that the preferential pathway of lymphatic drainage from tongue cancer is to levels II–IV, while the majority (88%) of metastatic submandibular lymph nodes (sublevel IB) measuring 1 cm or less in diameter occur in squamous carcinoma of the floor of mouth.
- Supraomohyoid neck dissection consists of selective dissection of levels I–III including the submandibular gland, while preserving the spinal accessory nerve, the internal jugular vein and the sternocleidomastoid muscle.
- In cancers approaching or crossing the midline structures, bilateral neck dissection is indicated because the lymph nodes on both sides of the neck are at risk of containing metastases.
- Koo et al. → advocate elective contralateral neck treatment with surgery or radiotherapy in patients with oral cavity squamous carcinoma with positive ipsilateral nodes, advanced stage primary tumours or primary tumours crossing the midline.
- While dissection of level IV may expose the patient to some risk of chyle fistula, or even phrenic nerve injury, for patients with oral tongue cancer, inclusion of level IV in the dissection appears justified in view of known lymphatic drainage



- of the tongue and the higher incidence of “skip” metastases.
- The dissection of levels I–IV is known as “extended” or “expanded” supraomohyoid neck dissection or anterolateral neck dissection.
  - Salvage of patients who develop skip metastases, however, is poor, which may reflect a more aggressive biological tumour behavior in these cases. If there is pathologic evidence of lymph node metastases in the neck dissection specimen, postoperative radiotherapy is often considered to be indicated.
  - De Zinis et al. → metastases in level IV in 15% of patients with squamous carcinoma of the oral cavity who had positive lymph nodes. Twenty-eight percent of the level IV nodes were skip metastases.
  - Other authors have supported inclusion of level IV in elective dissection for tongue cancer.
    - Woolgar : Recommended that neck dissection should include level IV considering the “erratic” (unpredictable) pattern of metastasis of this cancer
    - Hosal et al : Routinely included dissection of level IV in the management of cancer of the tongue.
    - Lydiatt et al : Pointed out that supraomohyoid neck dissection removes approximately 60–70% of the nodes at greatest risk of metastasis, but this rises to 80–94% if level IV nodes are included in the dissection.
    - Keralala and Martin : Advocated a policy of routinely extending the supraomohyoid neck dissection to level IV in patients with squamous carcinoma of the floor of the mouth.
    - Ahmed et al. : Suggested removing level IV lymph nodes along with levels I, II and III in squamous carcinoma of oral cavity even when the tumours are small.
  - To the contrary, Khafif et al. in an analysis including pathologic findings and clinical follow-up, found an incidence of only 2% metastasis to level IV in a cohort of 51 patients with T1–T3, N0 tongue cancer. These authors concluded that level IV need be included in the dissection only when there is intraoperative suspicion of metastasis in levels II or III.

#### Dissection of sublevel IIB?

- The spinal accessory nerve courses through sublevel IIB, and dissection of this area may cause shoulder dysfunction.
- In 2004, Lim et al. → prospectively studied 74 patients with clinically negative necks. While 24 patients (32%) had positive lymph nodes, only 4 (5.4%) had involvement of sublevel IIB. There was no instance of isolated metastasis to sublevel IIB without involvement of other lymph nodes in the supraomohyoid neck dissection specimens. The authors concluded that sublevel IIB metastasis was rare in their study, and nodal recurrence in this area after selective supraomohyoid neck dissection in squamous carcinoma of the oral cavity was extremely rare. Therefore, this region may be preserved in elective neck dissection in these patients.
- In 2005, Elsheikh et al. → found metastasis to sublevel IIB in 5 (10%) of 48 patients with oral cavity cancer. He concluded that sublevel IIB may be preserved in elective supraomohyoid neck dissection in patients with squamous carcinoma of the oral cavity, except in cases of primary tongue cancer, where it should be included in the dissection.
- In 2007, Bolzoni Villaret et al. prospectively studied 54 oral cavity cancer patients with clinically negative necks. Only 1 (1.8%) had involvement of sublevel IIB.

- In 2008, Paleri et al. prospectively conducted a personal study and review of the literature to identify the incidence of occult metastases in the lymph nodes of sublevel IIB. This large cumulative series included 10 of the authors' personal cases of oral cavity cancer, of which 4 were situated in the tongue. Only one tumour, localized at the floor of the mouth and adjacent alveolus, presented isolated metastasis at sublevel IIB.
- On the basis of an incidence between 4% and 5% of metastasis at sublevel IIB in oral and oropharyngeal primaries, the authors recommended that this sublevel should be dissected in the elective treatment of oral cavity squamous carcinoma, unless it is evident that the patient will need postoperative irradiation. They concluded that there is no need to dissect sublevel IIB on the contralateral side.
- Data from these four recent prospective analyses of neck dissection specimens, totalling 186 patients with N0 oral cancers, revealed a 5.9% (11) incidence of positive nodes at sublevel IIB in cases of oral cavity squamous carcinoma.
- More prospective studies on this subject are needed given the disparate results in these reports concerning metastases to sublevel IIB from tongue cancers (0–21%). The highest percentage of lymph node metastases was detected in the study supported by molecular investigations. The risk of nodal disease in sublevel IIB is greater for tumours arising in the oropharynx compared with the oral cavity and larynx.

#### Irradiation

- Fletcher → established that elective irradiation of the N0 neck can produce results equivalent to those obtained by neck dissection.
- Thus radiation therapy is an alternative treatment to supraomohyoid neck dissection for elective treatment of the N0 neck.
- While neck dissection has the advantage of enabling histopathologic examination of the specimen as well as avoiding the complications of irradiation, and reserving radiation therapy for subsequent use if needed, and while most oral cavity tumors are treated surgically, there nevertheless are instances when the oral cavity primary tumour must be treated by irradiation.
- In cases where the primary tumour is treated by irradiation, it is our practice, as well as that of many other surgeons, also to treat the neck with irradiation.
- The reasons for this, in addition to the same factors that led to treatment of the primary tumour with irradiation, include the difficulty of administering subsequent irradiation to the same patient without producing areas of “geographic miss”, or overlapping fields.
- The indications for elective irradiation of the neck are based on the same statistical thresholds as for surgical treatment of the neck

#### Conclusions

1. Selective neck dissection, including lymph node levels I–III, is the type of lymph node dissection most commonly performed in cancer of the oral cavity with clinically N0 necks.
2. When the lesion is localized in the tongue, there is evidence indicating that level IV is at risk, and this level should be included in the dissection (“extended” or “expanded” supraomohyoid neck dissection).
3. There are conflicting data regarding the risk of disease in sublevel IIB, but a number of recent studies indicate that isolated metastasis rarely occurs in this region, except in a small number of tongue cancers.
4. Bilateral neck dissection is indicated in cancers involving midline structures.
5. Elective radiation therapy can provide adequate treatment of the clinically

negative neck.

題號	題目
1	下列何者沒有local invasive的情形？ (A) Lipoblastoma (B) Lipoma (C) Lipoblastomatosis (D) Lipoid proteinosis
答案 (B)	出處：Oral and Maxillofacial Pathology, Nevielle, Saunders W. B. Co.,1995,2 <sup>nd</sup> edition
題號	題目
2	下列何者沒有local invasive的情形？ (A) Ameloblastoma (B) Odontogenic myxoma (C) Lipoblastoma (D) Pindberg tumor
答案 (C)	出處：Oral and Maxillofacial Pathology,Nevielle,Saunders W. B. Co.,1995,2 <sup>nd</sup> edition