

原文題目(出處)：	Mandibular canal widening and Bell's palsy: Sequelae of perineural invasion in oral cancer. Case Rep Dent Volume 2016, Article ID 3010934
原文作者姓名：	Sundar GTP, Sherigar V, Shetty SS, Satya S, Gohil SM
通訊作者學校：	Department of Oral and Maxillofacial Surgery, A.B. Shetty Memorial Institute of Dental Sciences, Mangalore, K.S. Hegde Charitable Hospital, Mangalore, Department of Oral and Maxillofacial Surgery, Manipal College of Dental Sciences, Manipal University, Manipal, India
報告者姓名(組別)：	郭建鈺 Intern F 組
報告日期：	2017/1/5

內文：

1. Introduction

A. The mandibular canal widening

- Loss of cortical bone surrounding it
- Wide radiolucency on a radiograph

B. Perineural invasion (PNI)

- A distinct third mode of tumour metastasis for (OSCC) together with lymphatic and blood vessel invasion
- Be detected by the histological presence of tumour cells inside the neural space or by imaging techniques
- The trigeminal and facial nerves are commonly infiltrated by the invading tumour cells.

2. Case Report

A 48-year-old man

- Swelling on the right side of his face below the lower lip
- Six-month history of nonhealing ulcer in the right side of the buccal mucosa
- An extraoral draining sinus and dysphagia for one month
- two-month history of inability to close his right eye and deviation of the corner of the mouth to the left side followed by numbness in the lower lip and chin region
- General health status of the patient and blood and urine analyses were unremarkable

Extraoral examination	-Absence of wrinkles on the forehead -Lagophthalmos of the right eye positive bells sign -Flattening of the nasolabial fold -Deviation of the angle of the mouth on smile to the left side -Paraesthesia of lower lip and chin suggested infiltration of the inferior alveolar nerve
Intraoral examination	-Erosive lesion approximately 6 × 2 cm -Extending from the angle of the mouth on the right side anteriorly up to the retromolar trigone posteriorly -The floor was covered with a pseudomembranous slough, with rolled edges and erythematous margins -Induration, tenderness, and the presence of fibrous bands. Soft, discrete, mobile submental lymph nodes and bilateral palpable soft submandibular lymph nodes were noted
panoramic radiograph	-Generalized bone loss with diffuse uniform enlargement of the mandibular canal
Incisional biopsy	-Squamous cell carcinoma of right gingival-buccal sulcus. -Pleomorphic tumour cells with individual cell keratinization and dense peritumoural inflammatory

	response.
treatment plan	-Full-thickness, wide local excision of buccal mucosa, segmental mandibulectomy, and modified radical neck dissection preserving internal jugular vein, spinal accessory nerve, followed by reconstruction with the free fibula graft using reconstruction plate -Adjuvant radiotherapy was planned considering the PNI
resected specimen	-well differentiated squamous cell carcinoma with margins and nodes free of tumour

3. Discussion

A. Perineural invasion (PNI)

Well defined when at least 33% of the circumference of the nerve is surrounded by tumour cells

A tropism of tumour cells for nerve bundles in the surrounding tissues”

Often linked with an aggressive behaviour, poor prognosis, recurrence, and higher likelihood of regional and distant occult micro and macro metastasis

PNI detection criteria :

-Histopathological examination of the neural invasion

-Radiographic examination for osseous canal or foramen widening

-Sensory complaints along the nerve distribution

An important predictor for outcome of patients with SCC of the oral cavity and oropharynx

B. Widening of the mandibular canal

A classical sign of neurofibromatosis but it has been unusual so far in oral cancer

Perineuroma, multiple endocrine neoplasia syndrome type 2b, vascular leiomyoma, arteriovenous malformation, and traumatic neuroma have been reported in the literature

Intraosseous schwannomas may sometimes

C. Facial nerve and the trigeminal nerve

Are assumed to form a synapse at three strategic locations:

(1) Sphenopalatine ganglion

(2) Junction of the chorda tympani and the lingual nerve

(3) Parotid gland along the auriculotemporal branch of the mandibular nerve

Koivisto et al. (2016) provide a viable route for interneural spread of carcinoma from one nerve to another

D. The diameter of the nerves -> PNI?

Conflicting results being reported from different series of cases.

(1)The stroma of the perineural sheath promotes tumour growth, with the perineural space as a conduit for tumour growth

(2)Fagan et al. : Small nerves ->increased risk of local recurrence and cervical metastasis and is independent of extracapsular spread, a significant prognostic factor

(3)A review by Woolgar: In OSCC, PNI reduced survival rates and a significant risk of locoregional recurrence irrespective of the diameter of the nerves

4. Conclusion

-Oral SCC often presents with a nonhealing exophytic/endophytic ulcer fixed to the underlying skin or the mucosa

-This case differs from its usual presentation by its aggressive nature, multiple neural invasions, synchronization of submucous fibrosis and oral cancer, and diffuse widening of the mandibular canal

-PNI is an independent risk factor for occult metastasis along with depth of invasion, size of primary tumour, differentiation, and immunosuppression. Further studies are warranted to elucidate its molecular biology of pathogenesis, histopathological pattern of PNI, and its significance in the prognosis

-With a better understanding of the mechanisms involved, we can progress to develop therapeutic agents that can target this form of intriguing tumour spread

題號	題目
1	Which statement is not correct about the perineural invasion (PNI)? (A) A tropism of tumour cells for nerve bundles in the surrounding tissues” (B) An important predictor for outcome of patients with SCC of the oral cavity and oropharynx. (C) Can't defined when more than 33% of the circumference of the nerve is surrounded by tumour cells. (D) Linked with an aggressive behaviour, poor prognosis, recurrence
答案(C)	出處：Discussion about “PNI”
題號	題目
2	Which statement is correct? (A) Woolgar thought that in OSCC, PNI increased survival rates and is a significant risk of locoregional recurrence respective of the diameter of the nerves (B) Fagan et al. thought that small nerves don't have responsibility for increased risk of local recurrence and cervical metastasis (C) Large diameter, nerves closer to the surgical margins may not be associated with recurrence. (D) The stroma of the perineural sheath promotes tumour growth, with the perineural space as a conduit for tumour growth.
答案(D)	出處：Discussion：“The prognostic utility of PNI”