

# Lower Lip Numbness Due to Peri-Radicular Dental Infection

W C Ngeow, FFDRCS, Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Universiti Kebangsaan Malaysia (UKM), Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur

## Summary

Lower lip numbness has always been a sinister symptom. Much has been written about it being the sole symptom of pathological lesions and metastatic tumours in the mandible. It may also be a symptom of manifestations of certain systemic disorders. A case of lower lip numbness resulting from the compression of the mental nerve by a peri-radicular abscess is presented because of the unusual nature of this spread of infection.

**Key Words:** Lower lip, Mental nerve, Paraesthesia, Peri-radicular abscess

## Introduction

Loss of sensation in the lower lip is a common symptom. Frequently, it can be ascribed to surgical procedures carried out in the region of the inferior alveolar nerve or its mental branch. In addition, trauma, haematoma or acute infections may cause the problem<sup>1</sup>. Localised and metastatic neoplasms, systemic disorders and some drugs are the other causes responsible<sup>1</sup>.

Although benign in appearance, mental nerve neuropathy is frequently of significance. Most often it is associated with malignant diseases. Breast cancer is the most common cause<sup>2</sup>. Other common causes include malignant blood diseases<sup>2</sup> which may include Burkitt's lymphoma, Hodgkins lymphoma and multiple myeloma.

This report emphasizes the need to consider local dental cause in the differential diagnosis of lower lip numbness.

## Case Report

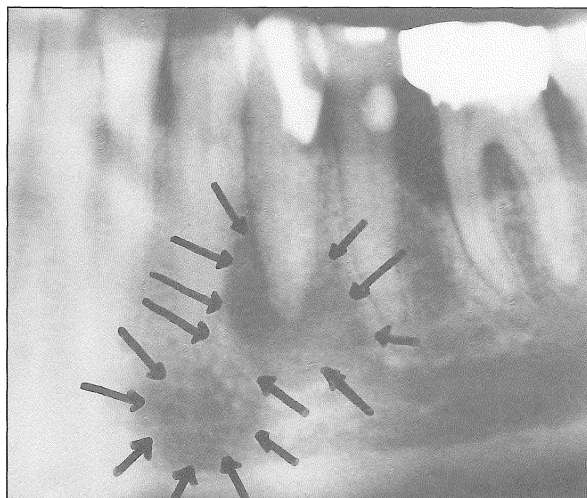
A fit middle age English lady was referred to the Department of Oral and Maxillofacial Surgery of the Queen Victoria Hospital for the management of lower

lip numbness. She complained of a toothache on her lower left first premolar and had seen her dentist who performed emergency root canal treatment. Following that, she felt numbness of her lower lip.

Clinical examination revealed a mandibular left first premolar with a dressing. The tooth was slightly tender to percussion. Other neighbouring teeth reacted normally to percussion. No swelling could be seen at the buccal sulcus of the premolar. Her lower left lip looked normal, but she could not distinguish sharp pain when pricked with a dental probe.

Radiographic examination revealed a radiolucency at the peri-radicular area of the mandibular left first premolar and another radiolucency just slightly away from the peri-radicular area of the mandibular left canine tooth. These radiolucencies indicated peri-radicular dental infection and the latter radiolucency was believed to have spread from the mandibular first premolar (Figure 1).

A decision was made to remove the dressing to leave the tooth open to drain for a few days. When the dressing was removed, the scent of cresol placed into the canal was present. On follow-up, the patient claimed that the



**Fig. 1:** There is a radiolucency at the peri-radicular region of the mandibular left canine and first premolar. The former radiolucency is believed to result from the spread of infection in the latter. The mental foramina is not clearly seen as it has been masked by these radiolucencies.

numbness had reduced. She completed her root canal treatment with her dentist a few weeks later and the lower lip sensation recovered.

### Discussion

There are three main causes of mental nerve paraesthesia, namely : traumatic injury to the region of the inferior alveolar nerve or its mental branch, invasion of the nerve by neoplasms and pressure from tumour or infection around the mental nerve <sup>1</sup>.

In dentistry, the most common cause of lower lip numbness is a complication of dentoalveolar surgery at the region of the inferior alveolar nerve and mental nerve. Besides that, an excess of foreign material like

endodontic paste <sup>1</sup> and hydroxyapatite <sup>3</sup> have also been reported to cause mental nerve neuropathy. The dentist had placed some medication into the root canal of the offending tooth in the case presented here. Therefore, there is a possibility that the lower lip numbness experienced by the patient was caused by excessive medication leaking past the apical foramen into the mental foramina region. However, based on the rate of the recovery of sensation of the lower lip, the more probable cause is pressure from acute peri-radicular infection of the premolar. Chemical effort on the nerve normally takes a longer period to recover, provided the damage is not severe.

As shown in Figure 1, there is a lesion at the peri-radicular area of the mandibular left first premolar that had spread to the peri-radicular area of the canine as well. The mental foramina is also located in this region, but seems to be masked by these radiolucencies. It is speculated that the pressure from the infection (seen as radiolucencies in radiographs) within the thick mandible caused unilateral lower lip numbness as it pressed onto the mental nerve. Open drainage done on the offending tooth caused immediate relief of pressure, thus leading to recovery of lower lip sensation within a short period of time.

The management of lower lip numbness requires a high degree of diagnostic astuteness, because of the many possible aetiologies described above. A complete medical history and a thorough examination in all patients is essential in ruling out possible medical causes. This case illustrates that not all cases of lower lip numbness originate from malignant medical conditions or systemic disorders. The medical practitioner should also be aware of possible local dental causes.

### Acknowledgement

This case was managed while the author was undergoing his post-graduate training at the Queen Victoria Hospital in East Grinstead, England. The author would like to thank Mr R P Ward-Booth for permission to present this case and to the Photographic Department of QVH for reproducing Figure 1 in photographs.

**References**

1. Flower EA, Yeung J. Lip numbness - sometimes a sinister symptom. *Br Dent J* 1989; 166 : 46-8.
2. Gastaut JL, Michel B. Mental neuropathy. *Presse Med* 1984; 13 : 1071-4.
3. Kent JN, Finger IM, Quinn JH, Guerra LR. Hydroxyapatite alveolar ridge reconstruction : clinical experiences, complications and technical modifications. *J Oral Maxillofac Surg* 1986; 44 : 37-49.