

# Herpes zoster oticus following mandibular block

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## Abstract

Although a few cases of facial palsy following mandibular nerve block and dental surgery have been described, it would appear that herpes zoster oticus following dental surgery has not been documented. It is possible that the latent virus may be activated by the mandibular nerve block and dental surgical interventions. Two cases of herpes zoster oticus, both following inferior alveolar nerve block anaesthesia for dental treatment are presented.

**Key words:** Herpes zoster; Facial paralysis; Mandibular nerve; Anaesthesia, dental

## Introduction

Herpes zoster oticus was first described by Ramsay Hunt in 1907.<sup>1</sup> It is characterized by a unilateral lower motor neurone facial palsy associated with vesicles on the pinna and in the oral cavity with vestibulocochlear symptoms in up to 40 per cent of cases. It is often associated with a viral prodrome and severe pain in and around the ear.<sup>2</sup> It varies between mild and severe forms. Systemic antiviral and steroid treatment have been found to result in earlier recovery, return of hearing and reduced neurological sequelae. Treatment is of maximum benefit if started within 72 hours of onset of symptoms.<sup>3</sup>

## Case report

### Case 1

A 43-year-old male who had undergone left mandibular nerve block for left lower jaw root-canal treatment three days previously presented with left-sided vesicles over the pinna, external auditory canal, face and oral cavity, left otalgia and left-sided facial numbness. A clinical diagnosis of herpes zoster infection of the mandibular branch of the trigeminal nerve was made. He was admitted and started on famcyclovir 250 mg eight hourly orally. He was discharged on famcyclovir for seven days. Seven days later he presented with an ipsilateral complete lower motor neurone facial palsy and acute vertigo. Pure tone audiogram revealed a left sensorineural hearing loss. He was then diagnosed as suffering from herpes zoster oticus. He showed complete recovery of both the facial palsy and hearing loss and is being followed as an out-patient.

### Case 2

A 53-year-old male who had undergone right mandibular block for dental treatment 10 days previously and nasal surgery (bilateral inferior nasal turbinectomy) 21 days previously, presented with severe right otalgia. Ear examination revealed no abnormality. Due to the severity of pain he was admitted for symptomatic relief and observation. The next day he developed a right lower

motor neurone facial palsy and a vesicular eruption on the tympanic membrane, pinna and external auditory canal. He was diagnosed as suffering from herpes zoster oticus and started on prednisolone 60 mg o.d. and famcyclovir 250 mg t.d.s. Two days later he developed acute vertigo. A pure tone audiogram performed seven days after first presentation revealed severe right sensorineural hearing loss. Treatment with famcyclovir was given for seven days and prednisolone was tapered over 10 days. On follow up as an out-patient, 10 weeks after first presentation he showed satisfactory recovery of the facial palsy with only slight residual deformity, but the hearing loss had remained.

## Discussion

Whilst unilateral facial palsy following mandibular block<sup>4</sup> has been reported in the past and herpes zoster oticus has been reported a week following acoustic neuroma surgery,<sup>5</sup> no association between mandibular block or dental surgery and herpes zoster oticus seems to have been documented. Various dentistry-related causes of facial palsy have been reported in literature. These include viral reactivation<sup>4</sup> direct effect of dental anaesthetic injection,<sup>7</sup> direct and indirect surgical trauma to facial nerve following dental surgery.<sup>8</sup>

Transient and permanent facial paralysis following mandibular nerve block have been reported.<sup>9,10</sup> Gahlaut and Sikka<sup>9</sup> recorded transient lower motor neuron facial and abducent nerve palsy, right blindness and transient right-sided complete loss of sensation in the distribution of the trigeminal nerve following right mandibular block with four ml of two per cent lignocaine, with complete recovery of neurological deficits within 12 hours.

Herpes simplex and herpes zoster are ubiquitous in the population and remain in a latent state in the neural ganglia. These viruses can be reactivated during times of 'stress'. It is possible that latent virus may be activated by dental surgical interventions and cause symptomatic herpes zoster of cranial nerves as evident in the two cases presented.

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