

Burning oral and mid-facial pain in ventral pontine infarction

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Abstract:

The symptom of burning orofacial pain may help to identify the site of ischaemia in otherwise pure motor strokes resulting from infarction of the ventral pons. A patient with hemiplegia due to ventral pontine infarction, in whom burning oral and mid-facial pain was a prominent initial symptom, is described. Similar pain preceded transient episodes of the 'locked-in' state. Awareness of this herald symptom may permit early recognition and careful monitoring of patients at risk of progressing to the 'locked-in' state. (Aust NZ J Med 1990; 20: 249-250.)

Key words: Facial pain, pontine infarction, locked-in state.

Bilateral ventral pontine infarction is the commonest cause of the 'locked-in' syndrome, manifested by quadriplegia and lower cranial nerve palsies, with preservation of vertical gaze, upper eyelid movements and consciousness.¹

Premonitory symptoms of the 'locked-in' syndrome may be minor and unrecognised. This report describes a patient in whom burning oral and mid facial pain heralded episodes of the 'locked-in' state.

CASE REPORT

A 59-year-old man with a history of well controlled hypertension presented to hospital with weakness in the left face and limbs. A burning sensation in the nose and mouth preceded the onset of weakness. There were no other neurological symptoms.

At presentation, general examination was normal. Left central facial and lingual paresis, mild dysarthria and a flaccid left hemiparesis were present. Sensation in all modalities was unaffected.

One week later, episodes of quadriplegia with masticatory, facial and bulbar paralysis occurred. Horizontal eye movements were impaired but vertical gaze was preserved. Each episode was heralded by burning oral and mid-facial pain. A cranial CT scan revealed infarction of the right ventral pons with slight hyperdensity of the basilar artery. The patient was transferred to the Intensive Care Unit for upper airway management. Anticoagulation was commenced with intravenous heparin followed by oral warfarin after one week. A total of 12 'locked-in' episodes occurred, lasting from ten minutes to two hours. The episodes ceased three days after commencement of heparin and left hemiparesis, mild dysarthria and emotional lability remained.

The patient made a good recovery and returned to work on his farm. Minimal left sided weakness and impairment of fine finger movements on the left were noted at review in December 1988.

DISCUSSION

Because a significant proportion of patients with the 'locked-in' syndrome require respiratory assistance in the form of

ventilation or secretion management, it is vital that patients at risk of becoming 'locked-in' are recognised and closely monitored.¹ In some patients, brainstem symptoms or signs are present,^{1,2} but in others, the only major neurological abnormality is a hemiparesis,³ which may be incorrectly attributed to a cerebral lesion.

This patient illustrates that oral and mid-facial burning pain, preceding a hemiparesis, may be the sole clue enabling the localisation of a stroke to the paramedian ventral pons. While a stabbing or burning sensation in the ipsilateral eye

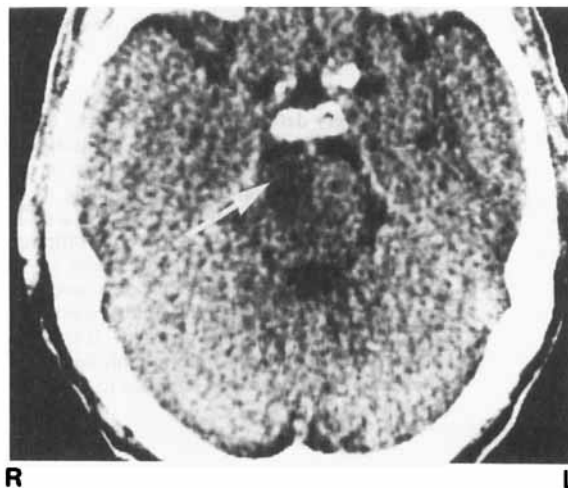


Figure 1: Non-contrast cranial CT scan demonstrating infarction of the right ventral pons (arrow) with slight hyperdensity of the basilar artery.

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or face is a recognised symptom of lateral medullary infarction,⁴ facial pain resulting from more rostral brainstem ischaemia has received little attention. Caplan and Gorelick⁵ described three cases of presumed pontine ischaemia with burning pain, likened to 'salt and pepper on the face'.

In this patient, the orofacial pain probably resulted from involvement of the nucleus of the trigeminal spinal tract or its projections. Transient nuclear ischaemia in the pontine tegmentum may be responsible, as intraoral and perioral pain sensation projects to the caudal pontine and rostral medullary portions of the nucleus of the trigeminal spinal tract.^{6,7} Another possibility is that fibres ascending from the nucleus and decussating in the pons to form the ventral trigeminothalamic tract are involved. Fibres representing the nose and mouth lie most medially in this tract, which is adjacent to the medial lemniscus and medial to the lateral spinothalamic tract.⁴

The contribution of anticoagulation to the good outcome in this patient is uncertain, the frequent recurrence and rapid recovery from the 'locked-in' state being unusual features.

In conclusion, the symptom of burning oral or midfacial pain occurring in an otherwise pure motor stroke strongly suggests involvement of the ventral pons. Early recognition may allow careful monitoring of these patients, who are at risk of progressing to the 'locked-in' state. ■

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BOOK REVIEW

PRENATAL DIAGNOSIS IN OBSTETRIC PRACTICE. Edited by M.J. Whittle and J.M. Connor. Blackwell Scientific Publications, Oxford. 1989. xi-274 pp. Recommended retail price: \$95.00 (hardback). ISBN: 0-632-01945-X.

Fetal Medicine has emerged as a discipline within the specialty of Obstetrics and Gynaecology, but with very definite links to a number of subspecialties under the umbrella of Medicine as well as molecular biology. Prenatal diagnosis of fetal disease before birth is an important part of this discipline. No longer is fetal abnormality a question of 'seek and destroy' but specific therapies are available in a number of situations and developments in molecular biology promise more. This book provides an up to date account of prenatal diagnosis. For a multi-authored book it is remarkable in the balance and free-flow from one chapter to the next with little repetition. This points to a well defined editorial direction and for this Doctors Whittle and Connor are to be congratulated. The book is short (274 pages). It is a source of reference from a clinical perspective for anyone involved in prenatal diagnosis. Each chapter provides a review of its subject, but it could be of more use to those entering or brushing up on this field than those seeking to check on detail. It is not a laboratory manual. Those seeking an in-depth account of a particular disorder would find this book too superficial. One of the most useful features of this book is the detailed bibliography provided in the Appendices to the various disorders diagnosed by ultrasound or biochemical means. ■

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