

- ² Lapin, I P, and Oxenkrug, G F, *Lancet*, 1969, **1**, 132.
³ Kety, S, *Advances in Behavioural Biology*, 1971, **4**, 237.
⁴ Van Praag, H M, and Korff, J, *Pharmakopsychiatrie*, 1975, **8**, 322.
⁵ Fernstrein, J D, and Wurtman, B J, *Science*, 1971, **175**, 149.
⁶ Knott, P J, and Curzon, G, *Nature*, 1972, **239**, 452.
⁷ Coppen, A, Eccleston, E G, and Peet, M, *Lancet*, 1972, **2**, 1415.
⁸ Niskanen, P, et al, *British Journal of Psychiatry*, 1976, **128**, 67.
⁹ Peet, M, et al, *British Journal of Psychiatry*, 1976, **128**, 255.
¹⁰ Stein, G, et al, *British Medical Journal*, 1976, **2**, 457.
¹¹ Board, F, Wadeson, R, and Persky, H, *Psychosomatic Medicine*, 1957, **18**, 324.
¹² Hullin, R P, et al, *British Journal of Psychiatry*, 1967, **113**, 593.
¹³ Sachar, E J, et al, *Archives of General Psychiatry*, 1973, **29**, 19.
¹⁴ Migeon, C J, Prystowsky, M, and Grumbach, M M, *Journal of Clinical Investigation*, 1956, **35**, 488.
¹⁵ Curzon, G, in *Enzyme Induction*, ed D V Parke, p 169. New York, Plenum, 1975.
¹⁶ Neckers, L, and Sze, P Y, *Brain Research*, 1975, **93**, 123.
¹⁷ Aylward, M, and Maddock, M, *Lancet*, 1973, **1**, 936.
¹⁸ Mattingley, D, *Journal of Clinical Pathology*, 1962, **15**, 374.
¹⁹ Denckla, W D, and Dewey, D K, *Journal of Laboratory and Clinical Medicine*, 1967, **69**, 160.
²⁰ Bloxam, D L, and Warren, W H, *Analytical Biochemistry*, 1974, **60**, 621.
²¹ Bender, D A, Boulton, A P, and Coulson, W J, *Biochemical Society Transactions*, 1975, **3**, 193.
²² Zuckerman, M, and Lubin, B, *Educational and Industrial Testing Service*. San Diego, California, 1965.
²³ Metcalf, M, and Goldman, E, *British Journal of Psychiatry*, 1965, **111**, 240.
²⁴ Pichot, J, Pret, J, and Clyde, D J, *Revue de Psychologie Appliquée*, 1966, **16**, 105.
²⁵ Hildreth, H M, *Journal of Clinical Psychology*, 1946, **2**, 214.
²⁶ Sandberg, A A, et al, in *Steroid Dynamics*, ed G Pincus et al, p 1. New York, Academic Press, 1966.

(Accepted 22 April 1977)

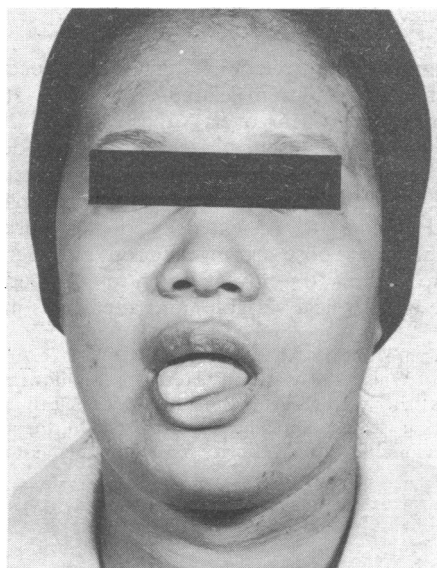
SHORT REPORTS

Tongue deviation and Bell's palsy

One of the clinical signs which may be associated with Bell's palsy is deviation of the tongue. We report two cases in which this sign was evident, and discuss the aetiology.

Case histories

Case 1—A fit 32-year-old Caribbean woman attended King's College Hospital complaining of pain in the left side of the face, associated with a mild sensory disturbance of the left facial skin, of 10 days' duration. A weakness of the left facial muscles had suddenly occurred six days previously. She had an obvious left seventh nerve paralysis of a lower motor neurone type. The facial skin was tested for pain sensation (with a pin) and for fine touch perception (with cotton-wool), but no objective loss could be detected. She was aware of an alteration in taste sensation and hyperacusis. The external ear was normal and no intraoral vesicles were present to suggest a herpetic cause of the lesion. When the tongue was protruded there was a deviation to the right (figure), but she could exercise a full range of movements when commanded, there being no sign of muscle weakness. Normal proprioception was present when tested by the observer. Bell's palsy was diagnosed, and a course of prednisone, 60 mg a day reducing over 10 days, prescribed. She made a full recovery within one month.



Patient with left facial nerve weakness exhibiting deviation of the tongue to the right.

Case 2—A 30-year-old Caucasian man was examined three days after the onset of a profound left-sided facial weakness, which, like the previous case, had all the characteristics of a Bell's palsy, including diminution of taste. On protrusion his tongue also deviated to the contralateral side.

Comment

Bell's palsy is a facial paralysis of acute onset due to non-suppurative inflammation of the facial nerve within the stylomastoid foramen. Deviation of the tongue has been described as one of the features of the disorder,¹ but this has recently been denied.² In the cases reported there was a considerable displacement of the tongue on protrusion, which simulated a contralateral hypoglossal nerve palsy, but without detectable muscle weakness.

There has been much discussion about the sensory pathways of proprioceptive impulses from the tongue. The chorda tympani,³ lingual, glossopharyngeal, and hypoglossal nerves have all been suggested as carrying these. Nevertheless, ataxia of the tongue after trigeminal section will recover,⁴ and patients with bilateral lingual local anaesthetic blocks have shown no proprioceptive deficit.⁵

Both patients appeared to have lesions of the chorda tympani, as suggested by their disturbance in taste. Furthermore, the transient spontaneous contralateral deviation of the tongue indicated a mild ataxia, although on detailed examination all movements were controlled. Thus we might conclude that the chorda tympani makes some contribution to the position sense of the tongue. An alternative explanation is that this deviation is due to the tongue's being protruded "centrally" within a displaced oral aperture. Against the latter proposition is that lingual deviation soon disappeared, although the facial asymmetry persisted.

Deviation of the tongue therefore may be a clinical feature of Bell's palsy which is evident for only a short time after its onset, and to elicit this sign the patient must be requested to gently protrude the tongue. Other proprioceptive pathways appear to compensate rapidly for this deficit, which explains why the lingual anomaly is not a well-recognised feature of the syndrome.

¹ Brain, W R, and Walton, J N, editors, *Brain's Diseases of the Nervous System*, 7th edn. London, Oxford University Press, 1969.

² Warwick, R, and Williams, P L, editors, *Gray's Anatomy*, 35th edn. London, Longman, 1973.

³ Langworthy, O R, *Journal of Comparative Neurology*, 1923, **36**, 273.

⁴ Rowbotham, G F, *Brain*, 1939, **62**, 364.

⁵ Adatia, A K, and Gehring, E N, *British Dental Journal*, 1972, **133**, 377.

(Accepted 23 March 1977)

Department of Oral and Maxillofacial Surgery, King's College Hospital Dental School, London SE5 8RX

M HARRIS, MB, FDSRCS, consultant
 J P ROOD, MB, FDSRCS, senior lecturer