Oculo-mandibular synkinesis

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Synkinetic movement of the mandible with ocular movement is a rare anomaly. Carmichael and Critchley (1925) noticed that, when the eyes were rapidly turned horizontally first to one side and then to the other, there was protrusion of the mandible with deviation to the contralateral side. The movement may be associated with depression of the contralateral and raising of the ipsilateral eyebrow. Walsh (1957) mentioned one case in which, besides these features, there was a concomitant contraction of the muscles of the ipsilateral side of the mouth.

The jaw movement is often too slight and subtle to be satisfactorily documented by static photography, and we have therefore devised a method whereby oculo-fronto-mandibular synkinesis may be measured using the Vernier displacement principle to record the small lateral movement of the jaw.

Material and method

An experiment was carried out with a 19-year-old youth with anisometropic amblyopia of the left eye. An out-patient record card with parallel vertical lines was held in position in front of the throat, just over the larynx, by a thread round the neck. Jaw movements did not produce any movement of this card.

A small piece from a similar card with similar lines was then fixed over the chin with sticking plaster. Photographs were taken in the primary position (Fig. 1) and while the patient looked to the left with and without the guide cards (Figs 2 and 3). The patient's head and the camera remained fixed.

Result

When the patient looked to the left, the jaw showed a definite small movement to the ipsilateral side (contralateral in previously reported cases). This is difficult to see in Fig. 2 but is easily measured in Fig. 3. He also showed a raising of the ipsilateral eyebrow with wrinkling of the forehead. The contralateral eyebrow did not show any depression.

Summary

A simple method has been devised for recording small movements of the jaw in a case of oculo-mandibular synkinesis.

FIG. 1 *Primary position*

FIG. 2 *Patient looking to the left; the jaw movement is difficult to perceive without the indicator*

FIG. 3 *Patient looking to the left, showing the Vernier shift caused by the jaw movement*

References

- CARMICHAEL, E. A., and CRITCHLEY, M. (1925) *Brit. J. Ophthalm.*, **9**, 49
 WALSH, F. B. (1957) "Clinical Neuro-ophthalmology", 2nd ed., pp. 203, 204. Williams and Wilkins, Baltimore