Figure 3 Sequencing results of the patient (upper) and a normal control (lower). A heterozygous A→C transversion can be seen in exon 5 resulting in a tyrosine-to-serine change at codon 243.

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Sir, Haemorrhagic pituitary tumour presenting with unilateral paracentral visual disturbance

Case report

A 49-year-old postmenopausal woman presented with a 2-month history of 'smeary and patchy' vision in her left eye. Visual acuities were 6/6 bilaterally; Ishihara testing was normal (13/13) on the right but slightly impaired (12/13) on the left. Pupillary reflexes were normal. Slit lamp biomicroscopy, including dilated funduscopy, was normal. On Amsler grid testing, she described patchy loss of vision paracentrally in the left eye; visual fields to confrontation demonstrated normal blind spot and peripheral fields. Three weeks later her symptoms persisted. Fluorescein angiography and repeat examination were normal. Maculopathy was suspected and electrophysiological examination was requested.

VEPs (Figure 1) showed P100 component delay from both eyes, left worse than right. Both eyes showed greater abnormality in the traces from the contralateral hemisphere than the ipsilateral, suggestive of chiasmal dysfunction. PERG showed no macular dysfunction. Urgent brain MRI revealed a 3 × 2.3 cm pituitary mass with internal haemorrhage extending superiorly from the pituitary fossa to abut the optic chiasm (Figure 2). Subsequent endocrine tests identified the tumour to be nonfunctioning.

Following urgent neurosurgical assessment, she reported sudden deterioration in vision, suggestive of apoplexy. Humphrey perimetry then identified a small right temporal hemianopia, more marked inferiorly, with more generalized field loss inferotemporally on the left. She underwent emergency transsphenoidal pituitary resection. Histology confirmed a nonfunctioning adenoma.

Comment

This case illustrates two important points. First, the presentation with central visual disturbance reinforces that the classical bitemporal hemianopia may not occur in chiasmal compression, present in one series in only 12 of 34 patients.¹ Second, electrophysiology can detect and localize chiasmal dysfunction even when visual acuity and visual fields are normal, being more sensitive than perimetry or acuity.^{2–4} The key diagnostic feature is that potentials generated in the hemisphere contralateral to the stimulated eye show the maximum abnormality.⁵ The functional localization by VEPs can direct MRI evaluation, and may assist surgical planning.¹

Figure 1 For caption see next page.

Figure 2 (a and b) Parasagittal and coronal T1-weighted nonenhanced MRI showing a 3×2.3 cm mass in the pituitary fossa, extending superiorly into the suprasellar space, abutting the optic chiasm, which seems to be bowed. No normal pituitary gland is seen. The left side of the mass shown is of high signal on T1, (low on T2, not shown) suggestive of haemorrhage. MRI performed before sudden visual decline.

Figure 1 ERGs, recorded to ISCEV standard, were normal (not shown). PERG from the left eye shows mild N95 component reduction in keeping with ganglion cell dysfunction rather than macular dysfunction. VEPs (pattern reversal) from the left eye show a delayed P100 in the left hemisphere traces, with additional marked amplitude reduction in the right hemisphere traces. Right eye VEPs show P100 delay worse in the left hemisphere traces than the right. The vertical line marks P100 in the normal subject. The findings are in keeping with chiasmal compression and optic nerve involvement. Field size 13 × 10 degrees; check size 50 min; contrast 95%, 2.2 reversals/s; white luminance 100 cd/m²; electrode positions Oz–Fz for the midline; O1, O2 to ipsilateral sylvian electrodes for the lateral channels;¹ paradoxical lateralization does not occur with such electrode positions (Holder GE. The effects of chiasmal compression on the pattern visual evoked potential. *Electroenceph Clin Neurophysiol* 1978; **45**: 278–280).

This report is a salient reminder of the general importance of objectively investigating all cases where symptoms persist but clinical findings are normal, as well as the pivotal utility of electrophysiology in the assessment of atypical patients with chiasmal abnormalities.

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