Pituitary apoplexy presenting with bilateral oculomotor nerve palsy

Bik Ling Man, Yat Pang Fu

DESCRIPTION
An 82-year-old man with a history of pituitary macroadenoma, was admitted for sudden onset binocular diplopia and headache. Physical examination showed complete ptosis of both eyes (video 1). He had bilateral oculomotor nerve palsy and right abducens nerve palsy (videos 2 and 3). The horizontal vestibulo-ocular reflex was impaired. The pupillary reflex was also impaired (video 4). Visual field was normal and limb power was full. Serum sodium level was 112 mmol/L (N 136–145) and 9:00 cortisol level was 57 nmol/L (N 171–536). Thyroid function test was normal. MRI of the brain revealed a pituitary macroadenoma with haemorrhage abutting bilateral cavernous sinuses and optic chiasm (figures 1 and 2). Trans-sphenoidal total excision of pituitary tumour was urgently performed; the oculomotor nerve palsy improved partially after the operation.

Pituitary apoplexy presenting with bilateral oculomotor nerve palsy is rare. Pituitary apoplexy is a potentially life-threatening disorder characterised by sudden onset of headache, visual disturbances, ophthalmoplegia and impairment of consciousness. It is caused by an infarct or haemorrhage of the pituitary gland. Acute secondary adrenal insufficiency, which is the major cause of mortality, is seen in about two-thirds of patients with pituitary apoplexy. Hypocortisolaemia increases vasopressin release from the posterior pituitary gland.
pituitary and has an inhibitory effect on water excretion, contributing to fluid and electrolyte disturbances. Urgent corticosteroid replacement with hydrocortisone 100–200 mg intravenous bolus followed by continuous intravenous infusion of 2–4 mg/h is needed in patients with suspected hypoadrenalism. Prompt correction of electrolyte and fluid disturbances are life-saving. Neurosurgical decompression should be considered in patients with severe visual impairment.

Long-term hormonal replacement therapy, including corticosteroids, desmopressin and sex hormones, is needed in about 80% of patients after pituitary apoplexy. Long-term follow-up with hormonal evaluation and eye assessment is required in this group of patients.

**Learning points**

- Pituitary apoplexy presenting with bilateral oculomotor nerve palsy is rare.
- Acute secondary adrenal insufficiency, which is the major cause of mortality, is seen in about two-thirds of patients with pituitary apoplexy. Urgent replacement of corticosteroids, and correction of electrolyte and fluid disturbances are life-saving.
- Neurosurgical decompression should be considered in patients with severe visual impairment.

**Contributors** The authors have read and approved the manuscript for submission, and certify that each author made a substantial contribution so as to qualify for authorship.

**Competing interests** None declared.

**Patient consent** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**REFERENCES**