Classical pituitary apoplexy

A 51-year-old man presented to his GP with generalized aches and pains. Baseline investigations revealed partial anterior hypopituitarism and elevated prolactin levels of 572 mu/litre (normal 40–360 mu/litre). He was referred to endocrine services where a magnetic resonance imaging brain scan revealed a pituitary macroadenoma measuring up to 2.7 cm indenting the optic chiasm (*Figure 1a*). Clinically, this was a non-functioning pituitary adenoma and the elevated prolactin level was thought to be secondary to stalk compression. These findings prompted a referral to neurosurgery, where the patient was counselled for trans-sphenoidal surgery.

While awaiting surgery, the patient presented acutely with severe frontal headaches, vomiting and diplopia on left-lateral gaze. Examination revealed a left abducens nerve palsy. A repeat magnetic resonance imaging scan showed high signal on T1 suggestive of interval haemorrhage (*Figure 1b*). Signs and symptoms along with imaging features supported a diagnosis of pituitary apoplexy.

The patient underwent emergency trans-sphenoidal surgery to decompress the optic chiasm. Intraoperatively, there was evidence of clotted blood in a necrotic tumour and histopathology revealed infarction and haemorrhage of the adenoma. The patient's ocular paresis resolved 3 months after surgery. He remains on hormone replacement with hydrocortisone, thyroxine and testosterone.

Pituitary apoplexy is an uncommon medical and neurosurgical emergency that occurs in 2–7% of patients with pituitary adenomas (Rajasekaran et al, 2011). It typically presents with acute onset headaches with or without visual disturbance and altered conscious level. Known risk factors include hypertension, anticoagulant use, surgery, pregnancy and head trauma, although these are not always present (Rajasekaran et al, 2011). Essential investigations include pituitary function tests, visual assessment and a magnetic resonance imaging brain scan. If there is visual compromise following resuscitation including fluids and steroid replacement, urgent surgery to decompress the optic apparatus is recommended. **BJHM**

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Figure 1. Sagittal T1-weighted magnetic resonance imaging brain scans. a. A large pituitary macroadenoma (bottom white arrow), measuring up to 2.7 cm and indenting the optic chiasm (top white arrow), was responsible for the patient's hypopituitarism. b. Repeat imaging showed changes consistent with pituitary apoplexy, with evidence of haemorrhage into the pituitary macroadenoma (white arrow).