A 67-year-old woman with treated hypertension presented with headache, vomiting, light sensitivity and partial loss of vision. On examination, she had a temperature of 38.4°C and left temporal hemianopia. Her examination was otherwise unremarkable. Investigations showed a C-reactive protein level of 295 (normal 0–10) mg/L and a leukocyte count of 16 100 (normal 4000–11 000) per mm³ in her blood. Computed tomography (CT) of her head was normal. Analysis of her cerebrospinal fluid (CSF) showed a leukocyte count of 908/mm³ (90% polymorphs), an erythrocyte count of 124/mm³ and a protein level of 1.19 (normal 0.10–0.40) g/L. She was given broad-spectrum antibiotics for presumed bacterial meningitis. Cultures of the CSF were sterile. The results of autoantibody studies and polymerase chain reactions for meningococcus, varicella-zoster and herpes simplex were negative.

Nine days after the CT scans were obtained, magnetic resonance imaging (MRI) showed subacute pituitary apoplexy (arrows; Figure 1). The enlarged pituitary (A; sagittal T₁-weighted image) abutted on cavernous vessels and optic chiasm (B; coronal T₁-weighted image), and there were heterogeneous foci of hyper- and hypo-intensity (C; coronal T₂-weighted image). The signal changes on MRI result from degradation of hemoglobin.

Pituitary adenomas have an estimated worldwide prevalence of up to 17%; however, classic pituitary apoplexy is uncommon, with a reported incidence of 0.5%–10% in patients who have undergone surgery for pituitary adenoma.¹ It is characterized by the sudden onset of a life-threatening neuro-ophthalmologic syndrome from hemorrhagic infarction of a pituitary adenoma.¹ Risk factors include hypertension, anticoagulant and dopamine-agonist therapies, dynamic pituitary testing and major surgery.

Magnetic resonance imaging is superior to CT for diagnosing pituitary apoplexy (sensitivity: 91% v. 28%, respectively²). Pituitary apoplexy can produce a sterile, irritant chemical meningitis that mimics bacterial meningitis from release of debris into the CSF,³ and it should be considered for anyone who presents with neuro-ophthalmologic features in this setting, even if the findings of cerebral CT are normal. Endocrine monitoring is essential, because most patients will experience some form of hypopituitarism in the long-term.

References