Pituitary Apoplexy With Bilateral Oculomotor Nerve Palsy

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Keywords

pituitary apoplexy, imaging, ocular motility disorders

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Figure 1. (A) Coronal and (B) axial MRI demonstrating bilateral expansion of pituitary adenoma into territory of the third cranial nerves. The thick arrows illustrate fluid–fluid levels representing hemorrhage. Limitation of conjugate extraocular movements on looking (C) right and (D) left as well as (E) bilateral ptosis due to bilateral oculomotor nerve palsy. MRI indicates magnetic resonance imaging.

A 56-year-old man with a 1-year history of nonfunctioning pituitary adenoma presented to the emergency department with acute-onset headache and double vision. Examination demonstrated bilateral ptosis, bilaterally exotropic gaze with inability to adduct bilaterally, and dilated left pupil with decreased accommodation to light. Imaging revealed acute intrasellar hemorrhage with invasion of cavernous sinus bilaterally (left more than right) and extension superiorly to the optic chiasm (Figure 1).

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Pituitary apoplexy (PA) occurs in 2% to 12% of all patients with pituitary adenomas in a 2:1 male to female ratio.¹ Precipitating factors including arterial hypertension, anticoagulation therapy, and recent surgery can be identified in almost 40% of cases.² The clinical presentation includes acute headache, ophthalmoplegia, diminished visual acuity, and altered consciousness. Findings of bilateral oculomotor palsy are uncommon and can be attributed to lateral expansion of the tumor causing compression of the vasa nervorum.³ Although computed tomography is often obtained first to rule out subarachnoid or intraparenchymal hemorrhage, magnetic resonance imaging is generally preferred in the diagnosis of PA due to higher sensitivity in identifying hemorrhage associated with PA.²

Secondary adrenal crisis, which occurs in 50% to 80% of all cases, is the most life-threatening hormonal complication of PA and requires prompt initial intervention with electrolyte correction, hemodynamic stabilization, and corticosteroid replacement.^{1,4} Despite a lack of consensus, most patients with stable visual symptoms can be managed conservatively. Patients with impaired consciousness or deteriorating visual deficits may require surgical decompression via transsphenoidal approach or craniotomy.^{4,5}

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