Bilateral Optic Tract Hyperintensity due to Pituitary Apoplexy

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A 51-year-old man was admitted due to sudden headache, fever, and vomiting. A neurologic examination revealed neck stiffness, partial bitemporal hemianopsia, left ptosis, and ophthalmoplegia. Axial computed tomography and sagittal T₁-weighted magnetic resonance imaging (MRI) showed a hemorrhagic pituitary mass in the sellar-suprasellar region (Picture A, B). Axial T2-weighted and fluid-attenuated inversion recovery (FLAIR) imaging demonstrated bilateral optic tract hyperintensity (Picture C, D, arrows). The corresponding apparent diffusion coefficient map revealed hyperintensity in the optic tracts. Accordingly, pituitary apoplexy with edema of the bilateral optic tracts was diagnosed.

On follow-up MRI (21 days after treatment), the optic tracts appeared isointense (Picture E, F), and the hemorrhagic mass had shrunk. Optic tract hyperintensity on MRI has been reported to occur in pituitary-region tumors (1) but rarely due to pituitary apoplexy (2). In light of previous reports (1, 2) and our case, pituitary apoplexy may cause hyperintensity of the bilateral optic tracts on MRI when a hemorrhagic mass compresses the proximal optic tracts, leading to local venous congestion and subsequent vasogenic edema.

Author Contributions
Kosei Hirata evaluated the patient’s neurologic and MRI findings and wrote the first draft.
Yoshiyuki Numasawa evaluated the patient’s neurologic and MRI findings, analyzed and interpreted the clinical data, and critically evaluated the manuscript.
Zen Kobayashi and Takanori Yokota analyzed and interpreted the clinical data and critically evaluated the manuscript.

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References


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