Localized Infarction of the Lateral Geniculate Body

Hiromasa Tsuda and Takahiro Yoshizawa

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An 81-year-old woman with diabetes mellitus abruptly developed left-sided incongruous wedge-shaped homonymous hemianopia (HH) (Picture 1, Humphrey perimeter). There were no other neurological abnormalities. Cranial diffusion-weighted magnetic resonance imaging demonstrated localized infarction in the right lateral geniculate body (LGB) (Picture 2, arrows). Meanwhile, cranial magnetic resonance angiography showed that the right posterior cerebral artery was derived from the right internal carotid artery (Picture 3). Under anti-platelet therapy, the patient’s visual field defect gradually improved.

The alignment of crossed and non-crossed fibers in the bilateral retinae is disorderly in the LGB. Consequently, the involvement of LGB induces incongruous HH (1). Although both the anterior choroidal artery and lateral posterior choroidal artery (LPChA) send terminal branches to the LGB,
neither branch exhibits anastomosis in the LGB. Because the LPChA supplies blood to the medial portion of the LGB, wedge-shaped HH develops in cases of infarction of this region (2). In our patient, the perimeter findings suggested that the terminal branch of the right LPChA may have been infarcted.

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References