Isolated Divergence Paralysis due to Midbrain Tegmentum Infarction

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A 64-year-old man with diabetes mellitus complained of horizontal diplopia only at far viewing for 4 years. Esotropia observed in the primary position was 5 prism diopters at 0.5 m, and 10 at 5 m. Despite no restriction of ocular movements (Picture 1), the red glass test demonstrated concomitant esotropia without vertical diplopia in all fields of gaze. There were no other neurologic abnormalities except for divergence paralysis (DP). Cranial magnetic resonance imaging demonstrated a localized lesion in the left midbrain tegmentum, which was considered to be ischemia (Picture 2: fluid-attenuated inversion recovery image, arrow).

In the English language literature, there are only 3 case reports of isolated DP with the responsible lesion identified by neuroimaging, in the tegmentum of the caudal pons (1), and the rostral pons extending to midbrain (2). Therefore, the precise location of the divergence center (DC) remains uncertain. Here, the present case suggests that DC is in the vicinity of the periaqueductal gray.

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References


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