Large and small

A telltale sign of acute pontomesencephalic injury

Figure Right pinpoint pupil and left fixed, midposition pupil with subtle outward deviation of the left eye (A), CT head with hyperdense basilar artery (arrow) (B), and diffusion-weighted images showing extensive pontine (C) and left paramedian midbrain infarcts (D)

An 85-year-old woman was found comatose. Her right pupil was 2 mm and reactive while the left pupil was 6.5 mm and nonreactive (figure, A). Oculocephalic and corneal reflexes were absent, the cough reflex was preserved, and there was spontaneous bilateral decerebrate posturing.

Traditional teaching indicates that midbrain lesions cause fixed, midposition pupils while pontine lesions cause pinpoint pupils. Rarely are these findings present simultaneously in the same patient.^{1,2} One midposition and one pinpoint pupil in a comatose patient indicates a combined lesion of the midbrain and pons, caused in this case by an acute occlusion of the basilar artery.

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