One-and-a-half syndrome secondary to transorbital penetrating injury

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Figure 1 CT head

Noncontrast CT head shows left eye proptosis and hyperdense stranding in the retrobulbar space consistent with hemorrhage.

A 46-year-old woman sustained a penetrating left eye (OS) injury after tripping and falling onto a motorcycle antenna. She removed the antenna immediately and presented to the emergency room complaining of diplopia. Examination demonstrated proptosis and subconjunctival hemorrhage OS. Her diplopia was initially attributed to mechanical restriction OS secondary to retrobulbar hemorrhage visualized on CT scan (figure 1). Careful examination, however, revealed left conjugate horizontal gaze palsy and left internuclear ophthalmoplegia. This was consistent with one-and-a-half syndrome from left pons penetrating trauma, confirmed on MRI (figure 2). Two months later, her condition had improved, but she continued to demonstrate abduction paresis OS.

Author contributions

Tess Fitzpatrick: primary manuscript author. Margaret Moores: manuscript author and prepared submission. Simon Thebault: manuscript author and compiled figures. Hyman Rabinovitch: edited for intellectual content.

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Figure 2 MRI brain

MRI shows linear signal abnormality extending from left pons to right superior cerebellar hemisphere on (A) fluid-attenuated inversion recovery, (B) echoplanar imaging, (C) diffusion-weighted imaging, and (D) apparent diffusion coefficient images. This indicates posttraumatic hemorrhage along antenna tract involving the medial longitudinal fasciculus and sixth cranial nerve nucleus.

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