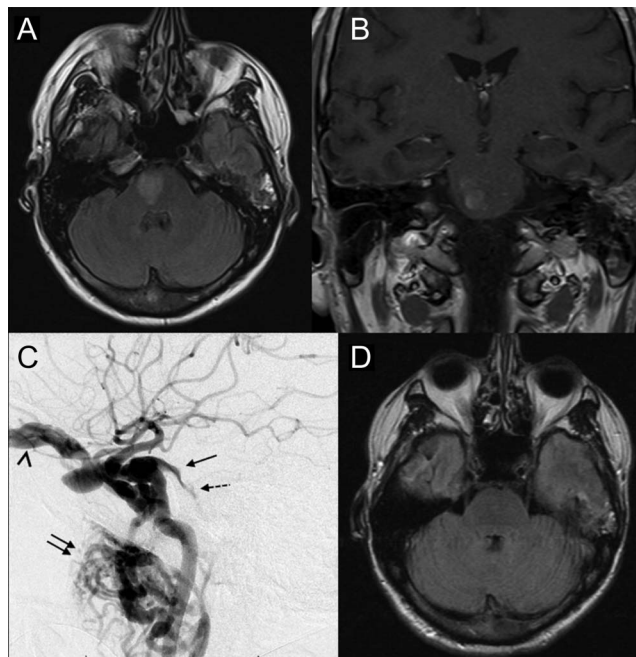


Teaching NeuroImages: Reversible pontomesencephalic edema caused by traumatic carotid cavernous fistula

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Figure Pretreatment pontomesencephalic lesion



(A) Fluid-attenuated inversion recovery and (B) T1 postcontrast MRI. (C) Carotid-cavernous fistula drainage via bridging veins (arrow) to the anterior pontomesencephalic vein (interrupted arrow) and via superior ophthalmic vein (arrowhead) and pterygoid plexus (double arrows) on catheter angiography, lateral view. (D) Pontomesencephalic edema resolution on post-treatment MRI.

A 45-year-old man presented with a painful bulging right eye and blindness 6 weeks after a motorcycle accident and traumatic brain injury. He had a complete right oculomotor nerve palsy and only perception of light. MRI revealed ipsilateral pontomesencephalic edema (figure, A and B). Catheter angiography showed a direct right carotid-cavernous fistula (figure, C). Two months after coil embolization, the ptosis, proptosis and ophthalmoplegia resolved. MRI revealed resolution of pontomesencephalic edema (figure, D). The presumed mechanism was transmission of arterialized pressures of the cavernous sinus via a bridging vein to the anterior pontomesencephalic vein, generating venous hypertension and vasogenic edema.^{1,2}

AUTHOR CONTRIBUTIONS

Study concept and design: Y.J.A., D.Y. Acquisition of data: Y.J.A. Analysis and interpretation of data: Y.J.A., S.D., D.C.H. Drafting of the

manuscript: Y.J.A., S.D. Critical revision of the manuscript for important intellectual content: S.D., D.C.H., D.Y. Study supervision: D.Y.

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