

Teaching NeuroImages: Complex transverse sinus fistula and cavernous sinus syndrome

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Neurology® 2018;91:e1551-e1552. doi:10.1212/WNL.0000000000006368

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Figure 1 Photographs of the patient's eyes



(A) Pretreatment. (B) Post-treatment.

A 63-year-old, previously healthy, man presented with slowly progressive left eye pain and diplopia. The physical examination revealed a swollen, red left eye, with marked conjunctival inflammation and ipsilateral sixth nerve palsy (figure 1A). Intraocular pressure was 35 mm Hg, and an ocular fluorescein angiography revealed a severe ingurgitation in the left superior ophthalmic vein. Cerebral subtraction angiography revealed a complex left transverse sinus fistula supplied by multiple dural branches and retrograde drainage to the cavernous sinus and superior ophthalmic vein (figure 2). Complete closure of the fistula was achieved with an embolic agent, leading to resolution of the neuro-ophthalmologic syndrome (figure 1B).

Cavernous sinus syndrome is generally caused by carotid-cavernous dural fistulas. Exceptionally, it can be as a result of complex noncavernous fistulas with rerouting of the venous drainage that reach the cavernous sinus.^{1,2}

Author contributions

G. Parrilla: clinical care of the patient, study design, and manuscript writing. J. Zamarro: angiographic images and photographs of the patient and revision of the manuscript. J. Díaz-Pérez: clinical care of the patient and revision of the manuscript.

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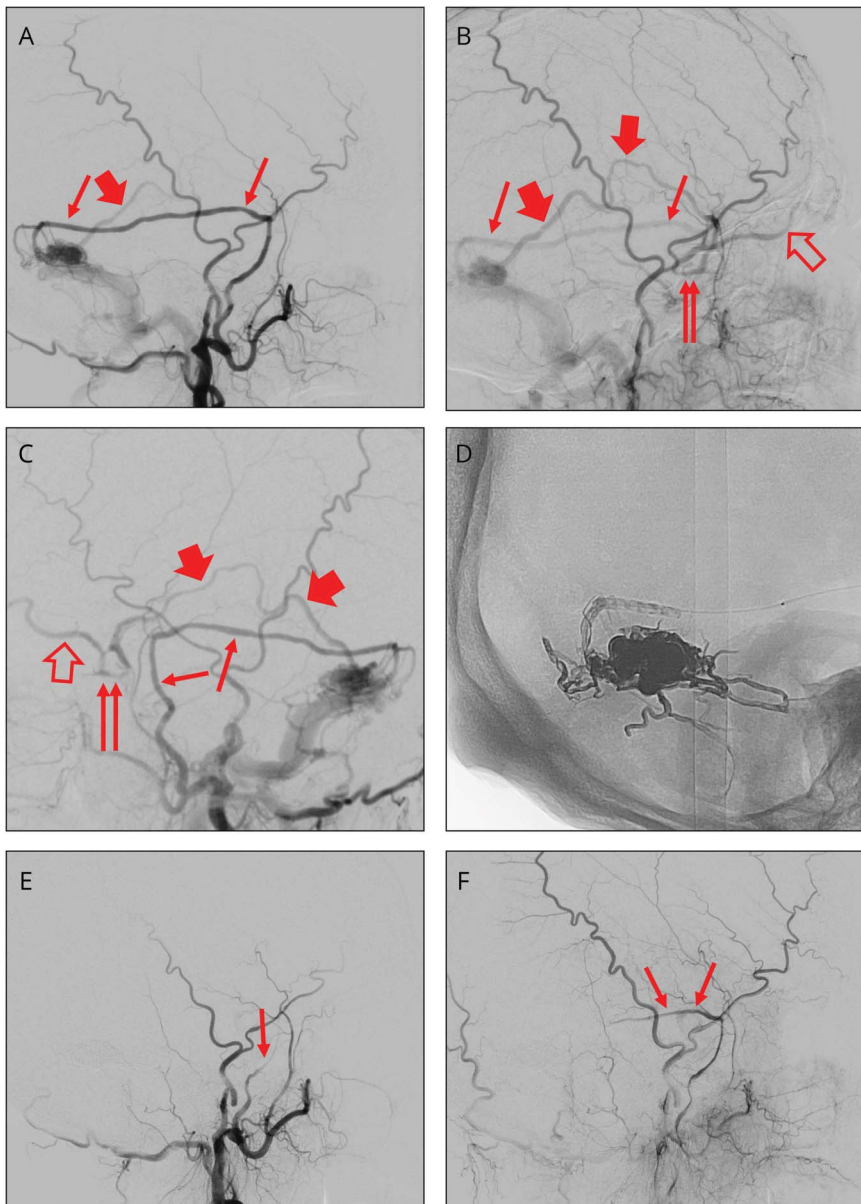
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Figure 2 Digital subtraction angiography



(A–C) Left transverse sinus dural fistula supplied by the left middle meningeal artery (red thin arrows), draining to the superficial middle cerebral vein (red thick arrows), cavernous sinus (red double arrows), and superior ophthalmic vein (red empty arrows). (D) Cast of ethylene vinyl alcohol copolymer. (E and F) Occlusion of the shunt.

Study funding

No targeted funding reported.

Disclosure

The authors report no disclosures relevant to the manuscript. Go to Neurology.org/N for full disclosures.

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This information is current as of October 15, 2018

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