

A CAROTID–CAVERNOUS FISTULA MIMICKING HEMICRANIA CONTINUA

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Background. A 78-year-old woman presented with a 3-month history of recurrent attacks of excruciating, strictly left-sided headache involving the periorbital region. Her family and physiological history were unremarkable. Her past medical history was notable only for treated arterial hypertension. The pain was pulsating, rated 10/10 on the Numerical Rating Scale, lasted approximately 12 hours, occurred 3–4 times per week, and showed poor response to NSAIDs. Each attack was accompanied by ipsilateral ptosis and lacrimation. Between attacks, she experienced a continuous mild left frontal pulsating headache, which consistently worsened in the supine position. She denied visual loss, diplopia, and jaw claudication.

Methods. Routine laboratory investigations, including ESR and CPR, were unremarkable. An initial non-contrast brain MRI and doppler ultrasonography of the temporal arteries were both reported as normal. Neurological examination revealed left-sided fixed miosis with absent direct and consensual pupillary light reflexes and ipsilateral ptosis. Based on the overall clinical phenotype, characterized by a continuous unilateral headache with superimposed exacerbations and ipsilateral cranial autonomic symptoms, together with the unrevealing initial diagnostic work-up, hemicrania continua was initially suspected. However, an indomethacin trial (100 mg/day) was completely ineffective, making this diagnosis unlikely.

Results. Given the presence of objective focal neurological signs, brain MRI with gadolinium enhancement and dedicated intracranial MR angiography was subsequently performed. Imaging revealed progressive thickening of the left cavernous sinus with abnormal high-flow signal on time-of-flight sequences and early contrast enhancement on dynamic acquisitions, without significant dilatation of the ipsilateral superior ophthalmic vein. These findings raised the suspicion of a carotid–cavernous fistula, which was subsequently confirmed by digital subtraction angiography. The patient underwent endovascular treatment, resulting in complete resolution of the headache and the associated cranial autonomic signs.

Conclusions. This case highlights that secondary headache disorders involving the cavernous sinus may resemble primary trigeminal autonomic cephalalgias. Although cranial autonomic symptoms are highly suggestive of TACs, their presence should not preclude careful evaluation for structural causes, particularly when atypical features or neurological signs are present. Brain MRI should be considered mandatory in patients presenting with a new-onset TAC-like phenotype, preferably including gadolinium-enhanced sequences and dedicated vascular imaging (MR angiography).