Concurrent ophthalmic artery occlusion and optic nerve infarction after cosmetic facial filler injection

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Key words: Filler, magnetic resonance imaging, ophthalmic artery occlusion, optic nerve infarction

A 51-year-old healthy woman who received facial hyaluronic acid filler injections in the glabellar region presented with no light perception (NLP) in her left eye the following week. The patient noted immediate loss of vision after several injections. At initial presentation, she had skin necrosis on the bridge of her nose and forehead. The intraocular pressure was 17 mmHg and a positive relative afferent pupillary defect was observed, with an otherwise unremarkable anterior segment. Fundoscopic examination revealed whitening of the retina, pale edematous disc, marked attenuation, and boxcarring of the retinal vessels, without a cherry-red spot. These findings were consistent with ophthalmic artery occlusion [Fig. 1a]. Optical coherence tomography (OCT) showed profound loss of inner and outer retinal layers [Fig.1b].

Diffusion-weighted magnetic resonance imaging (MRI, b value = 1000), at initial presentation, showed an asymmetric...
high signal intensity along the left optic nerve (arrow), suggesting reduced diffusivity [Fig. 2a]. Therefore, optic nerve infarction was suspected. An axial view of a T2-FLAIR MRI sequence showed multifocal cerebral infarctions (circled) [Fig. 2b]. Upon MR angiography, the left ophthalmic artery was not delineable immediately after branching from the internal carotid artery. The left supraorbital artery and supratrochlear artery, which are normally delineable, were not visible (dashed arrow) [Fig. 2c]. Hyaluronidase was not administered because it would have been ineffective a week after loss of vision.

At the 6-month follow-up, she still had NLP and fundoscopic examination revealed widespread atrophy and fibrosis of the retinal pigment epithelium and overlying retina and gliosis over the disc and ghost vessels [Fig. 1c]. OCT indicated atrophic changes in all retinal layers [Fig. 1d].

**Discussion**

The glabellar region is particularly susceptible to filler injection injury because small vessels, branching from the supratrochlear and supraorbital arteries, are located superficially and their collateral circulation is limited. Complications such as ophthalmic artery occlusion, cerebral infarction, and optic nerve infarction have been reported after facial filler injection in the glabellar region.\(^1\)\(^-\)\(^3\) To mitigate the risk of these complications, slow, superficial aspiration with a small needle before injection has been suggested.\(^4\)

We present a rare case with concurrent ophthalmic artery occlusion, cerebral infarction, and optic nerve infarction. During the assessment of a patient with complications associated with facial filler injection, physicians should consider these findings and MRI as an evaluation tool.

**Declaration of patient consent**
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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A flower in the brain: Planum sphenoidale meningioma

A 28-year-old female presented to our outpatient department with unexplained vision loss. There was no history of fever, headache, vomiting, or generalized weakness. She was diagnosed with a 1-month history of vision loss as a primary manifestation.

Key words: meningioma, olfactory groove, planum sphenoidale, slow-growing tumors, sphenoidale meningioma, female predominance.

Discussion

Planum sphenoidale meningiomas are extra-axial slow-growing tumors arising from the roof of the sphenoid sinus and the area between the optic nerves and the anterior clinoid processes. Enlargement of this meningiomas usually pushes the optic nerves dorsally and caudally, causing vision loss as a primary manifestation.

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Conflicts of interest

There are no conflicts of interest.

Reference

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