Intracranial aneurysm wall enhancement decreases under anti-inflammatory treatment

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Neurology® 2018;91:804-805. doi:10.1212/WNL.0000000000006394

Figure 3D T1 fast spin echo postgadolinium

Axial views (A–C) of a thick circumferential arterial wall enhancement of a right internal carotid aneurysm (confirmed on 3D time-of-flight [F]) presenting under steroid therapy a continuous decrease of enhancement (B, C). Coronal views (D, E) show the optic nerve and chiasma compression (arrowhead).

A 68-year-old woman presented with visual field defect, caused by right optic nerve compression by a giant carotid-ophthalmic aneurysm. Steroids were initiated at 1 mg/kg/d with a 3-month dose decrease and resolution of symptoms. Any other intervention was refused. Vessel wall MRIs (figure) showed a decrease in intensity and thickness of initial circumferential aneurysm wall enhancement (CAWE) at 6 weeks, sustained at 1 year. CAWE is hypothesized to be related to inflammation,¹ a marker of aneurysm instability.² This observation suggested an anti-inflammatory effect of steroids on aneurysm wall enhancement that may have contributed to the resolution of the optic nerve palsy.

Author contributions

M. Edjlali: study concept and design, acquisition of data. Grégoire Boulouis, I. Derraz, W. Ben Hassen: interpretation of data. C. Rodriguez-Régent, D. Trystram: analysis and interpretation of data. J.-F. Meder, C. Oppenheim, O. Naggara: study concept and design, critical revision of manuscript for intellectual content, study supervision.

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Go to Neurology.org/N for full disclosures. Funding information and disclosures deemed relevant by the authors, if any, are provided at the end of the article.

Study funding

No targeted funding reported.

Disclosure

The authors report no disclosures relevant to the manuscript.
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DOI 10.1212/WNL.0000000000006394

This information is current as of October 22, 2018

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