Teaching *NeuroImages*: Optic nerve glioma with perineural arachnoid gliomatosis in a patient with neurofibromatosis-1

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Figure Sagittal and coronal sections of MRI orbit

Sagittal (A) and coronal (B) T2-weighted MRI show fusiform enlargement of the left optic nerve (asterisks) with hyperintense soft tissue in the inferolateral aspect of the perineural subarachnoid space (arrows). (C) Sagittal T1-weighted postcontrast image shows minimal diffuse enhancement of the optic nerve (asterisk) and moderate enhancement of perineural gliomatosis (arrow).

A 4-year-old boy presented with a 1-week history of left eye proptosis. Examination showed multiple café-au-lait spots and impaired left eye vision. MRI revealed left optic nerve glioma with perineural arachnoid gliomatosis (PAG) (figure, A–C). The growth patterns of optic nerve gliomas are classified into intraneural and perineural forms.¹ The intraneural form is characterized by fusiform enlargement of the nerve, whereas PAG shows astrocytic proliferation in the subarachnoid space surrounding the relatively preserved optic nerve.² Rarely, both forms can coexist, as in this case. PAG should be differentiated from optic nerve sheath meningioma, which is more common in patients with neurofibromatosis 2.

AUTHOR CONTRIBUTIONS

K. Srinivasan: data collection and drafting of manuscript. Bejoy Thomas: revision and concept of manuscript.

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DISCLOSURE

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

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