Ophthalmic Images

Bilateral Optic Nerve Sheath Meningoceles in an Asymptomatic Patient

Sunny Qin, MD; Timothy J. Martin, MD; Sally S. Ong, MD

A Macular optical coherence tomography, right eye

B STIR sequence MRI of the orbits, coronal view

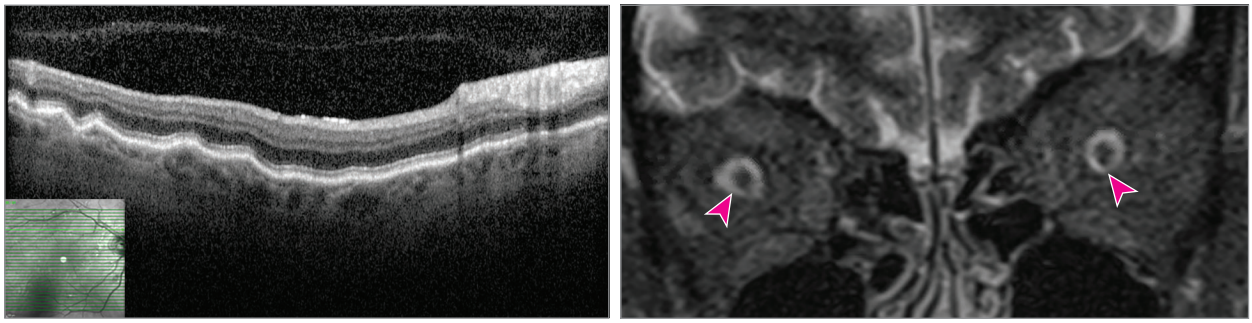

Figure. A, Macular optical coherence tomography of the right eye shows choroidal folds. B, Short-tau inversion-recovery (STIR) sequence magnetic resonance imaging (MRI) of the orbit in the coronal view uses fat-suppression techniques and demonstrates normal appearance of the optic nerves but enlarged optic sheaths with patulous subarachnoid space (arrowheads).

An 82-year-old man with newly diagnosed asymptomatic bilateral choroidal folds (**Figure**, A) had stable visual acuity (20/30 OU), normal intraocular pressures, no relative afferent pupillary defect, normal automated perimetry, and no papilledema bilaterally. Magnetic resonance imaging showed no orbital tumor or inflammation but demonstrated bilateral optic nerve sheath meningoceles (ONSMs) (Figure, B).

CME at jamacmelookup.com

ONSM is characterized by a primary saccular dilation of the perineural subarachnoid space of the optic nerve without an underlying cause.[1] Most patients have bilateral findings affecting the entire length of the nerve.[1-5] It can remain stable for many years or progress to acute vision loss due to compression of the optic nerve.[4,5] Acetazolamide treatment may be used for symptomatic management in patients with papilledema or headaches refractory to anagelsics.[4,5] Surgical intervention with sheath fenestration is reserved for patients with progressive optic nerve dysfunction.[6] Due to varied disease prognosis, it is recommended that these patients undergo yearly multidisciplinary checkups.[5]

ARTICLE INFORMATION

Author Affiliations: Department of Ophthalmology, Wake Forest School of Medicine, Atrium Health Wake Forest Baptist, Winston-Salem, North Carolina.

Corresponding Author: Sally S. Ong, MD, Department of Ophthalmology, Wake Forest School of Medicine, Atrium Health Wake Forest Baptist, 1 Medical Center Blvd, Winston-Salem, NC 27157 (song@wakehealth.edu).

Conflict of Interest Disclosures: Dr Ong reported receiving advisory board fees from EyePoint Pharmaceutical outside the submitted work. No other disclosures were reported.

Additional Contributions: We thank the patient for granting permission to publish this information.

REFERENCES

1. Garrity JA, Trautmann JC, Bartley GB, et al. Optic nerve sheath meningoceles—clinical and radiographic features in 13 cases with a review of the literature. *Ophthalmology*. 1990;97(11):1519-1531. doi:10.1016/S0161-6420(90)32382-5

2. Mesa-Gutiérrez JC, Quiñones SM, Ginebreda JA. Optic nerve sheath meningocele. *Clin Ophthalmol*. 2008;2(3):661-668. doi:10.2147/OPTH.S2689

3. Shanmuganathan V, Leatherbarrow B, Ansons A, Laitt R. Bilateral idiopathic optic nerve sheath meningocele associated with unilateral transient cystoid macular oedema. *Eye (Lond)*. 2002;16(6):800-802. doi:10.1038/sj.eye.6700212

4. Algarni M, Maralani PJ, Sundaram AN. Optic nerve sheath meningocele. *Int Med Case Rep J*. 2018;11:213-215. doi:10.2147/IMCRJ.S166655

5. Halimi E, Wavreille O, Rosenberg R, Bouacha I, Lejeune JP, Defoort-Dhellemmes S. Optic nerve sheath meningocele: a case report. *Neuroophthalmology*. 2013;37(2):78-81. doi:10.3109/01658107.2013.766219

6. Lunardi P, Farah JO, Ruggeri A, Nardacci B, Ferrante L, Puzzilli F. Surgically verified case of optic sheath nerve meningocele: case report with review of the literature. *Neurosurg Rev*. 1997;20(3):201-205. doi:10.1007/BF01105565