Illustrations & Insights

Multimodal Evaluation of Traumatic Partial Optic Nerve Head Avulsion

LUCAS ZAGO RIBEIRO, DANTE AKIRA KONDO KUROIWA, AND CAIO VINICIUS SAITO REGATIERI

A 16-year-old male presented with unilateral sudden vision loss in the left eye, after contusion eye injury from a kicked ball while playing soccer. On admission ophthalmic examination, his best corrected visual acuity (BCVA) was 20/20 in the right eye, and hand motion in the left eye with relative afferent pupillary defect. The fundus exam of the OS demonstrated discrete vitreous hemorrhage, partial ONH avulsion, and peri-papillary intraretinal hemorrhage (Figure 1). Brain magnetic resonance imaging (MRI) of the orbits showed no optic nerve abnormality (Figure 1). After one year of follow-up, the BCVA of the OS improved to 20/100, and the fundus exam demonstrated temporal pallor of the optic disc with central round-gray defect (Figure 1).

Optic nerve head (ONH) avulsion is an indirect anterior traumatic optic neuropathy,[1] with few documented cases of partial avulsion with follow-up. There is lack evidence in recommendation of systemic corticosteroids,[2] and wasn't prescribed in this case.

FUNDING

No funding or grant support.

CONFLICT OF INTEREST

There are no conflicts of interests of all authors.

Accepted for publication November 1, 2021.

Department of Ophthalmology, Universidade Federal de São Paulo, São Paulo, Brazil

Corresponding Author: Lucas Zago Ribeiro, Rua Botucatu, 816 - 04023-062 São Paulo - SP - Brazil; e-mail: lucaszagoribeiro@gmail.com

0002-9394/$36.00
https://doi.org/10.1016/j.ajo.2021.11.004

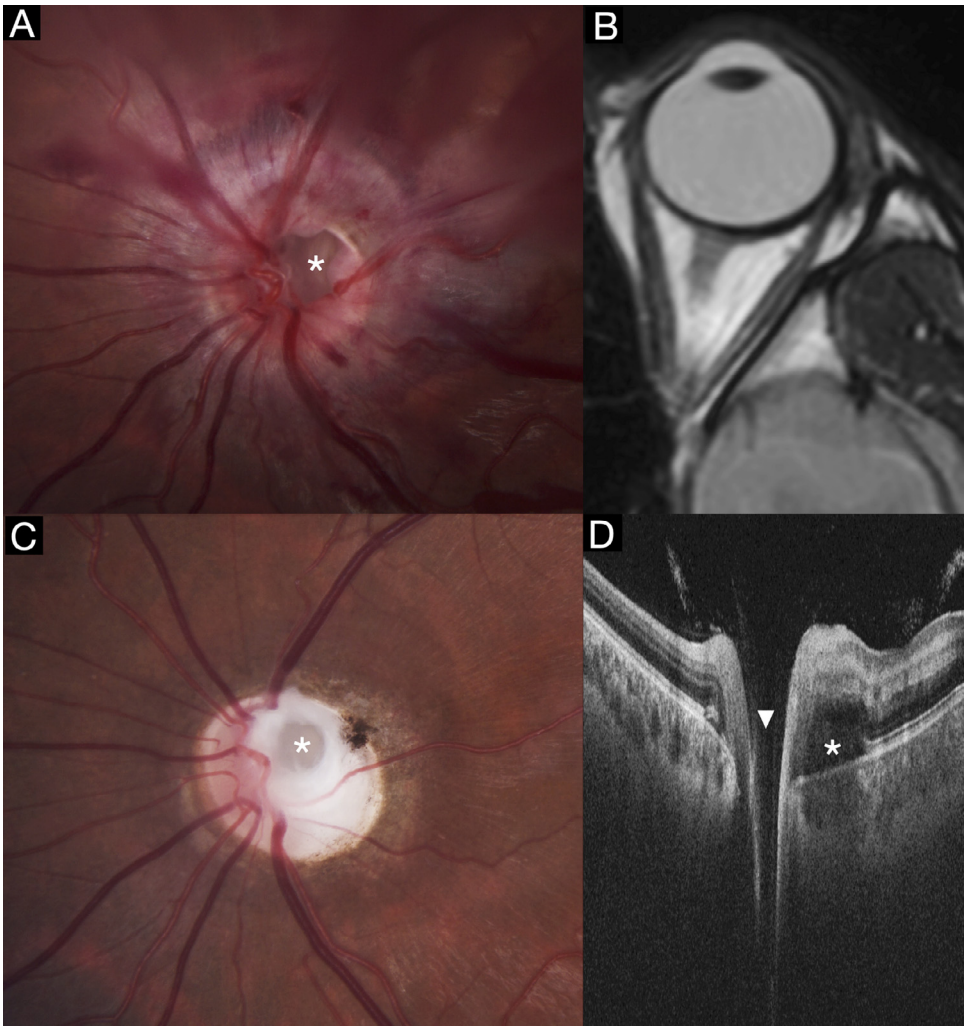

FIGURE 1. (A). Baseline Fundus Photography: Peripapillary mild vitreous hemorrhage, optic disc hyperemia, round cavity in the temporal area of the ONH (asterisk), and peripapillary intraretinal hemorrhage; B. Baseline MRI Orbits: Axial T2 image demonstrating normal left nerve globe junction; C. One Year Follow-Up Fundus Photography: Temporal ONH pallor with central round-gray defect (asterisk), and peripapillary atrophy; D. Baseline Swept-Source Optical Coherence Tomography: Cross-sectional image through the ONH cavity in (A) demonstrating subretinal fluid in the temporal peripapillary area (asterisk), and an optically empty deep cavity corresponding to the avulsion area (arrowhead), with presumed lesion of the lamina cribosa.

AUTHORSHIP

All authors attest that they meet the current ICMJE criteria for Authorship.

ACKNOWLEDGMENTS

None.

REFERENCES

1. Liu Y, Wang J, Zhu D. Avulsion of Optic Nerve and Peripapillary Retina. *Retina*. 2020;40(6):e22–e23. doi:10.1097/IAE.0000000000002813.
2. Murchison AP, Affel EL, Garg SJ, Bilyk JR. Optical coherence tomography in optic nerve head avulsion. *Orbit*. 2012;31(2):97–101. doi:10.3109/01676830.2011.605505.

Please cite this article as: Lucas Zago Ribeiro, Dante Akira Kondo Kuroiwa and Caio Vinicius Saito Regatieri, Multimodal Evaluation of Traumatic Partial Optic Nerve Head Avulsion, American Journal of Ophthalmology, https://doi.org/10.1016/j.ajo.2021.11.004