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Case report

Management of giant retinal tear and retinal detachment in a patient with active toxoplasmosis retinochoroiditis

Nathan L. Scott, Jayanth Sridhar*, Harry W. Flynn Jr.

Department of Ophthalmology, Bascom Palmer Eye Institute Miami, FL 900 NW 17th Street Miami, FL 33136, USA

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ABSTRACT

Purpose: To describe the management of a giant retinal tear with retinal detachment in a patient with active toxoplasmosis retinochoroiditis.

Results: While receiving systemic medications for toxoplasmosis, the patient underwent scleral buckling, pars plana vitrectomy, and C3F8 gas tamponade without removal of the lens. At last follow-up, best corrected visual acuity was 20/20 with an attached retina and the toxoplasmosis lesion was inactive.

Conclusions: and Importance: Using modern surgical techniques, anatomic and clinical success is possible during active retinochoroiditis.

1. Introduction

Retinal tears and rhegmatogenous retinal detachments (RRDs) are rare complications of ocular inflammatory diseases. The incidence of RRD in inflammatory disease has been reported to be 1.7%, 36% of which occur in the setting of ocular toxoplasmosis infection.[1] Giant retinal tear associated with RRD and toxoplasmosis retinochoroiditis is even less common.[5]. Prior reports of retinal detachment in this setting generally report poor visual outcomes and high frequency of re-detachment.[3–6]. The current report describes a case of partially resolved toxoplasmosis retinochoroiditis with subsequent development of a giant retinal tear.

1.1. Case report

A 27-year-old male from Venezuela presented to the ophthalmology emergency department complaining of two weeks of floaters and blurred vision in the left eye.

Ophthalmic examination revealed best corrected visual acuity of 20/20 and 20/30 in the right and left eye, respectively. His intraocular pressures were 16 mmHg in the right eye and 27 mmHg in the left eye. Slit-lamp examination in the left eye was notable for keratic precipitates on the corneal endothelium and a 2 + cellular reaction in the anterior chamber. The posterior segment showed a creamy white intra-retinal lesion with intraretinal hemorrhage, subretinal fluid, and overlying vitritis (Fig. 1A). Segmental retinal periarteritis was noted along the superior arcade. Fluorescein angiography revealed blockage with late leakage from the intraretinal lesion, as well as vasculitis (Fig. 1B). Optical coherence tomography demonstrated vitritis overlying a hyperreflective intraretinal lesion with subretinal fluid (Fig. 1C).

The patient underwent comprehensive infectious laboratory workup and revealed elevated toxoplasma IgG antibodies titers. The patient was started on dual oral antimicrobial therapy for presumed toxoplasmosis retinochoroiditis (trimethoprim/sulfamethaxazole 160mg/800mg twice daily and clindamycin 300mg three times daily), as well as topical glucocorticoids and a mydriatic agent. One week later, he initiated systemic oral glucocorticoid therapy (prednisone 60mg daily) with a scheduled taper.

Six weeks after presentation the patient returned with new floaters in the same eye. Examination revealed a superotemporal giant retinal tear and associated RRD (Fig. 2). The patient underwent urgent surgical repair with placement of a scleral buckle and pars plana vitrectomy with perfluorocarbon assisted subretinal fluid drainage, endolaser, and 16% C3F8 gas tamponade. Post-operatively the patient's oral corticosteroids were increased to 60mg daily and tapered over 2 months. Dual oral antimicrobial coverage was maintained for 3 months. At last follow-up five months after surgical repair, best corrected visual acuity was 20/20 with an attached retina (Fig. 3).

2. Discussion

Toxoplasmosis retinochoroiditis is the most common cause of posterior uveitis worldwide. It typically presents with vitritis, retinitis, and chorioretinal inflammation with adjacent scaring. While this infection is often self-limiting in most immunocompetent individuals, antibiotic medications are used under circumstances of aggressive inflammation

* Corresponding author.
E-mail address: jsridhar1@med.miami.edu (J. Sridhar).

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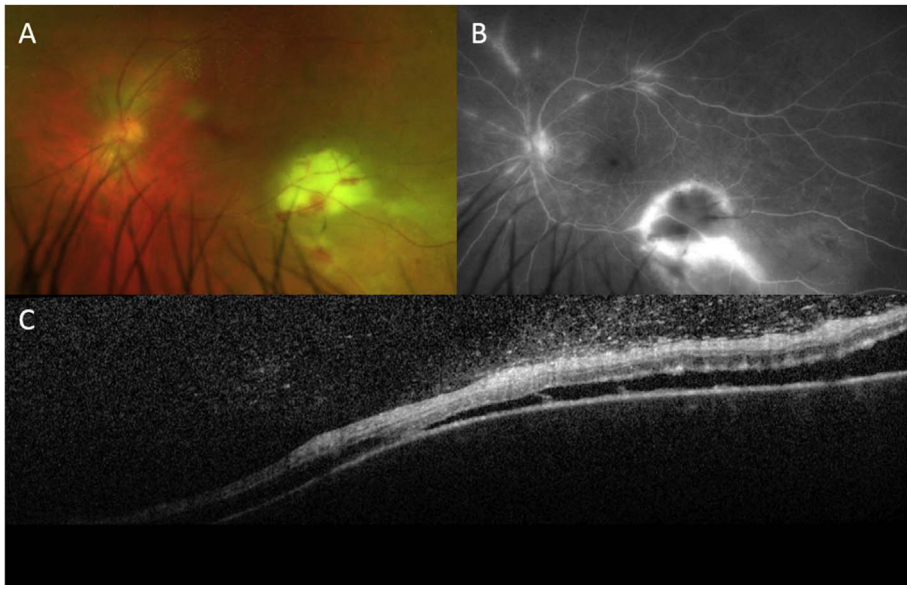

Fig. 1. A. Fundus photograph of left eye. Active chorioretinal lesion with overlying hemorrhage and associated subretinal fluid, as well as superotemporal arcade segmental periarteritis
B. Fluorescein angiography. Blockage and leakage associated with chorioretinal lesion as well confirms the periarteritis
C. Optical coherence tomography. Intraretinal lesion with overlying vitritis and associated exudative retinal detachment.

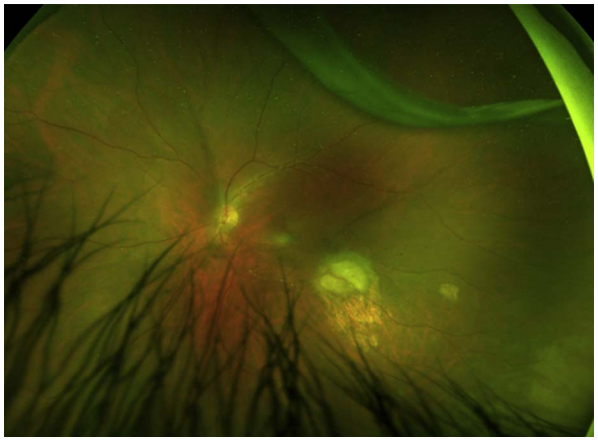

Fig. 2. Fundus photography. Six weeks after initial presentation demonstrates resolving rtinochoroiditis with evolving scar formation as well as a superotemporal giant retinal tear and associated rhegmatogenous retinal detachment.

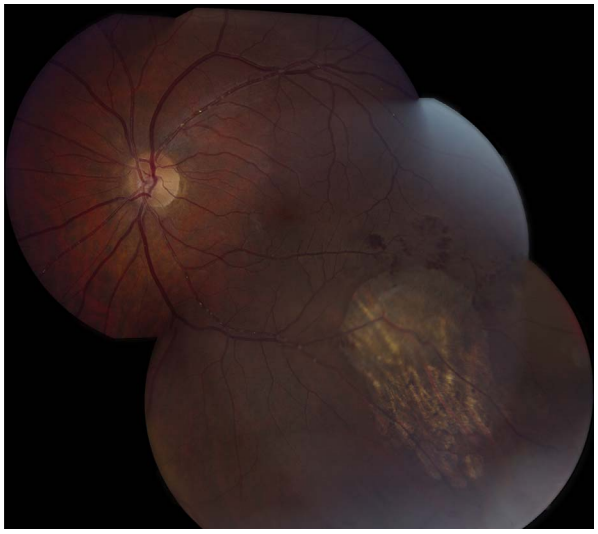

Fig. 3. Fundus photography. Five months after surgical repair reveals an attached retina and inactive chorioretinal scar with residual associated intraretinal hemorrhages and small intraarterial plaques (Kyriele's plaques).

or when there are lesions that threaten the nerve or macula.[2]. Therapeutic regimens include triple therapy (pyrimethamine, sulfadiazine, and systemic corticosteroid), quadruple therapy (triple therapy plus clindamycin), trimethoprim/sulfamethoxazole, spiramycin, minocycline, azithromycin, atovaquone, and clarithromycin.[3,4]. No regimen has proven superior. However, when systemic side effects are of concern it is also possible to treat with intravitreal antibiotics like trimethoprim/sulfamethoxazole and clindamycin as alternative therapies [3,5].

Toxoplasmosis retinochoroiditis is rarely associated with retinal tears and RRD. In 1978, Hagler et al. reported a 1.7% incidence of RRD in a retrospective analysis of 2618 cases of RRD following chorioretinal inflammatory disease.[1] Toxoplasmosis retinochoroiditis was associated in 36% of patients with retinal detachment in this series. More recently, Kerkhoff et al. reviewed consecutive cases of uveitis between 1990 and 1997. They identified an overall prevalence of 3.1% for retinal detachment in patients with uveitis and 3.5% occurrence in patients with a toxoplasmosis retinochoroiditis lesion.[6].

Bosch-Driessen et all performed a retrospective analysis of 150 patients with confirmed ocular toxoplasmosis. They sought to elucidate characteristics associated with RRD in patients who presented with ocular toxoplasmosis. They reviewed age, myopia, interval between treatment and onset of retinal tear/detachment, severity of vitritis, prior treatments, and location of chorioretinal scaring. They reported that myopia was associated with tears in these patients and that retinal tears and RRDs typically occur during active inflammation. Out of nine RRDs, two patients abstained from treatment, five underwent primary scleral buckle, and one patient underwent primary pars plana vitrectomy with silicone oil tamponade. Two of the primary scleral buckle patients developed recurrent retinal detachment.[7].

Adan et al. studied pars plana vitrectomy for vitreoretinal complications in ocular toxoplasmosis. Eight RRDs were evaluated in this study and all underwent scleral buckle with either gas (5) or silicone oil (3) tamponade. No re-detachments occurred, but notably none of the detachments occurred in the setting of active chorioretinal inflammation.[8]. There are four other case reports in the literature describing RRD associated with toxoplasma chorioretinitis[9-13]. Only one study, by Frou et al., had giant retinal tear RRDs documented in their case series.[14]. They describe three giant retinal tears, each of which underwent pars plana vitrectomy with silicone oil tamponade. Two of the cases required multiple surgeries to achieve anatomic success. Final visual acuity was 20/100 or worse in two of three eyes.

3. Conclusion

Surgical management of rhegmatogenous retinal detachment with giant retinal tear in the setting of active retinochoroiditis has not been described. Generally, visual outcomes after retinal detachment surgery are poor and re-detachment rates are high.[7–14]. While receiving oral therapy for toxoplasmosis, successful surgical management of a giant retinal tear and retinal detachment was accomplished in this patient with active toxoplasmosis retinochoroiditis.

Patient consent

Consent to publish case details were obtained from the patient.

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Conflicts of interest

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Appendix A. Supplementary data

Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.ajoc.2018.03.007.

References

1. Hagler WS, Jarret WH, Chang M. Rhegmatogenous retinal detachment following chorioretinal inflammatory disease. *Am J Ophthalmol.* 1978;86:373–379.
2. Kim SJ, Scott IU, Brown GC, et al. Interventions for toxoplasma retinochoroiditis: a report by the American Academy of ophthalmology. *Ophthalmology.* 2013;120(2):371–378.
3. Rothova A, Bosch-Driessen LE, van Loon NH, Treffers WF. Azithromycin for ocular toxoplasmosis. *Br J Ophthalmol.* 1998;82:1306–1308.
4. Stanford MR, See SE, Jones LV, Gilbert RE. Antibiotics for toxoplasmic retinochoroiditis: an evidence-based systematic review. *Ophthalmology.* 2003;110:926–931 quiz 31–32.
5. Choudhury H, Jindal A, Pathengay A, Bawdekar A, Albini T, Flynn Jr HW. The role of intravitreal trimethoprim/sufamethoxazole in the treatment of toxoplasma retinochoroiditis. *Ophthalmic Surg Lasers Imaging Retina.* 2015;46:137–140.
6. Kerkhoff FT, Lamberts QJ, van den Biesen PR, Rothova A. Rhegmatogenous retinal detachment and uveitis. *Ophthalmology.* 2003;110(2).
7. Bosch-Driessen LH, Karimi S, Stilma JS, et al. Retinal detachment in ocular toxoplasmosis. *Ophthalmology.* 2000;107:36–40.
8. Adan A, Giralt J, Alvarez G, Alforja S, Burés-Jesltrup A, Casaroli-Marano RP, Corcostegui B. Pars plana vitrectomy for vitreoretinal complications of ocular toxoplasmosis. *Eur J Ophthalmol.* 2009;19(6):1039–1043.
9. Frau E, Gregoire-Cassoux N, Lautier-Frau M, et al. Choriore'tinites toxoplasmiques complique'es de de'collement de re'tine. *J Fr Ophtalmol.* 1997;20:749–752.
10. Kianersi F, Naderi Beni A, Ghanbari H, Fazel F. Ocular toxoplasmosis and retinal detachment: five case reports. *Eur Rev Med Pharmacol Sci.* 2012;16:84–89.
11. Lucena Dda R, Ribeiro JA, Lucena Dda R, de Lucena AL, Jorge R. [Retinal tears in toxoplasmic retinochoroiditis: case series]. *Arq Bras Oftalmol.* 2009;72:829–831.
12. Lucier AC. Retinal detachment associated with ocular toxoplasmosis. *Trans Am Acad Ophthalmol Otolaryngol.* 1974;78:882–889.
13. Faridi A, Yeh S, Suhler EB, Smith JR, Flaxel CJ. Retinal detachment associated with ocular toxoplasmosis. *Retina.* 2015;35(2):358–363.
14. Frau E, Gregoire-Cassoux N, Lautier-Frau M, et al. Choriore'tinites toxoplasmiques complique'es de de'collement de re'tine. *J Fr Ophtalmol.* 1997;20:749–752.