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Case Report

Diffuse surgically induced scleritis following strabismus surgery: A case report

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ABSTRACT

A 30 years old woman was diagnosed as surgically induced diffuse scleritis following an uneventful strabismus surgery. The disease was stable with topical and systemic steroid but did not completely recover. So, immunomodulatory therapy with Oral Methotrexate was started.

1. Introduction

Scleritis, inflammation of the sclera, is a typically painful, destructive condition. It is a potential risk of permanent ocular structural damage with visual compromise. Scleritis can be immune mediated or can be associated with infection, trauma, surgery, and medications.

The surgically induced necrotizing scleritis (SINS) is a well-recognized entity. It is reported following cataract surgery,[1–10] Penetrating keratoplasty,[11] strabismus surgery for thyroid ophthalmyopathy[12] and cataract surgery complicated by infection.[13] Surgically induced diffuse scleritis (SIDS) is less well recognised.

Though not always, but in some cases, it has been reported to occur in excessive conjunctival manipulation and episcleral vessel cautery, such as pterygium or extracapsular cataract extraction surgery. Although infrequent, the onset of features of necrotizing scleritis in a case of initially nonnecrotizing disease can occur in up to 15% of cases, prompting further investigation and adequate therapy. The necrotizing process usually starts at the site of surgery and extends outwards, but tends to remain localized to one sector. Studies show that up to 90% of such cases may have an undiagnosed systemic autoimmune condition. Surgically induced diffuse scleritis is also a rare iatrogenic entity in eyes undergoing multiple ocular surgeries.

2. Case Report

A 30-year-old female patient underwent an uneventful strabismus surgery at her right eye for alternate exotropia of 50 Prism Diopter (Fig. 1) with dominant left eye. Six weeks later after the surgery, she developed severe pain with redness of her right eye. Ocular examination showed multifocal non- necrotizing scleritis with prominent tortuous and dilated scleral vessels involving inferior and nasal aspect of the sclera. There was no scleral thinning. Posterior segment showed slightly tortuous blood vessels but B-scan revealed normal choroidal thickness with no sign of posterior scleritis.

All the relevant examinations were done and routine laboratory investigations were normal. We started topical steroid and oral NSAID. After one week, we followed up the patient. There was slow improvement but not as much as we expected. So, we started oral steroid. Two weeks after, again she had a follow up visit. This time, scleritis

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Fig. 1: Alternate Exotropia of 50 prism diopter of right eye with dominating left eye.

involved more area and became diffuse scleritis, but non-necrotizing variety with some area of scleral thinning (Fig. 2). This time, we started immunomodulatory therapy with oral Methotrexate and Folic acid supplementation.

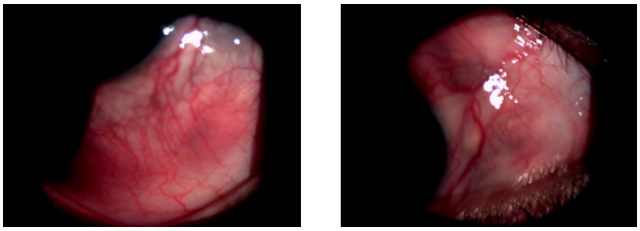

Fig. 2: Anterior segment photograph of both eyes showing conjunctival injection, inferior scleral vessel dilatation and tortuosity with temporal thinning.

3. Discussion

Surgically induced scleritis occurs more frequently in women with underlying systemic autoimmune disease and after multiple ocular procedures.[14,15] In our case, all the routine examination and relevant laboratory work up were done which revealed no systemic autoimmune disease. The surgery was done for 50 PD exotropia which was an uneventful procedure.

There is a paucity of literatures describing the diffuse non- necrotizing variety of scleritis following a surgery. Most of the reports described surgically induced necrotizing scleritis. In this case report, we found this patient to have multifocal scleritis in the area of surgery and distant from the area of surgery. Later on, the scleritis turned into diffuse variety, but yet non- necrotizing. Immunomodulatory therapy started to halt the progression to necrotizing variety.

Akbari MR et al described a case of surgically induced necrotizing variety of scleritis following strabismus surgery which initially responded to oral steroid and azathioprine. But three weeks after complete recovery, the patient returned with recurrence with more area of involvement.[16] Till date, we found our patient responds well with oral Azathioprine and no further area of involvement.

Tze Lai et al reported a case where surgically induced necrotizing scleritis developed 48 years after strabismus surgery.[17] In our case, this developed approximately 6 weeks after the surgery.

4. Conclusion

To our knowledge, this is the first documented case of surgically induced non- necrotizing scleritis following an uneventful strabismus surgery. This report highlights that, scleritis can develop of any variety, any time and without an association of systemic disease after surgery. It seems that, careful monitoring, long course of adequate and appropriate treatment may control the disease process and medications should be carefully tapered.

5. Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given her consent for her images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

5.1. Criteria for inclusion in the authors'/ contributors' list

RR, SMUK, ZR- designed the Study, procured the sample and performed the experiments, interpreted the results, RR -wrote the first draft of the manuscript with information from all co-authors; SMUK, SA, NH- critical appraisal of the manuscript; All authors reviewed and approved the final version of the manuscript before submission.

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7. Conflicts of interest

There are no conflicts of interest.

References

1. Lyne A, Lloyd-Jones, D. Necrotizing scleritis after ocular surgery. *Trans Ophthalmol Soc UK*. 1979;99:146–9.
2. Bloomfield SE, Becker CG, Christian CL, Nauheim JS. Bilateral necrotising scleritis with marginal corneal ulceration after cataract surgery in a patient with vasculitis. *Br J Ophthalmol* . 1980;64(3):170–4. doi:10.1136/bjo.64.3.170.
3. Salamon SM, Mondino BJ, Zaidman GW. Peripheral Corneal Ulcers, Conjunctival Ulcers, and Scleritis after Cataract Surgery. *Am J Ophthalmol* . 1982;93(3):334–7. doi:10.1016/0002-9394(82)90535-9.
4. Gregersen E, Jorgensen JS. Necrotising sclerokeratitis fol lowing cataract extraction. *Klin Monatsbl Augenheilkd* . 1988;193:642–4.
5. Behrendt S, Eckardt C. Postoperative necrotising scleroker atitis. *Klin Monatsbl Augenheilkd*. 1990;197:503–5.
6. Sainz-De-La-Maza M, Foster CS. Necrotising scleritis after ocular surgery: a clinicopathologic study. *Ophthalmology*. 1991;98:1720–6.

7. Salacz G. Postoperative necrotizing sclerokeratitis. *Doc OphthalmoI*. 1992;80(2):167–70. doi:10.1007/bf00161242.
8. Haider S. Spontaneous extrusion of an intraocular lens implant. *J Cataract Refract Surg*. 1992;18:529–30.
9. Glasser DB, Bellor J. Necrotizing Scleritis of Scleral Flaps After Transscleral Suture Fixation of an Intraocular Lens. *Am J Ophthalmol* . 1992;113(5):529–32. doi:10.1016/s0002-9394(14)74724-5.
10. O'Donoghue E, Lightman S, Tuft S, Watson P. Surgically induced necrotising sclerokeratitis (SINS)–precipitating factors and response to treatment. *Br J Ophthalmol*. 1992;76(1):17–21. doi:10.1136/bjo.76.1.17.
11. Lyons CJ, Dart JKG, Aclimandos WA, Lightman S, Buckley RJ. Sclerokeratitis after Keratoplasty in Atopy. *Ophthalmology*. 1990;97(6):729–33. doi:10.1016/s0161-6420(90)32523-x.
12. Kaufman LK, Folk ER, Miller MT, Tessler HH. Necrotizing Scleritis Following Strabismus Surgery for Thyroid Ophthalmopathy. *J Pediatr Ophthalmol Strabismus*. 1989;26(5):236–8. doi:10.3928/0191-3913-19890901-07.
13. Carlson AN, Foulks GN, Perfect JR, Kim JH. Fungal scler itis after cataract surgery: successful outcome using itraco nazole. *Cornea*. 1992;II:151–4.
14. O'Donoghue E, Lightman S, Tuft S, Watson P. Surgically induced necrotising sclerokeratitis (SINS)–precipitating factors and response to treatment. *Br J Ophthalmol*. 1992;76(1):17–21. doi:10.1136/bjo.76.1.17.
15. de la Maza M, Foster CS. Necrotizing Scleritis after Ocular Surgery. *Ophthalmology*. 1991;98(11):1720–6. doi:10.1016/s0161-6420(91)32062-1.
16. Akbari MR, Mohebbi M, Johari M, Mirmohammadsadeghi A, Mahmoudi A. Multifocal Surgically Induced Necrotizing Scleritis Following Strabismus Surgery: A Case Report. *Strabismus*. 2016;24(3):101–5. doi:10.1080/09273972.2016.1205104.
17. Lai T, Leibovitch I, Zadeh R, Chehade M, Tamblyn D, Selva D, et al. Surgically Induced Necrotizing Scleritis Occurring 48 Years After Strabismus Surgery. *J Pediatr Ophthalmol Strabismus*. 2005;42(3):180–2. doi:10.3928/01913913-20050501-07.

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