

Case report: Retinal detachment associated with atopic dermatitis

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Atopic dermatitis, one type of eczematous skin eruption, has a reported prevalence of 1.9/100 among children and an overall prevalence of 7/100 in the United States. Prevalence is affected by climate and geographic location; it is lower in tropical regions and in nonindustrialized areas.¹ Clinical presentation consists of periodic skin erythema, edema, vesiculation, and subsequent crust formation. Lichenification with hyperpigmentation and hypopigmentation of the skin appears in the chronic phase. Patients mainly complain of excessive pruritus, which they try to relieve by vigorous rubbing and scratching.

Periorbital atopic dermatitis is part of the general skin disease. Known ocular findings in atopic dermatitis include keratoconjunctivitis and keratoconus. Cataract and glaucoma have also been reported, related to some extent to the facial steroids used to alleviate symptoms.² The association between retinal detachment and atopic dermatitis is less well established. The complication has been ascribed to the trauma caused to the eyes by aggressive rubbing to alleviate the itching.^{3,7} The purpose of this paper is to alert family physicians to this complication so they can take precautions to prevent it.

Case

A 30-year-old man with atopic dermatitis presented with blurred vision and a nasal field defect in his right eye. His ocular history included an uneventful cataract extraction and implantation of a posterior chamber intraocular lens 6 months earlier. The atopic dermatitis-induced cataract had been removed by the mini-nuc technique through complete

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capsulorhexis.⁸ Postoperative inspection confirmed there were no subsequent runs or tears.

There were no intraoperative or postoperative complications, but there was marked periorbital dermatitis and loss of eyebrow hair on both sides. Visual acuity was 20/40 in the right eye. Slitlamp examination of the right eye showed inflammation in the anterior chamber and a wide open posterior lens capsule with vitreous prolapse to the anterior chamber. Fundus examination disclosed a detached upper retina with large, crescent-shaped retinal breaks. The left eye was normal.

Because the posterior lens capsule remained intact and the retina stayed attached after cataract surgery, the ocular findings in the right eye on this presentation were taken to be fresh and strongly suggested a traumatic origin. This speculation was supported by the patient's admission that he habitually rubbed his eyes to alleviate the itching from the dermatitis. A vitrectomy and buckling operation successfully reattached the retina.

Discussion

The association between retinal detachment and atopic dermatitis has been reported with an incidence of 0.5% to 8%; most of the relevant publications came from Japan.^{5,7,9} Our patient and the patients in the first cases published more than three decades ago, however, are all white (17 cases). In these old cases, detachments occurred either before or after cataract surgery, and the outcome of the retinal surgery was poor.^{3,4}

The pathogenesis of retinal detachment associated with atopic dermatitis is unknown; peripheral vitreoretinal degeneration, abnormal retinal vessels, diseased vitreous, and peripheral uveitis have been proposed.^{3,7,9} Retinal detachment in atopic dermatitis is characterized by typical crescent-shaped retinal breaks in the peripheral retina⁹ and is often associated with ocular inflammation. The shape of the breaks in this case suggests a traumatic origin for the retinal detachment. Indeed, trauma is implicated: the eczema on the atopic eyelid causes pruritus,

which leads to chronic rubbing and scratching, and this repetitive injury to the globe can cause retinal detachment.

This patient provides both additional evidence that retinal detachment is one of the ocular findings in atopic dermatitis and confirmation that the condition is not exclusive to Japanese people. The physical signs in our patient's eye (ie, new break of the posterior lens capsule, vitreous prolapse to the anterior chamber, and retinal detachment with typical crescent-shaped breaks in the peripheral retina) suggest a traumatic origin of injury. These findings together with the patient's history of eye scratching support the theory that retinal detachment in the eyes of patients with atopic dermatitis is self-inflicted ocular contusion due to rubbing.

Cataracts have been reported to occur in 8% to 20% of patients with atopic dermatitis.^{10,11} In 30.2% of reported cases of retinal detachment associated with atopic dermatitis, the retinal detachment was found after cataract surgery.⁵ Cataract surgery is itself associated with retinal detachment, with an incidence of 0.75%.¹² It is highly unlikely, however, that our patient's cataract operation was a contributing factor, since the retinal breaks associated with atopic dermatitis are larger (as were our patient's) than those of aphakial retinal detachment.⁷

Because patients with atopic dermatitis could lose their vision due to retinal detachment and because scratching and rubbing the eyes contributes to the development of retinal detachment, it is important for family physicians to counsel patients with atopic dermatitis to avoid abrading their eyes. ♦

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References

1. Johnson ML. Prevalence of dermatologic disease among persons 1-74 years of age: United States. *Advance data from vital and health statistics of the National Center for Health Statistics*. 1977;4.
2. Hanifin JM. Atopic dermatitis. *J Clin Immunol* 1994;73(2):211-22.
3. Balyeat RM. Complete retinal detachment in both eyes in neurodermatitis. *Am J Ophthalmol* 1937;20:550-4.
4. Coles RS, Laval J. Retinal detachment occurring in cataract associated with neurodermatitis. *Arch Ophthalmol* 1952;48:30-40.
5. Yoneda K, Okamoto H, Wada Y, Morita K, Takahashi M, Ogura Y, et al. Atopic retinal detachment. Report of four cases and a review of the literature. *Br J Dermatol* 1995;133:586-91.
6. Oka C, Ideta H, Nagasaki H, Watanabe K, Shinagawa K. Retinal detachment with atopic dermatitis similar to traumatic retinal detachment. *Ophthalmology* 1994;6:1050-4.
7. Azuma N, Hida T, Katasura H, Takeuchi S, Danjo S, Tano Y. Retrospective survey of surgical outcomes in rhegmatogenous retinal detachments associated with atopic dermatitis. *Arch Ophthalmol* 1996;114:281-5.
8. Blumenthal M, Manual E. CCE, the present state of the art. *Klin Monatsbl Augenheilkd* 1994;205:266-70.
9. Kusaka S, Ohashi Y. Retinal detachment with crescent-shaped retina breaks in patients with atopic dermatitis. *Retina* 1996;4:312-6.
10. Cowan A, Klauder JV. Frequency of occurrence of cataract in atopic dermatitis. *Arch Ophthalmol* 1950;43:759-68.
11. Brunsting LA, Reed WB, Bair HL. Occurrence of cataract and keratoconus with atopic dermatitis. *Arch Dermatol* 1955;72:237-41.
12. Powell SK, Olson RJ. Incidence of retinal detachment after cataract surgery and neodymium; YAG laser capsulotomy. *J Cataract Refract Surg* 1995;21:132-5.

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