

ease severity with specific parameters (eg, SCORAD index) before drawing a conclusion that severity does not affect cataract development.

Dermatologists who care for pediatric and adolescent patients with AD should refer these patients to be evaluated and followed by an ophthalmologist. The risk factors for the development of PSC include the following:

- Infantile onset of AD
- Family history of AD, asthma, or hay fever
- Systemic corticosteroid use
- Elevated lipid peroxide levels.

Use of systemic corticosteroids in children with AD is not recommended for routine care owing to the increased risk of PSC development (as well as other systemic adverse effects) and the chronic nature of the condition.

Accepted for Publication: November 1, 2010.

Published Online: January 17, 2011. doi:10.1001/archdermatol.2010.411

Correspondence: Brooke Bair, DO, 481 S Roscoe Blvd, Ext Ponte Vedra Beach, FL 32082 (brookebair@gmail.com).

Author Contributions: All authors had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. *Study concept and design:* Bair, Dodd, Heidelberg, and Krach. *Acquisition of data:* Bair, Dodd, and Heidelberg. *Analysis and interpretation of data:* Bair, Heidelberg, and Krach. *Drafting of the manuscript:* Bair. *Critical revision of the manuscript for important intellectual content:* Bair, Dodd, Heidelberg, and Krach. *Study supervision:* Dodd, Heidelberg, and Krach.

Financial Disclosure: None reported.

REFERENCES

1. van den Oord RA, Sheikh A. Filaggrin gene defects and risk of developing allergic sensitisation and allergic disorders: systematic review and meta-analysis. *BMJ*. 2009;339:b2433.

2. Carmi E, Defossez-Tribout C, Ganry O, et al. Ocular complications of atopic dermatitis in children. *Acta Derm Venereol*. 2006;86(6):515-517.
3. Richer SP, Yonatan E, Harper CK, McNelis M, Rudy DR, Perdue A. A clinical review of non-age-related cataracts. *Optometry*. 2001;72(12):767-778.
4. Chen CC, Huang JL, Yang KD, Chen HJ. Atopic cataracts in a child with atopic dermatitis: a case report and review of the literature. *Asian Pac J Allergy Immunol*. 2000;18(1):69-71.
5. Rich LF, Hanifin JM. Ocular complications of atopic dermatitis and other eczemas. *Int Ophthalmol Clin*. 1985;25(1):61-76.
6. Thompson RG. Cataract with atopic dermatitis: dermatologic aspects, with special reference to preoperative and postoperative care. *Arch Derm Syphilol*. 1950; 61(3):433-441.
7. Brunsting LA, Reed WB, Bair HL. Additional report on the occurrence of cataracts with atopic dermatitis. *AMA Arch Derm*. 1957;76(6):779.
8. Donshik PC, Hoss DM, Ehlers WH. Inflammatory and papulosquamous disorders of the skin and eye. *Dermatol Clin*. 1992;10(3):533-547.
9. Amemiya T, Matsuda H, Uehara M. Ocular findings in atopic dermatitis with special reference to the clinical features of atopic cataract. *Ophthalmologica*. 1980; 180(3):129-132.
10. Niwa Y, Iizawa O. Abnormalities in serum lipids and leukocyte superoxide dismutase and associated cataract formation in patients with atopic dermatitis. *Arch Dermatol*. 1994;130(11):1387-1392.
11. Castrow FF II. Atopic cataracts versus steroid cataracts. *J Am Acad Dermatol*. 1981;5(1):64-66.
12. Brandonisio TM, Bachman JA, Sears JM. Atopic dermatitis: a case report and current clinical review of systemic and ocular manifestations. *Optometry*. 2001; 72(2):94-102.
13. Garrity JA, Liesegang TJ. Ocular complications of atopic dermatitis. *Can J Ophthalmol*. 1984;19(1):21-24.
14. Micelli-Ferrari T, Vendemiale G, Grattagliano I, et al. Role of lipid peroxidation in the pathogenesis of myopic and senile cataract. *Br J Ophthalmol*. 1996;80(9): 840-843.
15. Namazi MR, Handjani F, Amirahmadi M. Increased oxidative activity from hydrogen peroxide may be the cause of the predisposition to cataracts among patients with atopic dermatitis. *Med Hypotheses*. 2006;66(4):863-864.
16. Klein BE, Klein R, Lee KE, Knudtson MD, Tsai MY. Markers of inflammation, vascular endothelial dysfunction, and age-related cataract. *Am J Ophthalmol*. 2006; 141(1):116-122.
17. Ishida I, Saika S, Okada Y, Ohnishi Y. Growth factor deposition in anterior subcapsular cataract. *J Cataract Refract Surg*. 2005;31(6):1219-1225.
18. Renfro L, Snow JS. Ocular effects of topical and systemic steroids. *Dermatol Clin*. 1992;10(3):505-512.
19. Meduri NB, Vandergriff T, Rasmussen H, Jacobs H. Phototherapy in the management of atopic dermatitis: a systematic review. *Photodermatol Photoimmunol Photomed*. 2007;23(4):106-112.
20. Gambichler T. Management of atopic dermatitis using photo(chemo)therapy. *Arch Dermatol Res*. 2009;301(3):197-203.
21. Katsura H, Hida T. Atopic dermatitis: retinal detachment associated with atopic dermatitis. *Retina*. 1984;4(3):148-151.
22. Hida T, Tano Y, Okinami S, Ogino N, Inoue M. Multicenter retrospective study of retinal detachment associated with atopic dermatitis. *Jpn J Ophthalmol*. 2000; 44(4):407-418.
23. European Task Force on Atopic Dermatitis. Severity scoring of atopic dermatitis: the SCORAD index: consensus report of the European Task Force on Atopic Dermatitis. *Dermatology*. 1993;186:23-31.

PRACTICE GAPS

Screening for Ocular Complications in Atopic Dermatitis

Many dermatologists are aware of some association between the use of systemic or periocular topical corticosteroids (CSs) and glaucoma and cataracts. However, few are aware of the occurrence of atopic dermatitis (AD) and cataracts unrelated to treatment. Regular ophthalmological examination is not part of the routine dermatologic care of chronic AD for most patients. This practice gap reflects several factors. First, there are not good data on the prevalence of these com-

plications. Second, most cataracts and glaucoma cases are asymptomatic and cannot be readily detected by dermatologists. Third, few dermatologists proactively inquire about visual complaints in their review of systems. And fourth, most dermatologists do not regularly interface with ophthalmologists in the care of their patients with AD, nor are they familiar with the ophthalmology literature.

Corticosteroids have been associated with posterior subcapsular cataracts, while AD has been associated with

pathognomonic shield-shaped anterior subcapsular cataracts as well as posterior subcapsular cataracts. Subcapsular cataracts can be visually disabling because they commonly affect the visual axis. The prevalence of cataracts in AD is unknown. A commonly quoted figure is 8% to 10%, but this ranges from approximately 1% to 25% in studies.¹ The problem is that all the published studies are cross-sectional, sample different groups, and are highly subject to selection and sampling bias.

Corticosteroids, regardless of the route of administration, if administered in high enough doses for a long enough period can lead to ocular hypertension or glaucomatous optic nerve damage. Although there are published reports of patients developing ocular hypertension and glaucoma from periocular application of topical CSs, in a recent cross-sectional study, 37 of 58 patients with AD of the eyelid had applied topical CSs to the eyelids, many for long periods or repetitively, and only 1 patient had transient ocular hypertension.¹ Increase in intraocular pressure from CS use is more likely in those with known primary open-angle glaucoma (OAG), first-degree relatives of individuals with OAG, those with high myopia, children, older individuals, and individuals with type 1 diabetes.² Because glaucomatous visual field defects are usually not visually disabling until advanced, early detection of increased ocular pressure and cessation of CS therapy is critical.

What can be done to narrow the practice gap? Patients with severe or chronic AD, particularly those receiving systemic CSs, should be periodically asked about visual symptoms, particularly glare, diminished night vision, or difficulty reading, although most cases of cataract and glaucoma are asymptomatic. All patients with AD who receive prolonged or repetitive courses of sys-

temic CSs (even on an alternate-day schedule) should have intraocular pressure checked after a few weeks and regular ophthalmologic screening for cataracts and glaucoma, at least annually, but more frequently if abnormalities are detected or systemic therapy is long-term. Those with AD receiving CSs who also have a family history of glaucoma, have been glaucoma suspects, are known "steroid responders," or have other risk factors should have more frequent monitoring of intraocular pressure regardless of the route of CS administration. Those who are currently applying topical CSs to the eyelids for more than 4 weeks or have been chronically or repetitively applying topical CSs to the eyelids should undergo intraocular pressure measurements, and if possible, switched to topical calcineurin inhibitors. Most eye care professionals are as unsophisticated in their knowledge of dermatology as dermatologists are of ophthalmology, and good communication between specialists is essential.

Lionel Bercovitch, MD

Author Affiliations: Department of Dermatology, Hasbro Children's Hospital and Warren Alpert Medical School of Brown University, Providence, Rhode Island.

Correspondence: Dr Bercovitch, Department of Dermatology, Warren Alpert Medical School of Brown University, 593 Eddy St, APC-10, Providence, RI 02903 (Lionel_Bercovitch@brown.edu).

Financial Disclosure: None reported.

1. Haeck IM, Rouwen TJ, Timmer-de Mik L, de Bruin-Weller MS, Bruijnzeel-Koomen CA. Topical corticosteroids in atopic dermatitis and the risk of glaucoma and cataracts. *J Am Acad Dermatol*. 2011;64(2):275-281.
2. Jones R III, Rhee DJ. Corticosteroid-induced ocular hypertension and glaucoma: a brief review and update of the literature. *Curr Opin Ophthalmol*. 2006;17(2):163-167.

Announcement

New Web Feature: Readers Reply

Readers may comment on articles published in the *Archives* and submit them to Readers Reply using the "Reply to article" link on the right-hand side of the article page. Readers Reply promotes discussions among readers and authors but is not indexed in PubMed. Alix J. Charles, MD, and Jeffrey T. S. Hsu, MD, are the assistant section editors for Readers Reply.