

Invited Commentary

Assessing Whether the Cataracts Associated With Atopic Dermatitis are Associated With Steroids or Inflammatory Factors

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Atopic dermatitis (AD) is a common inflammatory skin condition during childhood. It is reported to affect more than 10% of children in the United States.¹ It usually has its onset before 2 years of age, and more than 50% of cases resolve by adolescence.



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The disease often has a chronic waxing and waning course and is known to be part of the atopic triad, which also includes asthma and allergic rhinitis. Mild AD cases are generally treated with emollients, avoidance of irritants, and topical anti-inflammatory therapies. Among the estimated 10 million children affected with AD in the United States, approximately 30% have moderate to severe disease that may require intermittent or chronic systemic immunosuppressive therapies. Atopic dermatitis can be associated with a variety of ocular findings, including blepharitis, keratoconjunctivitis, keratoconus, and cataracts. The most common types of cataracts associated with AD include anterior and posterior subcapsular cataracts,² as well as a distinctive, shield-shaped cataract in the anterior cortex.³ It has been hypothesized that increased oxidative activity in the anterior chamber of the eye in patients with AD is involved in the formation of their cataracts.⁴ In addition, many of these children likely develop cataracts as an adverse effect of treatment with systemic steroids.

Jeon et al⁵ report on a population-based cohort study of children with AD using a Korean national health insurance database. They did not find a difference in the incidence of cataracts among children with AD and control participants. However, they reported nearly a doubling in the incidence of cataract surgery in children with AD after 5 years and a tripling after 10 years compared with a matched control group. While most of the children with AD had been treated with systemic steroids, they did not find a difference in the incidence probability of cataracts or cataract surgery among steroid users, which suggests that other factors were involved in the formation of these cataracts. Interestingly, another recent popu-

lation-based study using the Korean National Health and Nutrition Examination Survey reported that cataracts were associated with asthma and allergic rhinitis, but not with AD, in a cohort of adults with allergic diseases.⁶

Jeon et al⁵ classified patients as having severe AD when they received any treatment within a year of the index date with omalizumab, intravenous immunoglobulin, interferon γ , or rituximab or 2 or more weeks of cyclosporine, azathioprine, mycophenolate mofetil, methotrexate, or systemic steroids. Since intravenous immunoglobulin, interferon γ , and rituximab are rarely used to treat severe AD, it is possible that some of the patients were misclassified as having severe AD when in fact they had other autoimmune diseases.⁷ In addition, given the common comorbidity of asthma and AD, how could the authors be certain that patients receiving systemic steroids were receiving the steroids for their AD rather than their asthma? It is possible that some of the patients classified as having severe AD on the basis of having received 2 or more weeks of systemic steroids may have had mild AD with asthma instead.

A population-based study using a health insurance database is an ideal way to study a rare disease such as pediatric cataracts because, even in the group with severe AD, the incidence of newly diagnosed cataracts was only 1 in 2000 patients. However, the study⁵ does not allow a number of important questions to be answered. What type of cataracts did these patients have? Did they primarily have posterior subcapsular cataracts arising from systemic steroid administration or shield-shaped, anterior cortical cataracts? Did early treatment with steroid-sparing, immunosuppressive drugs reduce the incidence of cataracts in patients with severe AD?

Jeon et al⁵ conclude that patients with AD should be closely monitored for visually important cataracts. Since anterior and posterior subcapsular cataracts are readily diagnosed by examining the red reflex, primary care physicians should be encouraged to monitor the red reflexes of children with severe AD on a regular basis.

ARTICLE INFORMATION

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