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Mycophenolate Mofetil for Severe Childhood Atopic Dermatitis

Heller M, Shin HJ, Oslow SJ, Schaffer JV: Mycophenolate mofetil for severe childhood atopic dermatitis: experience in 14 patients. *Br J Dermatol* 2007, 157:127–132.

Rating: •Of importance.

Introduction: Atopic dermatitis is a chronic inflammatory skin disease with typical onset in infancy or early childhood. Some children with severe, recalcitrant symptoms require aggressive treatment, particularly when emollients, topical corticosteroids for flares (supplemented by systemic antibiotics and antihistamines as needed), and topical steroids and/or calcineurin inhibitors for maintenance are not sufficiently effective. Mycophenolate mofetil use in atopic dermatitis is limited largely to adults.

Aims: To evaluate the safety and efficacy of mycophenolate mofetil in the treatment of severe childhood atopic dermatitis.

Methods: Fourteen children (9 boys, 5 girls) ages 2 to 16 were treated with mycophenolate mofetil if conventional therapy had failed, including some receiving brief courses of systemic corticosteroids or cyclosporine. The dose employed varied initially from 12 to 40 mg/kg (given in two divided doses) and titrated upward until disease improved or reached a dose of 75 mg/kg (with a 3-g daily maximum).

An excellent response was defined as more than 90% improvement; a good response, 60% to 90% improvement; and inadequate response, less than 60% improvement. Side effects were monitored, including gastrointestinal symptoms, intercurrent infections, liver and renal function, and blood count and differential.

Results: At 8 weeks, four patients cleared completely, four had an excellent response, five had a good response, and one had an inadequate response. Therapy was continued for 2 to 24 months (mean, 8 months); the mean dose employed was 38 mg/kg. Patients continued previously instituted topical therapies as required, and nine of 13 responders were able to discontinue topical corticosteroids or decrease their use to ≤ 2 days per week.

Two patients had mild gastrointestinal upset during the initial week, two patients with recurrent folliculitis or furunculosis continued to require systemic antimicrobial therapy, and one patient with recurrent herpes simplex viral infection (including eczema herpeticum) experienced a decrease in frequency from one episode per month to

one per year. No changes in complete blood count or liver chemistries were noted.

Discussion: Mycophenolate mofetil is a relatively safe immunomodulator that inhibits inosine monophosphate dehydrogenase so as to block the de novo pathway of purine synthesis, thereby inhibiting proliferation of T and B lymphocytes. It has been used increasingly in patients with solid organ transplants and as a steroid-sparing agent in autoimmune and inflammatory disorders.

Atopic dermatitis can be added to this growing list, and although a large, double-blind, placebo-controlled study is needed, the data thus far suggest efficacy in children as well as adults.

Comments

This study adds to the literature regarding use of mycophenolate mofetil for atopic dermatitis and focuses on children. Several prior studies indicated safety and efficacy in moderate to severe atopic dermatitis in adults, although it should be noted that virtually all of these, including this study in children, are open label and not placebo controlled. Although such studies need to be done, the data suggest efficacy in atopic dermatitis in children as well as adults with a safety profile that is superior to that of cyclosporine. Thus, I suggest trying mycophenolate mofetil for severe refractory atopic dermatitis, particularly in the pediatric age group. In fact, a trial comparing these two agents in atopic dermatitis would be of interest. A comparative study as therapy for severe chronic urticaria also would be helpful because cyclosporine is one of the agents of choice for patients refractory to antihistaminics.

Acknowledgment

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Disclosure

No potential conflict of interest relevant to this article was reported.