

Dermatology Online Journal

Volume 14 Number 9

September 2008

Poor compliance with topical corticosteroids for atopic dermatitis despite severe disease

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Dermatology Online Journal 14 (9): 13

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Abstract

Electronic monitoring of adherence provides opportunities for new insights into the relationship between adherence and treatment outcomes. We report a patient who was non-adherent to treatment despite a high degree of atopic dermatitis severity. Such patients may be better managed by measures that increase adherence rather than use of more potent, potentially toxic medications.

Introduction

Topical corticosteroids and other topical treatments are widely used for atopic dermatitis but are not uniformly effective in clinical practice [1, 2, 3]. Adherence refers to the extent to which the patient's behavior coincides with the treatment regimen [4, 5, 6]. Poor adherence may account for at least some atopic dermatitis treatment failures. We report a case where topical treatment was poorly used, despite a high level of atopic dermatitis severity.

Case Report

A three-year-old female presented with poorly controlled atopic dermatitis. She had been treated previously with topical triamcinolone, diflorasone, pimecrolimus, tacrolimus, hydrocortisone, and desonide without improvement in her condition. She was entered into a study assessing adherence in patients with atopic dermatitis. Triamcinolone 0.1 percent ointment was provided in a bottle fitted with an electronic monitor. The parents were instructed to apply the medication twice daily and to return in four weeks and eight weeks; the child and her parents were not told that adherence was being monitored, nor were they told that this was a formal study (in order to assess patient [as opposed to research subject] adherence) [7]. The study was approved by the Institutional Review Board of Wake Forest University School of Medicine. At each visit, disease severity was assessed using the Eczema Area and Severity Index (EASI). Adherence behavior questionnaires were administered at the final study visit, at which time adherence monitoring was disclosed and data on the patient's adherence behavior were used to provide individualized treatment

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advice.

During the two-month study, the child used only eight percent of the recommended triamcinolone doses. She had medication use holidays lasting nineteen days, thirteen days, and seven days, with a few days of use in between each period of non-use. Her EASI score was 10.8 at baseline, 14.4 at week four, and 12.6 at week eight. In the medication use survey completed at the end of the study, the patient's parent expressed concerns about medication side effects and admitted sometimes not wanting to use the medication. However, the parent had also stated that she never refused to apply her child's medications and never applied less medication than prescribed.

Conclusions

Non-adherence can result in substantial costs due to repeated visits, multiple medication trials, and use of more risky treatments. Unfortunately, poor use may be difficult to assess. Patients and their caretakers may not be truthful or forthcoming with their actual medication use, and adherence measures that rely on patients' memory (e.g., interviews and surveys) often result in overestimations of medication use [7, 8, 9]. One limitation of adherence research studies is the possibility that people decrease their adherence as their disease improves. This complicates attempts to assess whether improved adherence results in better outcomes. Nevertheless, as this patient exemplifies, poor use is not always due to patients getting well - treatment may be stopped even while the patient is still suffering from the skin condition. Our patient had failed multiple topical treatments and might have been considered a good candidate for aggressive systemic treatment. Interventions that would improve adherence to topical treatment may be a safer approach for such patients.

Purported reasons for medication nonadherence include forgetfulness, lack of efficacy, inconvenience, change in disease severity, and fear of medication side effects [7, 8, 9, 10, 11, 12, 13]. In addition, patients may find topical treatments to be particularly unpleasant and time consuming relative to other types of medications [7, 11, 14]. Prior studies suggest that more frequent patient contact [7] (e.g., office visits or phone calls), less messy medication formulations, clear instructions, and education about the natural course of the disease and the rationales for different therapeutic strategies [12, 15] could be viable means for increasing adherence.

Parental factors affecting adherence are also important to consider, especially with patients who are too young to administer their own medications. According to a questionnaire-based study of 200 dermatology patients with atopic eczema, 73 percent of people worried about using corticosteroids on their own or their child's skin and 24 percent admitted to having been non-compliant with topical corticosteroids treatment because of these worries [13]. In this regard, it may be beneficial if physicians do not overly frighten patients and parents at the initial office visit with the potential side effects of topical corticosteroids [7].

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