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Oral Alitretinoin for the Treatment of Recalcitrant Pityriasis Rubra Pilaris

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Key Words

Hair loss · Retonoids

Abstract

Treatment of pityriasis rubra pilaris is still challenging. We here present a 74-year-old woman who had not experienced stable remission of her skin symptoms during prior treatments including topical and systemic corticosteroids, phototherapy, orally administered acitretin, cyclosporine, methotrexate and adalimumab. A therapy with oral alitretinoin was started and tolerated very well. After a few weeks, skin condition improved significantly and itching and scaling disappeared. The present case shows that alitretinoin might be an alternative in the treatment of recalcitrant pityriasis rubra pilaris type I. Further studies are needed to investigate the benefit of this encouraging result.

Case Report

We present a 74-year-old woman with a 3-year history of adult-onset pityriasis rubra pilaris (PRP) type I, who had not experienced stable remission of her skin symptoms during prior treatment courses. A skin biopsy had confirmed the diagnosis of PRP mainly affecting her palms, back, legs and soles with persistent, itching erythema, erythematous squamous plaques and scaling, with well-demarcated areas of unaffected skin ('nappes claires') ([fig. 1](#)). Arterial hypertonus, esophageal reflux, mild hypercholesterolemia and triglyceridemia were reported as preexisting conditions. There was no family history of PRP.

Previous treatments included topical and systemic corticosteroids (prednisone 10 mg daily for 18 months), external capsaicin ointment, phototherapy (bath PUVA [bath of psoralen plus ultraviolet (UV) A rays] and orally administered acitretin (maximum dose 20 mg daily for 20 months) with no stable response. Oral cyclosporine had been discharged because of a worsening of arterial hypertension, also oral methotrexate showed no significant effect. A rescue therapy with adalimumab (Humira®, 40 mg s.c. every two weeks) had first a good response, but had then to be interrupted because of gastrointestinal side effects and relapse of PRP ([table 1](#)).

In April 2010, a therapeutic regimen with oral systemic alitretinoin 30 mg daily was started and very well tolerated. Bland emollients and initially topical corticosteroids were used. The skin condition of our patient improved significantly within weeks and also the itching and scaling disappeared ([fig. 2](#)).

Treatment with oral alitretinoin 30 mg has been ongoing since 7 months now. No rising of serum cholesterol or triglyceride levels have been recognized. However, hair loss has progressed significantly under therapy with alitretinoin, and the patient had to be provided with a wig. Despite this invasive cosmetic effect related to the medication, the benefits of the therapy outweigh and a continuation of the therapy has been requested by the patient.

Discussion

PRP is a rare and severe inflammatory papulosquamous chronic dermatosis of unknown etiology, characterized by its resistance to therapy [1]. In generalized PRP type I with extensive disease symptoms, a systemic treatment is necessary in nearly all cases. In general, oral retinoids are used as a first-line treatment with or without UV light. Some effectiveness is documented for etretinate, acitretin and isotretinoin [1]. Systemic retinoids are of special benefit for PRP because of their anti-proliferative, immunomodulating and anti-inflammatory effect mediated by binding to nuclear receptors.

In contrast to the above-mentioned retinoids, alitretinoin (9-cis retinoic acid) functions as a pan-agonist of both known nuclear retinoid receptor families (retinoic acid receptor RAR and retinoid X receptor RXR). Due to its expanded interaction with retinoid receptors, it may be more effective in so-called retinoid-responsive dermatoses with less side effects. It has been reported that vitamin A enhances Th2 development in vitro [3]. Alitretinoin is licensed in Europe and Canada for oral treatment of severe chronic hand eczema refractory to potent topical steroids [4]. Up to now, there is only one case report by Molin and Ruzicka discussing the efficacy of oral alitretinoin in PRP [5].

Interestingly, a successful treatment with alitretinoin after multiple unsuccessful systemic therapies, including the administration of TNF- α antagonists, has never been reported so far. The present case report is intended to inspire additional studies and discussions with respect to the use of alitretinoin in adult-onset PRP type I. Such studies are definitely warranted by the encouraging reports.

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Table 1. Details of previous treatments

Generic name	Dose	Duration	Reason for stopping
Acitretin	20 mg/day (p.o.)	02/2008–11/2009	no skin improvement
Prednisone	10 mg/day (p.o.)	04/2008–02/2010	no skin improvement
Bath PUVA	2–3 times/week	09/2008–12/2008	no skin improvement
Cyclosporine	250 mg/day (p.o.)	12/2009–03/2010	worsening of arterial hypertension, no skin improvement
Adalimumab	40 mg/2 weeks (s.c.)	01/2010–03/2010	relapse of PRP after initial skin improvement, elevation of liver enzymes
Methotrexate	15 mg/week (s.c.)	03/2010–04/2010	gastrointestinal side effects, diarrhea

Fig. 1. Follicular papules and confluent erythematous scaly plaques with only rare ‘islands of sparing’.

Fig. 2. After 5 months of therapy with alitretinoin, the skin condition of our patient improved significantly with only slight residua of erythematous patches.

References

- 1 Klein A, Landthaler M, Karrer S: Pityriasis rubra pilaris: a review of diagnosis and treatment. *Am J Clin Dermatol* 2010;11:157–170.
- 2 Barth D, Harth W, Treudler R, Simon JC: Successful treatment of pityriasis rubra pilaris (type 1) under combination of infliximab and methotrexate. *J Dtsch Dermatol Ges* 2009;7:1071–1073.
- 3 Stephensen CB, Rasooly R, Jiang X, Ceddia MA, Weaver CT, Chandraratna RA, Bucy RP: Vitamin A enhances in vitro Th2 development via retinoid X receptor pathway. *J Immunol* 2002;168:4495–4503.
- 4 Ruzicka T, Larsen FG, Galewicz D: Oral alitretinoin (9-*cis*-retinoic acid) therapy for chronic hand dermatitis in patients refractory to standard therapy: results of a randomized, double-blind, placebo-controlled, multicenter trial. *Arch Dermatol* 2004;140:1453–1459.
- 5 Molin S, Ruzicka T: Treatment of refractory pityriasis rubra pilaris with oral alitretinoin: case report. *Br J Dermatol* 2010;163:221–223.