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CASE REPORT

Development of folliculitis in a patient with recalcitrant pustular psoriasis following acitretin treatment: A case report

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ABSTRACT

Oral retinoids are among the drugs of choice for pustular psoriasis. Therapy with retinoids, including acitretin, is potent teratogens with other common side effects such as mucocutaneous involvement. Mucocutaneous side effects including dry lips (cheilitis), skin peeling, hair loss (alopecia), dry skin, or rhinitis are dose-related, with cheilitis occurring in more than 75% of patients receiving the highest doses of acitretin (75 mg/day). We report on a 37-year-old woman who developed folliculitis with acitretin which is a rare cutaneous side effect. She presented with eruptions pruritic papules with follicular pattern on anterior thigh and forearms after almost 1 year of treatment with acitretin (50mg OD) for pustular psoriasis. The skin lesion was treated successfully with skin dressing and antibiotic treatment and skin biopsy is suggestive of folliculitis. Several treatments for pustular psoriasis including topical steroids, methotrexate and oral prednisolone were ineffective or not tolerated. Treatment with acitretin which are 50mg OD provided partial resolution of skin lesions. The case is hereby reported because of its rarity and folliculitis must be considered in the differential diagnosis of a popular eruption, especially in patients with high dose acitretin.

KEYWORDS: pustular psoriasis, folliculitis acitretin, recalcitrant

INTRODUCTION

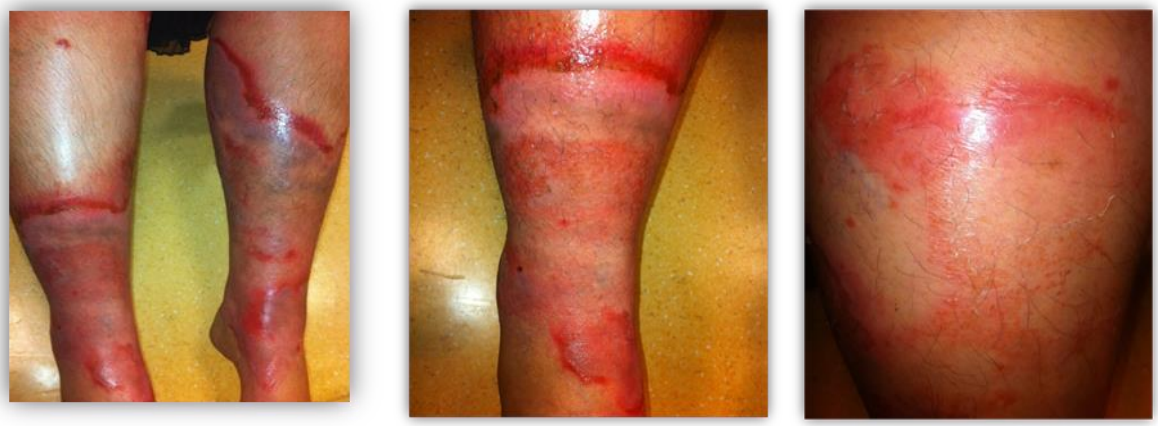
Acitretin has been used as either monotherapy or as part of combination therapy for pustular psoriasis treatment modalities. The precise mechanism of action of acitretin in Pustular psoriasis is unknown, but probably involves interaction with retinoid acid receptors and regulation of gene transcription, that involved in various aspects of the pathogenesis of psoriasis. Acitretin has been shown to decrease the thickness of the stratum corneum in psoriatic lesions and to lessen epidermal and dermal inflammation [2].

Acitretin also has been shown to modulate differentiation of the epidermis, resulting in decreased scaling, erythema, and plaque thickness. It also results in a thinning of the horny layer and increased epidermal fragility during therapy, as manifested by traumatic abrasion and erosion, and increased skin colonization and infections by Staphylococcus aureus [3, 4]. Occurrence of acitretin-associated mucocutaneous side effects was dose-dependent as supported by recent studies. Higher doses of acitretin were associated with increased adverse reactions [1].

CASE PRESENTATION

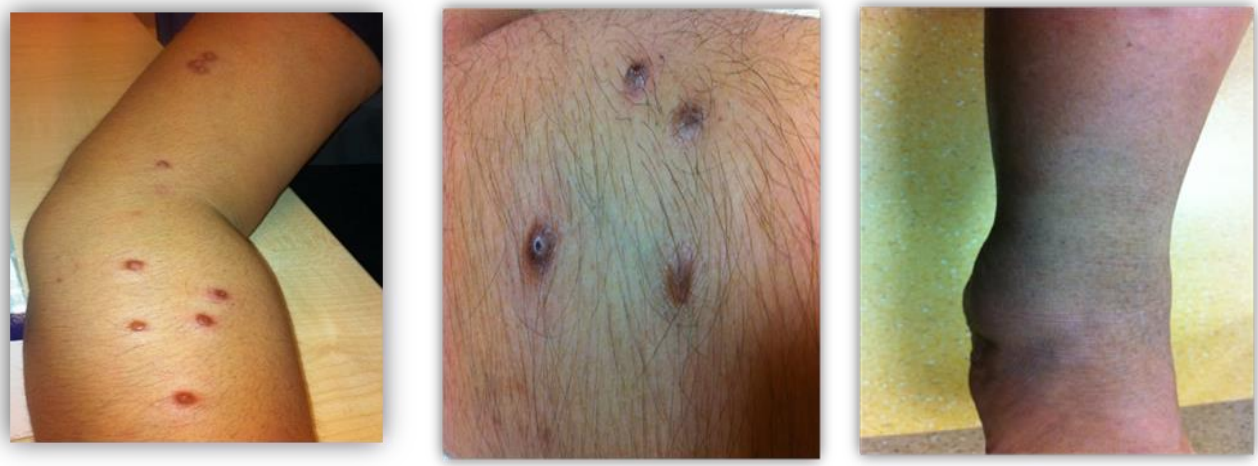
A 37-year-old Chinese lady with a 7-year history of recalcitrant pustular psoriasis had erythematous, scaly plaques studded with pustules covering a large area of her abdomen, lumbar regions and both lower limbs (Figure 1). Because of the unresponsiveness to the previous treatment (topical fusicort cream, topical calcipotriol) and methotrexate-induced hepatitis, we started oral acitretin at the dose of 30 mg/day.

After 9 months of acitretin therapy, she presented with acute onset of multiple perifollicular papules and nodules associated with pruritus. The upper extremities (both extensors of the forearm) and the anterior thigh showed multiple, indurated, non-scaling, erythematous papules and nodules (Figure 2), not fitting into the clinical picture of pustular psoriasis. There were no resolutions despite on multiple antibiotics course. Psoriasis lesions in other areas coexisted and slightly worsened. Differential diagnoses include bacterial folliculitis, fungal, folliculitis and nodular prurigo. Laboratory studies revealed no elevations in her serum viral titer, HIV screening was negative, bacterial and fungal cultures from the tissue cultures were negative.



(a) **(b)** **(c)**

Figure 1 (a), (b), (c) Pustular psoriasis eruptions on the lower limbs



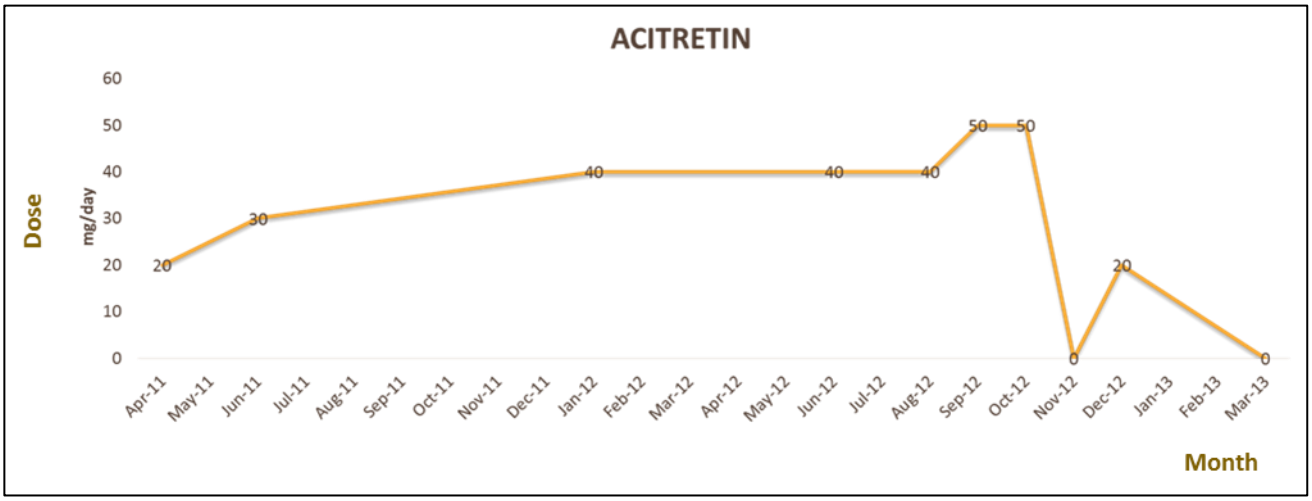
(a) **(b)** **(c)**

Figure 2 (a) Multiple erythematous papules on the right forearm during acitretin course; similar lesions on the lower limbs and **(b)** Less inflamed papules on the lower limbs on tapering dose of acitretin **(c)** After a course of cyclosporine and off acitretin

Skin biopsy specimens from her right arm showed unspecific changes of folliculitis. In combination of poor response towards antibiotics treatment, with microbiological and histopathological findings led us to suspect that the patient was suffering from drug-induced folliculitis. There was a temporal relationship between acitretin course (dose-dependent) with perifollicular papular eruption observed in this patient (Figure 3). We therefore diagnosed her disease as folliculitis induced by acitretin. She received multiple course of antibiotics within the duration of 3 months namely cloxacillin, erythromycin and azithromycin. Despite on treatment the lesions resolved partially even after acitretin was discontinued (Figure 4).

DISCUSSION

Acitretin, a synthetic aromatic compound of the second retinoid generation, is widely used in the systemic treatment of severe forms of psoriasis and other congenital and acquired keratinization disorders [2]. Unlike isotretinoin, acitretin is not primarily sebosuppressive. Rather, it promotes the normalization of dysregulated proliferative activity of epidermal keratinocytes and also has anti-inflammatory effects [3-5]. Occurrence of acitretin-associated mucocutaneous side effects was dose-dependent as supported by recent studies. Higher doses of acitretin were associated with increased adverse reactions [6, 7].



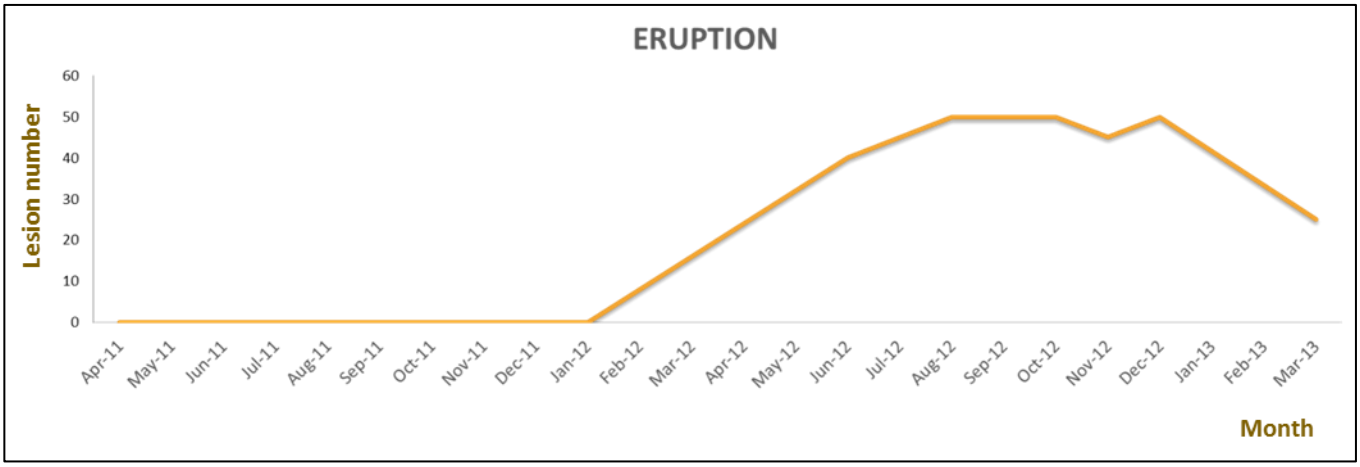
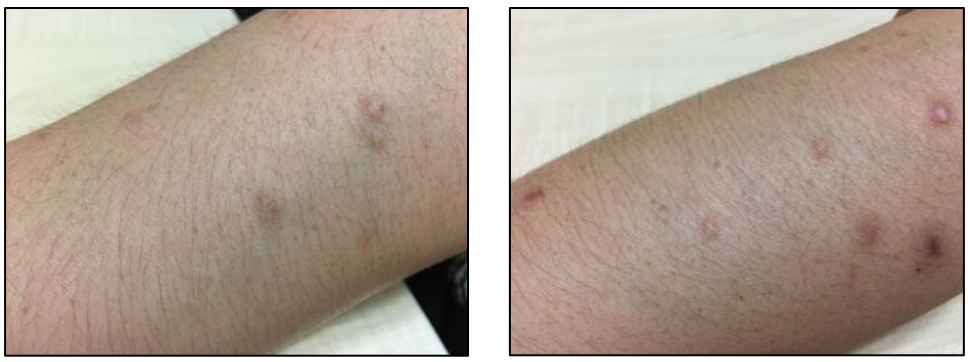


Figure 3 Clinical course in relation to perifollicular eruptions and acitretin course. There was exacerbation of the lesions after treatment with acitretin and partial improvement after cessation of therapy.



(a) **(b)**

Figure 4 (a), (b) Resolution of folliculitis

To our knowledge folliculitis associated with acitretin has not been previously described. Paradoxically acitretin has been used for eosinophilic folliculitis [5, 8]. The exact mechanism of drug eruption is still not known. This is the first case of folliculitis associated with the use of oral acitretin. As acitretin is being used for an increasing number of indications, there is a need for clinicians to be aware of this side-effect and to inform their patients about the possibility of folliculitis. Folliculitis eruption may be added to the list of potential dermatologic adverse effects of this valuable drug.

CONCLUSIONS

Follicular papules eruption may be another adverse cutaneous effect of acitretin treatment beside the common cutaneous side effects. Folliculitis may be considered in the differential diagnosis of follicular papules eruption, especially in patients with high dose acitretin. However the exact mechanism of drug eruption need to be further explored.

Conflicts of Interest

Authors declare none.

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