Remission of Lichen Amyloidosis after Treatment with Acitretin

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Key Words

Lichen amyloidosis

Retinoids

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In September 1993, a 72-year-old woman presented at our Department with an eruption of reddish brown, coalescent, hyperkeratotic, extremely pruritic papules of her thighs (fig. 1), the extensor surfaces of both forearms and the lumbosacral area. These lesions had been present for almost 2 years, previous treatment with topical cortico-steroids had proven ineffective. The skin was otherwise unaffected. Physical examination and laboratory tests including blood count, liver and kidney function tests were within the normal range.

Histology revealed a papillomatous epidermis and globular eo-sinophilic deposits of the papillary dermis which showed green birefringence under polarized light in Congo red sections and which were also positive for thioflavin T. By direct immunofluorescence, they appeared as aggregated cytooid bodies reacting with anti-IgM and complement C3 antibodies as well as antibodies specific for keratin (Boehringer), vitronectin (Quidel Q) and serum amyloid P (Atlantic Antibodies).

Acitretin treatment was initiated at a dose of 30 mg daily (0.7 mg/kg body weight). Pruritus greatly improved during the subsequent weeks, the lesions of the forearms became flattened, those of the rest of the body cleared almost completely. Acitretin was therefore tapered after 6 weeks and withdrawn after 3 months. As a side effect, moderate dryness of eyes and lips was noted. Laboratory tests including blood lipids remained normal. During an almost 3-year clinical follow-up, no relapse was observed. A control biopsy, taken 6 months after the end of therapy from the previously affected thigh, revealed normal skin. By direct immunofluorescence, only scarce cytooid bodies were detected in the papillary dermis.

Localized amyloidosis is notoriously resistant to therapy. Macular and papular amyloidosis responds poorly to topical steroid. Derm-abrasion may relieve pruritus and result in flattening of the lesions, but the cosmetic outcome is not always satisfactory [1]. Reported beneficial effects of dimethyl sulfoxide [2, 3] or UVB irradiation [4] appear doubtful. Nodular amyloidosis may require surgical or carbon dioxide laser treatment [5]. In the late 1980s, retinoids were tried in lichen amyloidosis with equivocal results in a total of 9 cases described in

Fig. 1. Reddish brown coalescent hyperkeratotic papules on the flexor surface of both thighs before (a) and resolution after (b) 3 months of treatment with acitretin; inset: closer view of the single lesions.

the literature. Clinical improvement with etretinate (0.6-0.8 mg/kg body weight) was reported by Helander and Hopsu-Havu [6] in 4 patients. Total resolution, however, was achieved after rather long treatment periods only (3-6 months). Two out of 4 patients relapsed within a short time. Treatment failure with etretinate was reported by Aram [7].

The patient presented in this publication is the first case of lichen amyloidosis to be treated with acitretin. In contrast to the treatment reports with etretinate cited above, almost complete resolution was achieved after only 6 weeks, and no relapse was observed over a period of almost 3 years. The doses of acitretin was within the same range as that used for etretinate before [6]. It is not unlikely that this favorable result is the consequence of the choice of drug per se since acitretin is the active principle of etretinate, but the two compounds differ in their pharmacokinetic properties [8]. In a study comparing acitretin-PUVA and etretinate-PUVA in patients with psoriasis, Saurat et al. [9] also found a superior benefit of acitretin and explained this fact as possibly due to a study bias favoring acitretin but also to the distinct pharmacokinetics of the two drugs. We conclude from this observation that retinoids may in principle be effective in lichen amyloidosis, even if this is not so in a number of cases, and that acitretin should be used more often, pending reasonable alternatives.

Considering the pathogenesis of lichen amyloidosis, it is not surprising that retinoids may have a therapeutic effect. Lichen amyloidosis is caused by the transformation of apoptotic basal keratinocytes into amyloid K bodies by mechanisms as yet not understood. Retinoids are known as potent inducers of apoptosis [10, 11] and therefore may decrease the amount of apoptotic

basal keratinocytes available for transformation into amyloid K. Furthermore, according to Hercend et al. [12], retinoids may stimulate macrophages to phagocytose and remove the amyloid K deposits from the dermis. Thus, both of these effects may downregulate amyloid K formation. It is not clear, however, whether retinoids interfere with the process of formation of amyloid K itself. It may be speculated that retinoids are effective in cases where the transformation activity to amyloid K is low or self-limited. In more active cases, retinoids may have a less clear-cut and more transitory effect which is soon lost after withdrawal.

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Occupational High-Pressure Injection Injury of the Hand

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Key Words

Injury · Occupational · Hand

A 26-year-old, right-hand-dominant poultry worker presented to the Plastic and Hand Surgery service of Cork University Hospital approximately 24 h following an accidental injection of oil-based poultry vaccine into the tip of her left index finger from a high-pressure vaccine gun. Although the initial injury resulted in a minor puncture wound and mild local irritation, by the time of presentation the finger had become very swollen and painful, with small areas of cutaneous necrosis on the pulp of the finger. The finger was severely inflamed, with erythema progressing onto the palmar aspect of the hand, and with consequent restriction of finger movement.

The finger and hand were surgically explored immediately. The injected irritant material was meticulously debrided and the wound irrigated with jet lavage. The wound was left open and four subsequent surgical debridements were performed at 48-hourly intervals. The wound healed by secondary intention and the patient retained full function of the hand. She returned to work within 1 month of the initial injury, and on subsequent follow-up has suffered no significant sequelae.

High-pressure injection injuries are serious injuries with limb-threatening potential [1]. The pressure required to penetrate the surface of the skin is of the order of 7×10^5 N/m² or 100 psi [2]. Pressures from high-pressure vaccine guns are approximately equal to this. However, application of a nozzle to the tip of these guns, as was the case in our patient, may increase the tip pressure by as much as 10 times. The combination of irritant material and high pressure results in an extremely intense acute inflammatory reaction which develops within hours of the injury occurring [3]. Under such high pressure, the irritant material may travel proximally along fascial planes, nerves or tendon sheaths, resulting in vascular compression and local necrosis. Unfortunately, despite the significant morbidity associated with such injuries, the initial apparently minor nature of the injury, associated with the delay in progression to severe inflammation, frequently

results in a delay in referral by the patient or a failure by the primary attending physician to recognise the significance of such an injury [1]. Indeed, on occasion, the patient who is exposed to such injury may be more aware of the significance of the injury than the attending physician [1].

Optimal management of such injuries consists of immediate surgical debridement, with meticulous debridement of all toxic material. Areas of obvious necrosis should be excised and the wound left open. Serial surgical debridements will usually be necessary. Open wound management has been shown to offer the best results for such injuries, as shown by a large series from the Mayo Clinic [4]. This series reported an 84% digit salvage rate and return to normal hand function in 64% of patients.

The condition most frequently results from occupational injury, with spray painters, car mechanics and farmers being the occupational groups at greatest risk [2,5,6]. Irritant materials vary widely, from the extremely irritant (turpentine, sodium azide) to relatively mild (chick oil) [2]. In this case, the substance injected was an oil-based poultry vaccine, which appeared to possess moderate inflammatory properties. We believe this to be the first case of its kind associated with this occupation. This case clearly demonstrates the importance of early referral and the benefits of open wound management.

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Retinoids in Lichen planus

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Retinoids · Tretinoin · all-*trans*-Retinoic acid · Lichen planus

The interest to use retinoids for the treatment of lichen planus of the skin or oral lichen planus has sporadically appeared in the literature over the past three decades. It is noteworthy that the first mention of this drug family for this condition appeared in 1962 in this journal [1] (at that time named *Dermatologica*).

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