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Topical halometasone cream pre-treated by fire needle in the treatment of primary cutaneous amyloidosis: Two case reports

Su Y *et al.* Primary cutaneous amyloidosis

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Abstract

BACKGROUND

Primary cutaneous amyloidosis (PCA) is a chronic metabolic skin disease that has a detrimental impact on physical and mental health. It appears as mossy papules and severe itching, which is long term and recurrent. Traditional treatments are unsatisfactory, especially for refractory cases. Fire needle therapy, which is widely used in China, has shown good clinical efficacy, as well as advantages concerning safety and cost. Clinical reports about fire needle treatment of this disease are few at present.

CASE SUMMARY

We report two older men. Maculopapules with itchiness occurred on the trunk and arms for more than 10–15 years. Due to the dermatopathological findings, PCA was our primary consideration. They received topical halometasone cream and pretreatment with fire needle for 8–16 wk. Both patients showed significant improvement of lesions. Neither patient had recurrence with a minimum 2 years' follow-up.

CONCLUSION

Topical halometasone cream and pretreatment with fire needle could be a faster, safe and economic alternative for PCA.

Key Words: Primary cutaneous amyloidosis; Fire needle; Halometasone cream; Case report

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Core Tip: We explored combination therapy that was faster, noninvasive and with low recurrence as an alternative for primary cutaneous amyloidosis (PCA). Effects of topical

drugs could be more pronounced after fire needle intervention and combination packing therapy. Topical halometasone cream pretreated by fire needle could shorten the course of treatment and reduce recurrence.

INTRODUCTION

Primary cutaneous amyloidosis (PCA) is a chronic metabolic skin disease that results from deposition of amyloid in the dermal papillary layer with no involvement of other organs, which has a detrimental impact on physical and mental health. Currently, topical corticosteroid is one of the effective methods for treatment of PCA. However, long-term use of corticosteroid can cause adverse reactions such as angiotelectasis of the skin. Fire needle is a form of acupuncture therapy. The acupuncture needles pierce the lesions quickly after burning red on an alcohol lamp. It has been reported that fire needle can be used for treatment of itchy, painful, inflammatory and pigmented diseases^[1-5], and has achieved good therapeutic effect as an adjuvant therapy. Here, we report two cases of PCA that received topical halometasone cream (Bright Future Pharmaceuticals Factory, Hong Kong) pretreated by fire needle, who achieved significant improvement.

CASE PRESENTATION

Chief complaints

Brown papules with itchiness on back and limbs for > 10 years.

History of present illness

At first, the skin on the patient's back and limbs developed itching. Numerous brown papules formed after repeated scratching. During this period, although corticosteroid cream and moisturizers were used topically many times, the effect was poor and the lesions increased gradually. The patient had been exposed to sunlight for a long time but had no history of similar diseases in his family.

History of past illness

None

Personal and family history

He had no history of similar diseases in his family.

Physical examination

The back and shanks were symmetrically distributed with dense, hard and rough brown papules. There was almost no normal skin between the papules. Lesions were more pronounced on the shanks. Due to excessive scratching, a small number of gray scales and blood scabs were attached to some of the papules (Figure 1A).

Laboratory examinations

Dermatoscopic findings: The lesions were evenly distributed, and the central area was light white or light red without structure. The pigment was radially distributed around them, and the dotted blood vessels were densely distributed around most of the lesions (Figure 2A). Dermatopathological findings: The epidermis was hyperkeratinized. There were homogeneous red-stained amorphous substances in the superficial dermis and pigment incontinence in stratum basale. Lymphocytes were scattered around the blood vessels (Figure 2B). Specific staining: amyloid deposited within the dermal papillary layer was stained orange by congo red (Figure 2C); and amyloid deposited within the dermal papillary layer was stained purple by crystal violet (Figure 2D).

Imaging examinations

The lesions were evenly distributed, and the central area was light white or light red without structure. The pigment is radially distributed around them, and the dotted blood vessels were densely distributed around most of the lesions (Figure 2A).

CASE 2, MALE, 65 YEARS OLD. MOSSY MACULOPAPULES WITH ITCHINESS ON BACK AND THE BOTH UPPER ARMS FOR MORE THAN 15 YEARS .

History	of	present	illness
He has used varieties of topical hormones and the cupping, but the effects were not obvious.			

Dermatology examination
Polygonal mossy maculopapules were widely distributed in the dorsal scapular region and lateral to both upper arms, with well-defined boundaries and numerous scratches. Lesions were more pronounced in the middle than around. The skin of dorsal interscapular area was normal (Figure 3A). Dermatoscope and dermatopathology findings
Dermoscopy manifestation: Under dermoscopy, central hub was white or brown structure surrounded by irregular pigmentation (Figure 4A).
Dermatopathological manifestation: In dermal papilla layer, there were a reddish mass of amorphous matter and pigment incontinence in the superficial dermis, and a small amount of lymphocyte infiltration around blood vessels (Figure 4B).

FINAL DIAGNOSIS

The final diagnosis of Case 1 was PCA.

TREATMENT

Initially, fire needle locally scattered the lesions. ² The acupuncture needle was burned red on the alcohol lamp and pierced the targeted lesions. The spacing was 5–10 mm and the depth of penetration was ~5 mm. This treatment was performed every 2 wk for four times. Topical halometasone cream was applied to the surface of the lesions and the lesions were covered with clean plastic wrap for 20–30 min. This was performed twice daily for 4 wk.

OUTCOME AND FOLLOW-UP

Case1: After 1 wk, symptom of itching was significantly reduced. After 4 wk, the lesions were thinner than before and the surface was smoother (Figure 1B). After 8 wk, the lesions gradually disappeared, left some pigmentation (Figure 1C). The symptom of

itching was completely relieved. After telephone follow-up for 2 years, there was no recurrence.

Case2: After 4 wk, the original lesions became flat with light brown pigmentation, and the itching sensation disappeared (Figure 3B). Telephone followed-up for 3 years , the lesions did not subside completely, but the itching did not recur.

DISCUSSION

We reported two older male patients with a long-term and stubborn history of scratching. The average course of disease was 12.5 years. Patient 1 had a history of UV exposure, which is consistent with the description of the disease. Both patients took multiple hormones topically, and Patient 2 also had cupping therapy. Their effects were not obvious.

PCA is a chronic metabolic disease mainly involving the skin, with a predilection for the shins, calves, ankles, and dorsa of the feet and thighs ^[1]. Typical lesions are mossy papules forming brown patches, accompanied by stubborn itching and obvious pigmentation. The characteristic pathological feature is amyloid deposition in the dermal papillary layer. Common dermatoscopic findings are the presence of a white or brown structure, or scarring in the central area, with a variety of pigmented structures and bright white streaks^[2]. PCA is related to scratching, UV exposure, genetic susceptibility, race and environment. There is no difference between men and women. It has been reported that all eight patients with PCA in a Pakistani family were female^[3]. It has also been reported that the disease mostly occurs in housewives, but the gender difference is not significant^[4].

The common treatment methods for PCA mainly include topical and systemic drugs such as retinoids, phototherapy, laser therapy, and surgical interventions, but the results are often not satisfactory^[1]. Fire needle has ¹ the advantages of both conventional acupuncture and moxibustion, due to needle and thermal stimulation. It can promote microcirculation, accelerate metabolism and restore damaged tissues in the lesional area ¹ through the regulation of cutaneous nerves, which in turn can eliminate or attenuate

pathological features such as edema, hyperemia, exudation, adhesion, calcification, contractures, and ischemia^[5]. Fire needle also can stimulate vascular dilatation and local edema of the lesion, which promote transdermal absorption and maximize the efficacy of the topical agents^[6].

The adverse effects of fire needle, such as mild burning, stinging, and itching, and slight redness and swelling of the skin are temporary and not regarded as severe, because these effects disappear within 30–60 min^[7]. Therefore, fire needle is a viable treatment option for PCA, and packet therapy can increase drug hydration, promoting the transdermal absorption of halometasone cream and maximizing its efficacy. Therefore, it is believed that the effect of halometasone cream is more significant after fire needle and packet therapy.

CONCLUSION

We reported two patients with PCA treated with topical halometasone cream and pretreatment with fire needle. The lesions in Patient 1 improved significantly after 8 wk, and the lesions in Patient 2 were basically flattened after 4 wk. Neither patient had recurrence after 2–3 years of follow-up. This method reduces severe itching significantly and removed lesions more effectively. It is believed that this combination therapy could be an effective, safe and economic alternative therapy for PCA. The number of reported cases of this method is small, and there was no blank control, so further exploration is needed.

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SIMILARITY INDEX

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