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Case Report

Actinic Granuloma Successfully Treated with Intralesional Corticosteroid Injection

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Abstract

Observations: Actinic granuloma, *O'Brien* granuloma or annular elastolytic giant cell granuloma is a rare, idiopathic skin disorder of middle-aged adults characterized by granuloma annulare like plaques on sun exposed areas clinically and elastolysis, elastophagocytosis and a multinucleated cell infiltrate histopathologically. The annular plaques of actinic granuloma have atrophic or hypopigmented centers and elevated erythematous borders. The characteristic histopathological findings are non-palisading granulomatous reaction, elastolysis, elastophagocytosis. The lesions are usually asmyptomatic but tend to persist and respond little to treatment. Several treatments have been tried with variable success. We describe a 50-year-old man presented with a 4 year history of asymptomatic, annular, erythematous plaques on dorsum of his left hand, V line of the upper chest and nape of the neck. The diagnosis of actinic granuloma was made by clinically and histopathologically and the lesions disappeared dramatically with intralesional corticosteroid injection and no recurrence has been observed in 1-year follow up.

Introduction

Actinic granuloma which was first described by *John O'Brien* in 1975, is a rare granulomatous skin disease with unknown etiology [**1**]. It occurs more commonly in women than in men, and affects individuals with fair skin. It is clinically characterized by granuloma annulare-like plaques on sun-exposed areas [**2**]. The diagnosis is made by histologically, based on the findings of elastolysis, elastophagocytosis and non-palisading granulomatous reaction [**2, 3**]. There is no established treatment for the disease. Herein, we describe a 50 year-old man with actinic granuloma, successfully treated with intralesional corticosteroid injection.

Case Report

A 50 year old man presented with a 4 year history of annular erythematous plaques on dorsum of his left hand, on V line of the upper chest and nape of the neck. His lesions were insidiously spreading but otherwise they were asymptomatic. He had worked outside for many years in a sunny country so he had excessive sun-exposure. He had no significant family history and otherwise he was generally well in health. Dermatological examination revealed several annular erythematous plaques ranging in size from 2-4 cm, confined to sun exposed areas on the dorsum of left hand, V line of the upper chest and nape of the neck (**Figure 1**). A complete blood count, erythrocyte sedimentation rate, routine biochemistry and urinalysis were normal. Angiotensin converting enzyme level was within normal limits, antinuclear antibodies were negative. Chest radiography showed no pathology. The intradermal tuberculin test was nonreactive.

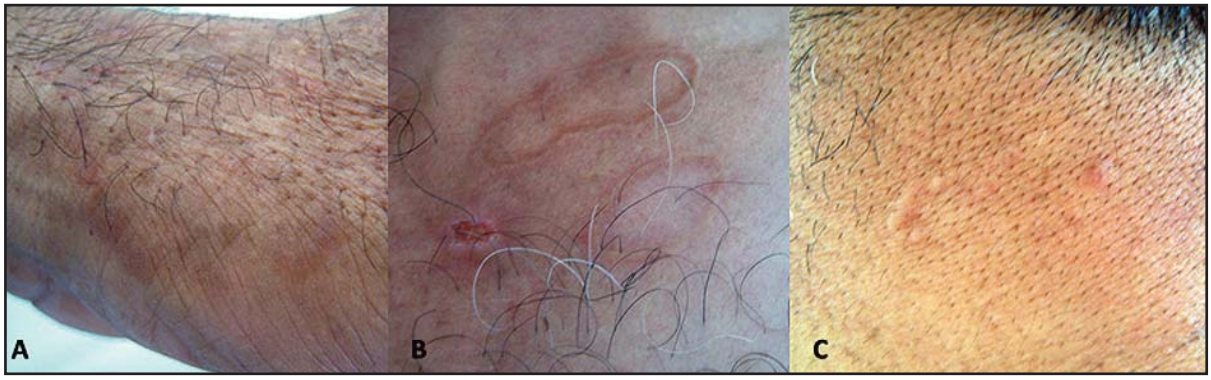

Figure 1. Annular eryhtematous plaques on dorsum of left hand, on V line of the upper chest and nape of the neck before treatment

The histopathological examination of a biopsy specimen from a representative lesion on the V line of the upper chest revealed multinucleated histiocytic cell infiltrate in upper and middle dermis. There was no finding of necrobiosis. Elastic *Verhoeff* stain revealed elastolysis and phagocytosed elastic fibers in some giant cells (**Figure 2**). Alcian blue stain showed no mucin deposition (**Figure 3**). We made the diagnosis of actinic granuloma according to these clinical and histological findings. Intralesional triamcinolone acetonide injection (10 mgr/ml) was performed to the plaques and the patient was advised to use broad spectrum sunscreens. Within 3 weeks the lesions disappeared completely (**Figure 4**), no side effects to the treatment were detected and no recurrence has been observed in 1-year follow up.

Discussion

Actinic granuloma is an uncommon skin disease that occurs on sun-exposed areas of middle-aged individuals with significant post sun-exposure [**2**]. The lesions of actinic granuloma are normally colored to erythematous papules that coalesce to form centrifugally enlarging annular patterns which have atrophic or hypopigmented centers and elevated erythematous borders [**2**]. Because the lesions are so similar to granuloma annulare clinically, from the time of *O'Brien*'s first description of actinic granuloma as a distinct clinicopathological entity, there has been debate about this condition. It has been claimed to be a variant of granuloma annulare [**4**]. But later in clinical studies, actinic granuloma is demonstrated to be a unique and distinct entity which can be seperated from granuloma annulare histologically [**3, 5**].

The pathogenesis of the disease is not well defined. Actinic radiation is blaimed to be the etiological factor and actinically damaged elastic tissue is believed to be the initiating event [**1, 6, 7**]. According to this actinic damage hypothesis this degenerated tissue becomes an antigenic target and a cell mediated

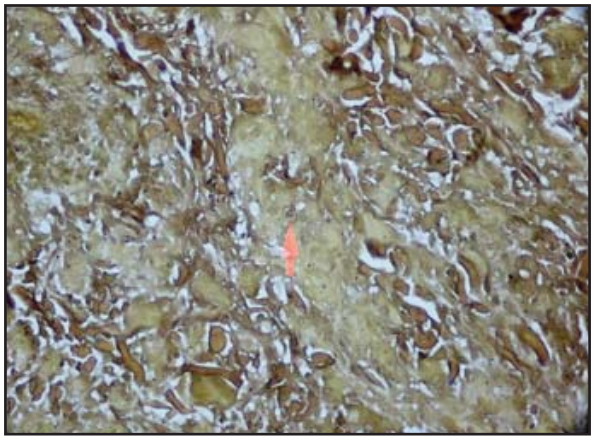

Figure 2. Elastic *Verhoeff* stain revealed elastolysis and phagocytosed elastic fibers in some giant cells, *Verhoeff von Gieson* x 200

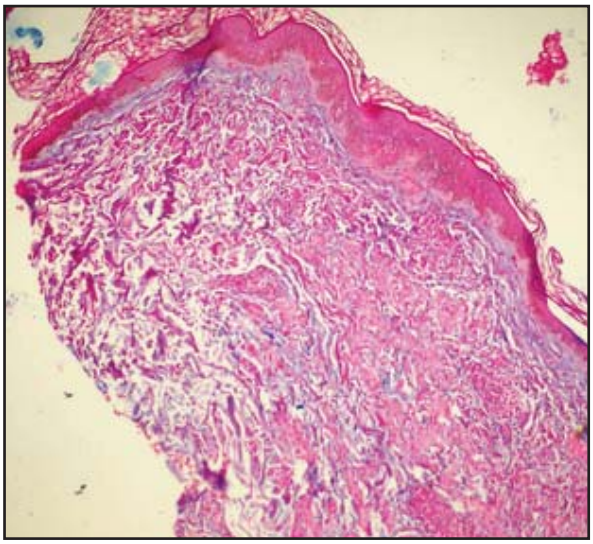

Figure 3. Alcian blue stain showed no mucin deposition, *Alcian Blue* x 40

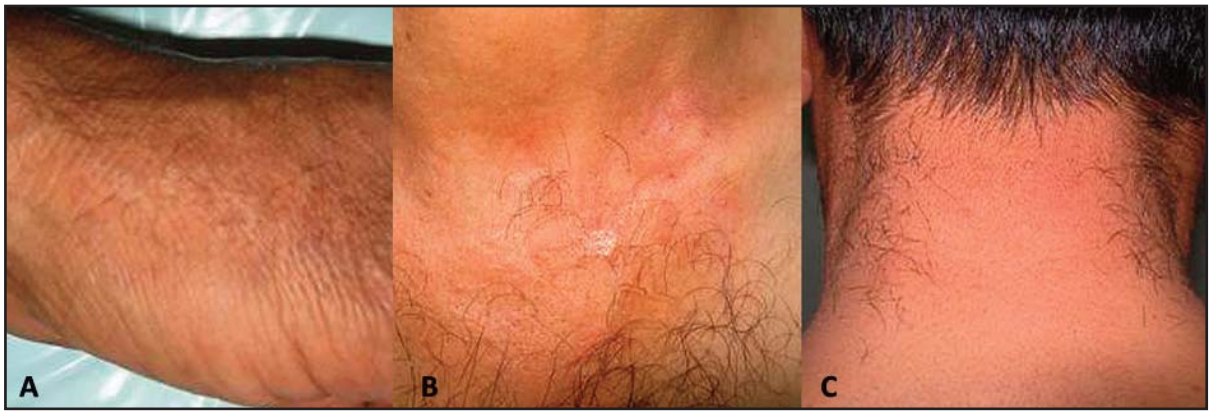

Figure 4. The lesions disappeared completely after intralesional corticosteroid injection within 3 weeks

immune response results in granulomatous inflammation [**2, 5**].

The disease is clinically characterized by asymptomatic, erythematous, annular plaques with firm atrophic centers and elevated borders, predominantly on sun exposed areas such as face and neck [**8**]. The differential diagnosis of actinic granuloma includes granuloma annulare, sarcoidosis, lupus vulgaris, discoid lupus erythematosus, annular lichen planus and necrobiosis lipoidica. The diagnosis is made histopathologically. The presence of nonpalisading granulomatous reaction with elastolysis and elastophagocytosis; and the absence of necrobiosis and mucin deposition are the distinctive histopathological features of the disease [**2, 3**]. The clinical features of our patient suggested actinic granuloma and the histopathological examination confirmed the diagnosis.

Treatment of actinic granuloma is difficult and it has a chronic course. Spontaneous remission may be observed rarely [**2**]. It is difficult to make estimation about the treatment of actinic granuloma since it is rare, the reported cases are limited in number and the results of long-term follow up are unknown. Topical and intralesional steroids, chloroquine, acitretin, isotretinoin, cyclosporine, pentoxyphylline, metothrexate, cryotherapy and PUVA photochemotherapy have been tried with variable success [**2, 9, 10, 11**]. While topical and intralesional steroids have been found to be ineffective in some cases, successful therapeutic response has also been reported [**6,12, 13, 14, 15**]. We preferred to perform intralesional triamcinolone acetonide injection because our patient had few lesions in number and he had not been treated before and we received dramatic response to the treatment; the lesions disappeared completely in three weeks. Although no recurrence has been observed in 1-year follow up, longer time is needed to evaluate the long term efficiency of the treatment.

Our patient is displaying the characteristic clinical and histopathological findings of actinic granuloma and is treated successfully with intralesional steroid injection which is an effective and safe therapeutic option for actinic granuloma with lesions in small number.

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