

ANNULAR ELASTOLYTIC GRANULOMA: A RARE CASE REPORT IN AN INDIAN FARMER (O'BRIEN'S GRANULOMA)

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Abstract

Annular elastolytic granuloma is a type of actinic granuloma of unknown etiopathogenesis, first described by O'Brien in 1975. It presents with asymptomatic annular erythematous plaques on sun-exposed body parts. On histopathology examination, it shows elastin degeneration, multinucleate giant cells and interstitial granuloma with areas of elasto-phagocytosis. We report a case of a 72 year old male with an asymptomatic ring like erythematous plaque with raised borders involving parts of the left arm and forearm, which was confirmed to be annular elastolytic granuloma on histopathology. It is relatively rare in the Indian population and must be differentiated from other similar lesions of granuloma annulare, sarcoidosis, necrobiosis lipoidica, elastosis perforans serpiginosa and morphological variant of mycosis fungoides.

Key words: Annular Elastolytic Granuloma, palisaded and interstitial granuloma, elasto-phagocytosis

Introduction

Actinic granuloma, also known as O'Brien's granuloma is a rare and self-healing granulomatous disorder seen in middle aged persons with chronic sun-exposure. It presents as asymptomatic erythematous plaque of any size with central atrophy and hypopigmentation with raised borders and centrifugal expansion. We are reporting this case from rajasthan, desert region of india. In spite of rajasthan receiving high solar radiation there is still no case report from here.

Case Report

A 72 year old married male, farmer by occupation, presented to our skin OPD with a history of insidious onset of asymptomatic ring shaped lesion over extensor aspect of left upper limb extending from middle of arm to lower third of forearm. At the onset, there were 0.5 cm size erythematous raised lesions, which progressed slowly over 2 years to form large plaque of present size [Figure 1]. On local cutaneous examination, it was an erythematous annular plaque of size 17×8 cm, overlying extensor aspect of left upper limb with central atrophy and raised serpiginous borders of reddish brown color, extending from middle arm to lower forearm. Lesions were non-oozy, non-tender, but greyish white scaling was present in some areas. Skin



Figure 1 : well defined erythematous plaque present over extensor aspect extending from mid of left upper arm to full length of forearm.

appendages within the lesion were normal. Examination of hair, nails and mucosa did not reveal any significant abnormality. General physical examination and systemic examination of the patient were normal.

All routine laboratory investigations including complete blood count, ESR, urine analysis biochemical profile, angiotensin converting enzyme, liver functions tests, and renal function tests were within normal limits. Antinuclear antibody was negative. Chest X-ray revealed some areas of interstitial opacity but pulmonary function tests were normal. Mantoux tests and sputum examination were negative.

Skin biopsy showed presence of palisaded and interstitial granulomas with prominent elasto-phagocytosis and admixed neutrophils, karyorrhexis, few eosinophils, RBC's and fibrin.

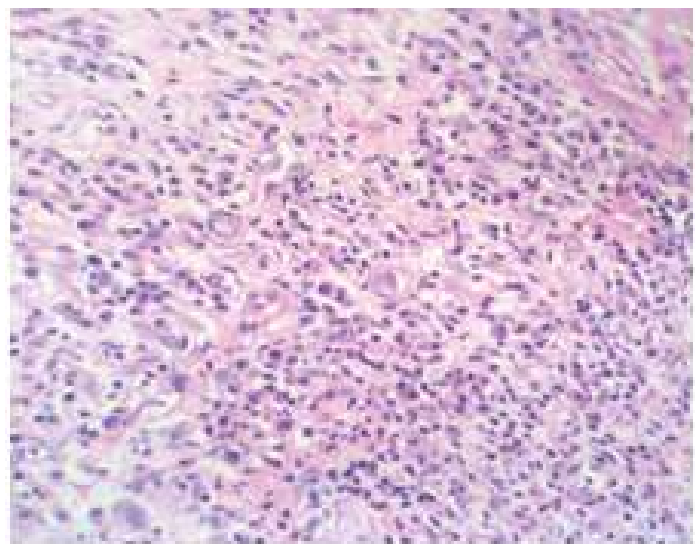


Figure 2 : Histopathology showed granuloma with prominent elasto-phagocytosis and admixed inflammatory infiltrates. (H & E stain, 10x)

Central zone showed absence of solar damage, which was prominent on peripheral area [Figure 2]. Verhoeff van Gieson stain showed presence of degenerated elastic fibres [Figure 3]. He was prescribed tablet hydroxychloroquine sulphate 200 mg twice a day for 3 months after baseline investigations and advised for strict photo-protection with appropriate clothing and

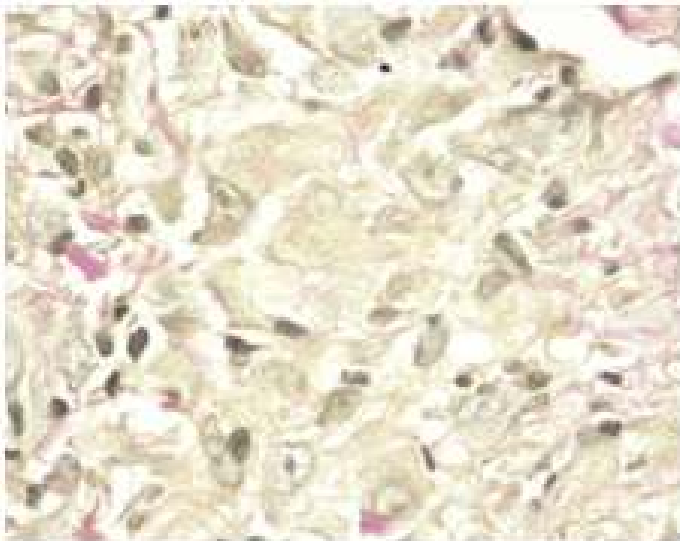


Figure 3 : Van- gieson stain showed degeneration of elastic fibres.

sunscreen. The lesion resolved completely with treatment, but the patient was lost in the follow up after that.

Discussion

O'Brien first described first case of actinic granuloma in 1975[1].It is a granulomatous cutaneous reaction due to solar damage of elastin fibres followed by removal of elastin fibres through phagocytosis by multinucleate giant cells and histiocytes.

Actinic origin is supported clinically by the presence on sun-exposed areas and histo-pathologically by three zones: central atrophic zone, elevated border and skin peripheral to the ring as stated by O'Brien.

The central zone is characterized by absence of elastic fibers, whereas peripheral zone has increased amount of elastotic material appreciated by elastin stains like Verhoeff-van Gieson stain. The raised annulus shows granulomatous infiltrate with histiocytes arranged interstitially between collagen bundles or in palisading fashion. There is absence of mucin. Actinic granuloma is divided histo-pathologically in four subtypes: giant cell variant, necrobiotic variant, histiocytic and sarcoid variant [10].

It is most frequently seen in middle aged persons without any sex predilection.[2] The lesion starts as small erythematous papules, with tendency to progress centrifugally to form large annular plaques of varying size with central atrophy or depigmentation

and serpiginioid borders, usually over sun-exposed areas, but rarely can be seen over sun-protected areas as well justifying its other name giant cell elastolytic granuloma.[3,4,5]

Solar damage could be initial event as it gives antigenic trigger for CD4 lymphocyte mediated immune granulomatous reaction.[6,7] Its association with giant cell temporal arteritis has been postulated in some reports due to a part of its underlying pathology analogous to actinic granuloma.[8,9]

Actinic granuloma has been associated with X-linked protoporphyria and vitiligo. Other uncommon associations are diabetes mellitus, leukemia, pseudoxanthoma elasticum, relapsing polychondritis & polymyalgia rheumatica.

Our case is a farmer, therefore intense sun-exposure over the years is expected, predisposing to actinic granuloma. The distribution of the lesion over sun-exposed area with characteristic clinical lesion supported by histopathology, accentuated by von-Gieson stain showing elastosis and elastophagocytic areas.

Treatment options include topical and systemic corticosteroids, topical pimecrolimus, cryotherapy, oral cyclosporine, antimalarials and systemic retinoids like acitretin and isotretinoin.

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