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GRANULOMA ANNULARE COEXISTING WITH POLYMORPHIC LIGHT ERUPTION – A RARE CASE REPORT

Dermatology

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ABSTRACT

Granuloma annulare is a relatively common disease that can occur in all age groups. It is characterised clinically by papules and annular plaques over extremities. Various factors can trigger granuloma annulare, of which sun light is proposed to be one of the causes. Here we report a case of granuloma annulare co-existing with polymorphic light eruption in a 42 year old boy.

KEYWORDS:

granuloma annulare, ultraviolet ray exposure, annular plaque, polymorphic light eruption

INTRODUCTION

Granuloma annulare is a chronic non-infectious necrobiotic palisading disorder, which was first described by Colcott Fox in 1985; initially he called it as "ring worm of the fingers". [1] The term granuloma annulare was coined by Radcliffe-Crocker. [2] It is more commonly seen in children and young adults with female prep onderance. Familial occurrence has also been reported. An increase in the incidence of granuloma annulare is seen in association with diabetes mellitus, which shows poor response to treatment.

CASE REPORT

A 42 year old male presented with multiple red to dark raised skin lesions over both forearms and hands for the past 4 months. The lesions were insidious in onset and progressive in nature. History of burning sensation (photosensitivity) was present over the lesions following sun exposure. No history of itching. No history of trauma or drug intake or topical application prior to the onset of lesions. No history of recent vaccination or loss of appetite or loss of weight. On examination, multiple erythematous annular plaques with polycyclic margins present over dorsum of bilateral hands [Figure 1]. Multiple erythematous and pigmented papules present over the extensor aspects of bilateral forearm [Figure 2]. Palms, soles, genitalia and mucosa were normal.

Skin biopsy was taken from a papule and an annular plaque, which revealed patchy lymphohistiocytic infiltrate in upper dermis and palisading granuloma with collection of inflammatory infiltrates around edematous collagen, respectively [Figure 3 & 4]. Hence we concluded to the diagnosis of granuloma annulare with polymorphic light eruption.

DISCUSSION

Granuloma annulare is a reactional pattern to a variety of antigenic stimuli namely, insect bites, sunlight, [3] tattoos, tuberculin skin testing, viral infections (Human papilloma virus, Epstein Barr virus, Hepatitis B, C, Human immunodeficiency virus, varicella zoster), vaccination (Hep B, BCG), scabies, cat bite, Borrelia burgdorferi, post waxing and erythema multiforme. [4] Various theories like immune complex mediated vasculitis theory, post traumatic primary necrobiosis theory, enzyme induced necrobiotic degeneration, cell mediated delayed hypersensitivity have been proposed to be the pathogenesis of granuloma annulare.

Clinically, granuloma annulare is characterised by the presence of asymptomatic skin coloured to erythematous papules coalesce to form plaques in an annular or arcuate pattern with central clearance or slight atrophy. It is most commonly seen over hands and arms (60%), but can also occur over legs, feet, trunk and other sites. Various clinical variants have been described namely, localised GA, generalised, perforating type, subcutaneous type (pseudorh eum atoid nodule), actinic granuloma, patch type, papular umbilicated type, follicular pustular type, giant type, linear type, targetoid type, arcuate dermal erythema, juxta artivular type and malignancy associated GA (in association with lymphoma, leukemias and solid organ malignancies of prostate, colon, lung, breast, cervix, testes, etc). Localised granuloma annulare is reported to be the commonest clinical variant.

Polymorphic light eruption is the most common, idiopathic, abnormal, and recurrent and acquired photodermatosis which is characterised by a polymorphic eruption ranging from papulo-vesicular lesions to large plaques, localised predominantly in a photoexposed areas. In photosensitive individuals, UV exposure can trigger granuloma annulare. Disseminated GA has been reported following PUVA therapy. [5] It is still not clear, whether actinic granuloma is a distinct entity or it represents the occurrence of granuloma annulare in sun exposed areas. [6]

The diagnosis of granuloma annulare is confirmed by skin biopsy which shows normal epidermis, other than perforating type, where an epidermal channel due to central perforation containing cell debris and necrobiotic material are seen. Dermis shows the presence of granuloma which may be of interstitial type, palisading type and sarcoidal or tuberculoidal type. In the interstitial type (commonest pattern), presence of sparse perivascular and dermal lymph ohistiocytic infiltrates without palisades surrounding the mucin and degenerated collagen. [7] In the palisading pattern, characteristic palisading arrangement of inflammatory infiltrates around mucinous area is seen. Few multinucleated giant cells and plasma cells are present. The sarcoidal type is characterised by collection of lymphocytes, epitheloid cells and langhans giant cells with or without central necrosis.

Granuloma annulare has to be differentiated from other diseases like sarcoidosis, Hansen's disease, dermatophytosis, figurate erythemas, mycosis fungoides, lupus vulgaris, secondary syphilis, atypical pityriasis rosae, etc. Histologically, diseases which simulate GA are necrobiosis lipoidica diabeticorum, rheumatoid nodule, annular elastolytic giant cell granuloma, sarcoidosis, xanthoma and cutaneous T cell lymphoma.

Localised GA is usually self-limiting with spontaneous resolution within 2 years of the disease onset. Reverse koebnerisation have been described in GA, with the disappearance of the skin lesion following biopsy. Localised GA is managed with topical corticosteroids, calcineurin inhibitors, 5% imiquimod, 5-Fluorouracil, anthralin, cryotherapy, LASER therapy, electodessication. In cases with generalised GA, systemic drugs like dapsone, retinoids, methotrexate, nicotinamide, cyclosporine, chlorambucil, pentoxyfylline, potassium iodide, fumaric acid esters, biologics (infliximab, etanercept, efalizumab) and oral calcitriol [8] are preferred. Actinic induced GA is managed sun protection and topical and systemic sunscreens like chloroquine, hydroxychloroquine. Photodynamic therapy with 5-aminolevulinic acid, PUVA, NB-UVB and PUVAsol has also been tried. For treatment resistant GA, monthly ROM therapy with Rifampicin, Ofloxacin and Micocycline have shown complete disease remission. [9]

CONCLUSION

This case is reported because of the coexistence of granuloma annulare with polymorphic light eruption in a photosensitive individual. Thus, it is emphasised over the fact, that sun light can be a triggering factor for granuloma annulare.

ACKNOWLEDGEMENT

None

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

LEGENDS TO FIGURES

FIG 1: Clinical photograph showing multiple erythematous annular plaques with polycyclic margin present over dorsum of bilateral hands.

FIG 2: Clinical photograph showing multiple erythematous and pigmented papules over extensor aspect of bilateral forearm.

FIG 3: Histopathological picture [scanning (a) and lower power (b) view] shows thinned out epidermis with sheets of dermal inflammatory infiltrates arranged in a palisade around the edematous collagen and mucin.

FIG 4: Histopathological picture [high power (a & b)] shows collection of lymphohistiocytic infiltrates around collagen and mucin with multinucleated giant cell.

FIGURE 1

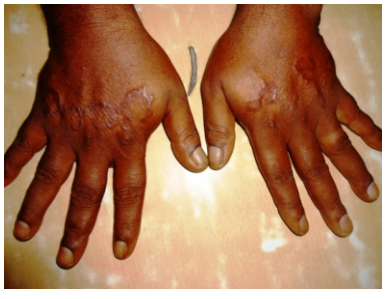


FIGURE 2

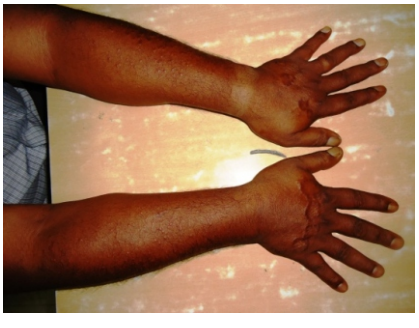


FIGURE 3 [a & b]

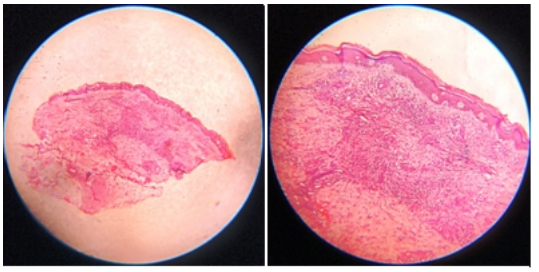
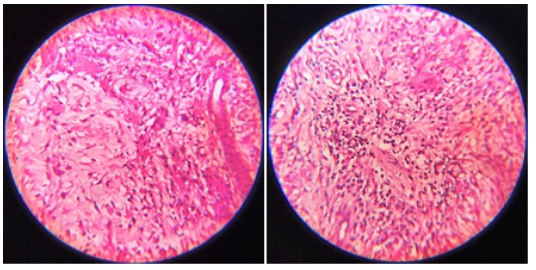


FIGURE 4 [a & b]



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