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Case Report

Generalised granuloma annulare in an immunocompetent adult: a rare presentation

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ABSTRACT

Granuloma annulare (GA) a chronic, non-infectious, granulomatous, necrobiotic disorder of the skin and subcutaneous tissue. We report a rare case of generalized granuloma annulare (GGA) in an immunocompetent individual presented with lesions over trunk and distal extremities. A 62 -year-old male patient came with complaints of reddish raised lesions over trunk, and lower extremities of 10 months duration. The lesions started over the abdomen, progressed over the limbs, associated with mild itching. On dermatological examination, multiple erythematous well marginated papules, coalescing to form infiltrated plaques were seen over abdomen, back, flanks and bilateral calf region. Differential diagnosis of Sarcoidosis, BB/BL Hansens, Cutaneous T cell lymphoma, Lichen Myxedematosus were considered. Slit Skin Smear was negative for AFB. Histopathology showed interstitial distribution of histiocytes and few Langhan's type giant cells in the superficial dermis. Based on findings, a diagnosis of GGA was made. The patient was treated with emollients, topical steroids, anti- histamines, PUVA sol (8-methoxypsoralen 20 mg/day) and Injection Methotrexate 12.5 mg weekly once for 8 weeks. He is under follow-up. GGA is associated with diabetes mellitus, hyperlipidemia, malignancy, thyroid disease, infections. GGA differs from the localized form by a later age of onset, protracted course with only rare spontaneous resolution, poor response to therapy, and increased prevalence of HLA Bw 35. In the present case even on thorough investigation none of the possible associations could be detected. Our case highlights GGA which is a rare clinical variant in a healthy adult.

Keywords: Granuloma annulare, Generalized granuloma annulare, Lichen Myxedematosus

INTRODUCTION

Granuloma annulare (GA) a chronic, non-infectious, granulomatous, necrobiotic disorder of the skin and subcutaneous tissue characterized by granulomatous annular plaques, nodules, or papules containing foci of altered collagen surrounded by histiocytes and lymphocytes.[1,2] GA was first described by Colcott Fox in 1895 as "ringed eruption of the fingers". Term granuloma annulare was coined only in 1902 by Radcliffe-Crocker.[3] It is primarily seen in children and young adults (less than 30 years of age). The main clinical variants of granuloma annulare include localized (most common), generalized, disseminated, subcutaneous, perforating and patch type. Other rare subtypes are linear, palmar, patch, pustular and giant granuloma annulare. Generalized granuloma annulare (GGA) is usually seen in adults at a mean age of 50 years. It is more prevalent in females ratio of 2:1.[4] Possible associations with GGA include diabetes mellitus, malignancy, drugs, thyroid, dyslipidemia and

HIV.[5] Here in we report a case of GGA in a 62 year old male who presented with extensive annular papules and plaques of various sizes all over the body who was thoroughly evaluated to find out any possible trigger factors.

CASE REPORT

A 62 year old male patient came to our OPD with chief complaint of red raised lesions over trunk and extremities since 10 months. The lesion initially started as single red raised lesion over the right flank which gradually increased in size and later progressed to another flank. Later he developed similar lesions over chest, back and over both calf regions developed over next few weeks. The lesions are associated with mild itching. No history of fever, pain, drug intake, recent vaccination was present. No past history of diabetes or hypertension was noted. On dermatological examination Multiple, erythematous, infiltrated plaques with well-defined margins were seen over upper and lower back (Figure 1a). Shiny skin colored papules were seen closely studded over borders of the plaque. Well marginated papules coalescing to form infiltrated plaques were seen over abdomen and both flanks with few discrete papules in the intervening areas (Figure 2a). Similar granulomatous plaques were present discretely over calf region bilaterally (Figure 2b). The lesions were not associated with scaling. There was sparing of palms and soles. Oral and genital mucosa appeared to be normal. Hair and nails were normal. Based on the history and clinical features a differential diagnosis of sarcoidosis, BB/BL hansens, cutaneous T cell lymphoma, lichen myxedematosus were considered. Laboratory investigation showed normal haemogram. Serum biochemistry was normal. Screening for HIV was negative. Stool for occult blood was negative. Serum calcium and ACE levels were done and found to be normal. Radiological examination of chest x-ray was normal. Slit skin smear was negative for AFB. Histopathology of biopsy taken from lower back on the right side showed epidermal compact orthokeratosis, preserved granular layer, normal thickness of spinous layer and intact basal layer. Superficial dermis showed interstitial distribution of histiocytes and few Langhan's type giant cells (Figure 3a). There is increased deposition of mucin between collagen bundles (Figure 3b). Deep dermis was unremarkable. There was no evidence of peri-adnexal granuloma. There was no evidence of atypical lymphoid cells. Based on the clinical features and results of investigations the case was diagnosed as GGA. Patient was started on topical emollient twice daily, clobetasol propionate 0.5% cream night time daily, antihistamine (Levocetirizine 5 mg) night time daily, PUVA SOL (8-methoxypsoralen 20 mg/day) given on alternate days along with sun exposure for 10 to 15 min, injection Methotrexate 12.5 mg weekly once given intramuscularly. Moderate improvement was seen after 6 weeks of follow up (Figure 1b).

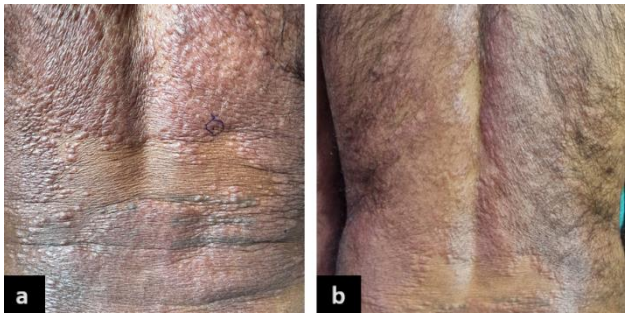

Figure 1: (a) Extensive infiltrated plaque over back and (b) marked improvement seen after 6 weeks of treatment.

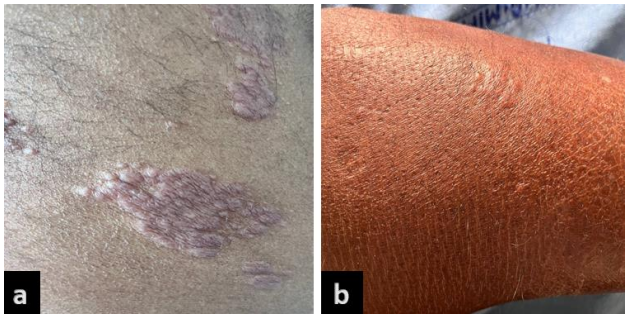

Figure 2: (a) Granulomatous papules coalesce to form plaques seen over flank region and (b) shiny skin coloured infiltrated papules seen over calf region.

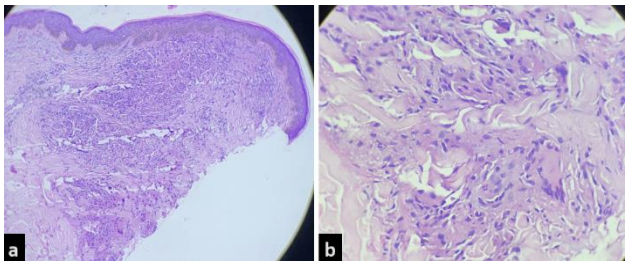

Figure 3: (a) superficial dermis showed interstitial distribution of histiocytes and (b) increased mucin in between collagen bundles.

DISCUSSION

GGA accounts for nearly 10 to 15% of all GA cases.[6] It is associated with HLA_Bw35, late onset, poorer prognosis, and an altered lipid profile.[7,8] The term GGA is used only when the lesions are seen on the trunk as well as on either or both the upper and lower extremities. The incidence of diabetes mellitus in GGA is 21% compared with 10% in localized forms. Several triggers of granuloma annulare have been reported, such as lightning strikes, tattoos, insect bites, contact dermatitis, vaccination, isomorphic response and medication.[9] GGA is more common than localized GA in HIV infection-associated GA (HAGA). Pruritus is more common in GGA than in localized GA.[10,11] In the present case mild pruritus was seen.

This variant is characterized by skin colored to hyper pigmented to violaceous and even yellow-colored papules coalescing to form plaques with raised margins. In the present case multiple annular papules and plaques of varying sizes were seen all over the body.

Histopathology findings of a case of GA usually shows 3 histopathological patterns: Interstitial type- Increased lymphocytes and histiocytes between collagen bundles and around blood vessels. Increased mucin between collagen bundles. Necrobiotic palisading granuloma/ collagenolytic form- Necrobiotic granulomas are present in the upper and mid dermis characterized by central necrobiotic areas (increased mucin) surrounded by histiocytes (palisade pattern) and lymphocytes. The special stains used to detect mucin are alcian blue and colloidal iron. The third variant is sarcoidosis/tuberculoid type granuloma –which is characterized by lymphocytes, epitheloid cells, and Langhan's giant cells with or without central necrosis. In the present case the histopathological features of superficial dermis showed interstitial distribution of histiocytes and few Langhan's type giant cells which was more in favour of interstitial type of granuloma annulare. There is increased deposition of mucin between collagen bundles. On thorough evaluation the laboratory parameters of patient were found to be normal. The common underlying associations giving rise to GGA like diabetes mellitus, immunosuppression, HIV, dyslipidemia was not found in the present case.[12]

The common treatment modalities used for GGA include PUVA therapy, UVA-1 phototherapy and NB-UVB. For widespread variants less common modalities of treatment include dapsone (100 mg/day), isotretinoin (0.5–0.75 mg/kg/day). oral calcitriol, methotrexate, nicotinamide (500 mg tid), chloroquine (3 mg/kg/day), hydroxy-chloroquine (6 mg/kg/day), cyclosporine (3–5 mg/kg/ day), chlorambucil, pentoxifylline, monthly rifampicin, ofloxacin, and minocycline (ROM) therapy has shown complete remission of lesions in patients with treatment-resistant lesions.[13,14] In the present case the patient was treated with PUVA SOL therapy, injectable Methotrexate along with topicals resulting in marked improvement after 8 weeks of treatment.

CONCLUSION

GGA is usually seen in adults at a mean age of 50 years associated with diabetes mellitus, hyperlipidemia, malignancy, thyroid disease and infections. GGA differs from the localized form by a later age of onset, protracted course with only rare spontaneous resolution, poor response to therapy, and increased prevalence of HLA Bw 35. In the present case even on thorough investigation none of the possible associations could be detected; Our case highlights a rare presentation of GGA in a healthy immunocompetent adult who responded to conventional treatment.

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