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GRANULOMA ANNULARE MASQUERADING AS HANSEN'S DISEASE- A CASE REPORT

Dermatology

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ABSTRACT

Granuloma annulare is a common granulomatous skin condition predominantly affecting children and young adults and characterized clinically by the appearance of multiple papules which may be arranged in an annular pattern. Common areas of involvement include the arms, legs, hands and feet. Hansen's disease is a chronic infectious disease caused due to *Mycobacterium leprae* infection. Leprosy should be considered in an endemic country like India which still continues to account for 60% of new cases reported globally each year. Here we report a case of Granuloma annulare in a young girl who presented with a well-defined plaque over her hand with and an erythematous raised border raising the suspicion of a Hansen's patch.

KEYWORDS

Granuloma Annulare, Granulomatous Lesion, Palisaded Histiocytes

INTRODUCTION:

Granuloma annulare is an idiopathic granulomatous skin condition which can affect all age groups however more common in children and young adults. It is a necrobiotic condition considered to be a delayed hypersensitivity reaction to dermal components. The inflammation within the lesion is mediated by cytokines[2] like TNF alpha. The most common manifestation of Granuloma annulare is the appearance of multiple skin colored to red papules arranged in an annular configuration. Sites of predilection include the extremities and face however rare occurrences over sites such as penis, palms ,ears and periocular region[1] have been reported. Several clinical variants exist with different morphologies. It may be localized or generalized in its distribution

Microscopically GA is characterized classically by the presence of histiocytes arranged in a palisading distribution around a core of mucin in the dermis, however variations to this presentation may occur which may mimic other conditions hence requiring clinical correlation for a final diagnosis. Granuloma annulare has been associated with many conditions like Diabetes mellitus, hyperlipidemia, HIV, thyroiditis etc.

CASE REPORT:

A 14 year old female patient came to the dermatology OPD with a complaints of a raised skin lesion over the dorsum of her left hand for the past 1 year duration. It started as small plaque with scattered papules which gradually increased in size. She gave no H/O itching or discharge from the lesion however complained of occasional mild pain when pressed firmly. The lesion was otherwise asymptomatic. She had no other comorbidities. Systemic examination turned out normal.

On local examination an annular skin colored non scaly plaque with a raised prominent border of size 3x3 cm soft to firm in consistency and non-tender on palpation. No discharge was noted from the lesion. Mild loss of sensation to soft touch was noted over the lesion. Routine investigations were within normal limits. A biopsy was taken from the lesion.

Histopathology revealed the presence of a palisaded arrangement of inflammatory cells predominantly consisting of histiocytes, around a core of light basophilic material suggestive of mucin. The findings were consistent with the diagnosis of Granuloma annulare

DISCUSSION:

Granuloma annulare can be described as a benign inflammatory dermatoses labeled first by Radcliffe Crocker in the year 1902. The lesion most often consists of grouped skin coloured to slightly red firm papules arranged in an enlarging annular shape in a localized distribution. Several presentations of the condition exists namely generalized, subcutaneous type[3], perforating type[4], patch like, and deep destructive[5] forms. It's common in all age groups however localized and subcutaneous forms have a tendency to occur in children and young adults whereas the generalized form occur most often in adults with no sex predilection

Granuloma annulare is an idiopathic condition occurring in otherwise healthy individuals with no defined causative agent however it can be considered to be a phenotypic reaction pattern to several predisposing factors which include prior trauma at the site, viral infections(HIV, varicella zoster virus, Ebstein barr virus, Hepatitis B&C virus etc.), following BCG vaccination, sun exposure and drugs(allopurinol, gold, diclofenac etc.). Granuloma annulare in patients with diabetes mellitus (especially type 1 DM[6]) has been so extensively reported that it may be considered a cutaneous manifestation of the metabolic disorder however most patients with GA are not diabetic. GA has also been reported with cases of thyroiditis, hypothyroidism and thyroid adenoma. Finally granuloma annulare has been linked to several hematological malignancies mainly Hodgkin's and non Hodgkin's lymphomas and mycosis fungoides.

The classical history is of multiple papules arranged in an annular or arciform pattern somewhat elevated from the surrounding skin with centrifugal enlargement and central clearing mimicking dermatophyte infection or a figurate erythema. The lesions are often asymptomatic however mild pruritus may be present in a few cases. The subcutaneous type presents as an asymptomatic firm nodular mass most commonly over the lower extremities resembling a rheumatoid nodule.

Diagnosis of granuloma annulare can be made based on the clinical features however atypical presentations may require other investigative modalities to rule out other possible pathologies or any underlying causative conditions. A biopsy can often clinch the diagnosis. The histopathology shows a lymphohistiocytic granuloma with varying degree of connective tissue degeneration and mucin deposition. A mixed inflammatory infiltrate consisting of eosinophils, giant cells, plasma cells and lymphocytes in a perivascular distribution may be present in a few cases. The histiocytes are characteristically arranged in a palisaded pattern around foci of mucin deposit in the localized and subcutaneous types, however an interstitial non palisaded pattern of histiocytes arrangement is also common especially in the generalized variant. In the perforating type a central ulceration with communication between the central area of necrobiosis and the surface can be seen. Hyaluronic acid makes up the mucin deposits and is visible as faintly basophilic stringy material in H&E staining, and can be confirmed by staining with colloidal iron or Alcian blue.

Granuloma annulare carries a good prognosis with most case resolving spontaneously however the time taken to do so may vary from weeks to several years. A punch biopsy taken to diagnose the condition may itself result in resolution of the lesion via a reverse koebnerization process. Generalized GA usually runs a protracted course and medical intervention may hasten resolution. The usual treatment includes topical steroids, topical tacrolimus 0.1%[7] or an intralesional injection of triamcinolone 2.5mg/ml. Several other treatment options have been tried with varying amounts of success. The other treatment options include cryotherapy, LASER including pulsed dye and eximer, Intralesional injection of interferon beta and gamma and phototherapy.

CONCLUSION:

Granuloma annulare is a fairly common granulomatous skin condition occurring in children and young adults. It commonly presents in the form of annular or arciform lesions with multiple firm skin colored or erythematous papules arranged along the border of the lesion. The lesions are usually asymptomatic. Tuberculoid spectrum of leprosy may present in the form of annular hypopigmented or pigmented patches with an erythematous border and anaesthesia or hypoesthesia and reports of lesions clinically resembling granuloma annulare have been published[8] . It should be considered as a differential diagnosis in a child presenting in an endemic country like India. We have reported one such case of Granuloma annulare in an adolescent female masquerading as a Leprosy.

ACKNOWLEGEMENT:

None

CONFLICT OF INTEREST:

The authors declare there is no conflict of interest

LEGENDS TO FIGURES:

FIGURE 1: microscopic image at low power showing presence of inflammatory cells arranged in palisaded pattern in the upper dermis around a core of necrobiosis

FIGURE 2: microscopic image under high power showing the presence of histiocytes around a core of light basophilic substance (mucin)

FIGURE 3: clinical image showing the annular lesion over the dorsum of the left hand

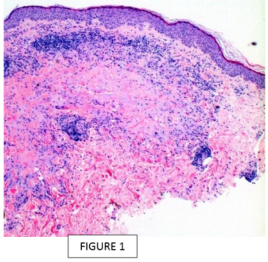

FIGURE 1

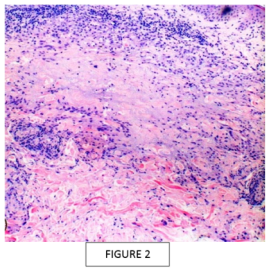

FIGURE 2

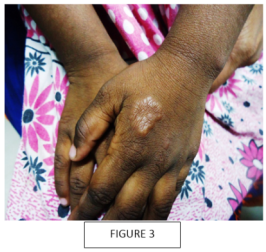

FIGURE 3

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