CASE REPORT

GRANULOMA ANNULARE MIMICKING SARCOIDOSIS AND TREATED WITH ACITRETIN: A CASE REPORT

M.G. Gopal¹, Divya Gupta², Sharath Kumar B.C³, Ramesh M⁴, Nandini⁵

HOW TO CITE THIS ARTICLE:

MG Gopal, Divya Gupta, Sharath Kumar BC, Ramesh M, Nandini. "Granuloma annulare mimicking sarcoidosis and treated with acitretin: A case report". Journal of Evolution of Medical and Dental Sciences 2013; Vol. 2, Issue 48, December 02; Page: 9297-9301.

ABSTRACT: We report a Case of Disseminated Granuloma Annulare which Mimicked Sarcoidosis. A 77 year old man presented with 1 month history of closely set, shiny, skin coloured, firm smooth pruritic papules on trunk and proximal limbs. Considering the histopathological findings with well demarcated areas of degenerated collagen surrounded by histiocytes and lymphocytes, diagnosis of granuloma annulare was made and patient responded very well to oral acitretin. Disseminated papular Granuloma Annulare appears to be a distinct variant that may be difficult to diagnose.

KEYWORDS : Granuloma Annulare, Sarcoidosis, Acitretin

INTRODUCTION: Granuloma annulare is a benign cutaneous inflammatory disease of unknown etiology most commonly presenting on the hands and feet and consisting of asymptomatic to mildly pruritic, flesh-colored to erythematous annular plaques^[1]. Granuloma annulare can be categorized as localized, generalized or disseminated, perforating, subcutaneous and actinic (granuloma annulare on sun-exposed skin). The most common clinical form is localized granuloma annulare. Patients with disseminated granuloma annulare have more widespread involvement, usually with 10 or more lesions. It accounts for 15% of all cases and is seen in older patients. Spontaneous resolution is less common in these patients than in patients with localized granuloma annulare.

CASE REPORT: A 77 year old man presented with pruritic elevated red rashes on trunk and proximal limbs since 1 month.[Fig 1]They started first on neck and upper back and gradually progressed to involve the whole trunk and proximal extremities. There was no history of any weight loss, respiratory complaint or other systemic complaint. Patient had no significant past history. He was non diabetic, non hypertensive. He used topical emollients before coming to our hospital for the rash.

General physical examination and systemic examination was normal. On cutaneous examination closely set, shiny, skin coloured, papules were present on trunk, abdomen and proximal extremities [Fig 2, 3, 4 and 5]. On palpation they were firm in consistency and had smooth surface.

After history and clinical examination following differential diagnosis were made:

- Sarcoidosis
- Mycosis Fungoides
- Granuloma Annulare
- Papular Mucinosis

Accordingly further investigations were planned. On investigation patients Hemoglobin was 10.6 gm. %, Peripheral Blood showed Normocytic normochromic anemia, Differential count and Total Leukocyte count was normal, ACE: 50 U/L , Total Ca: 9 mg/dl , Se Cholesterol and Triglycerides were normal. ANA: Negative, ESR: 51. HIV I and II: non-reactive, ANA: Negative. Urine routine: normal. CXR: Normal

Skin Biopsy from the papular lesion on trunk showed unremarkable epidermis. Dermis showed degenerated collagen surrounded by plump histiocytes, lymphocytes and multinucleate giant cells [Fig 6, 7 and 8]. On special stain (alcian blue) there was some mucin deposition in areas of degenerated collagen.

With the clinical features and skin biopsy reports, final diagnosis of Disseminated Granuloma Annulare was made.

CASE REPORT

Patient was treated with Tab Acitretin 25 mg BD for 1 month. Patient responded very well to the treatment (Tab. Acitretin) with resolution of the lesions within 1 month period [Fig 9, 10 and 11].

DISCUSSION: Granuloma annulare is an idiopathic, self-limited cutaneous condition that is common in adults and children. The condition is benign and is characterized by smooth, skin-colored annular plaques and papules. The lesions are usually found on the hands, feet, wrists and ankles but can potentially occur anywhere on the body. Although the condition is generally asymptomatic, some patients may note mild pruritus [2].

The cause of granuloma annulare is unknown, but it has been reported to follow trauma, malignancy, viral infections (including human immunodeficiency virus [6] Epstein-Barr virus, and herpes zoster), insect bites, and tuberculosis skin tests [3]. A delayed-type hypersensitivity reaction and cell-mediated immune response are hypothesized. Patients with diabetes mellitus had a higher incidence of chronic relapsing granuloma annulare than patients without diabetes. Some isolated cases of granuloma annulare found in association with malignant neoplasm like lymphomas [4] and prostate cancer [5] have been reported.

Granuloma annulare can be categorized as **localized, generalized or disseminated, perforating, subcutaneous and actinic (granuloma annulare on sun-exposed skin)** [2].

The most common clinical form is localized granuloma annulare. Patients with disseminated granuloma annulare have more widespread involvement, usually with 10 or more lesions [1]. It accounts for 15% of all cases and is seen in older patients. Spontaneous resolution is less common in these patients than in patients with localized granuloma annulare. Perforating granuloma annulare lesions are small, umbilicated papules that are found predominantly on the hands and fingers. Subcutaneous granuloma annulare is characterized by large, skin-colored nodules that may be as deep as the lower dermis or subcutaneous fat.

On skin biopsy from lesions although GA is regarded as the prototype of a palisading granulomatous dermatosis, the interstitial and mixed patterns are found to predominate. Abundant dermal mucin is a hallmark of GA [14].

Diagnosis is typically based on clinical appearance and correlation with pathology.

Localized granuloma annulare is self-limited and asymptomatic, treatment usually is not necessary. Nevertheless, many patients remain troubled by the appearance and persist in seeking treatment. For patients insisting on treatment, options include intralesional corticosteroid injection with 2.5 to 5.0 mg per mL triamcinolone into the elevated border, topical corticosteroids under occlusion, cryotherapy, and electrodesiccation.

Systemic therapy is required for disseminated granuloma annulare and many different treatments have been proposed. Dapsone, acitretin [7], isotretinoin, antimalarial agents (hydroxychloroquine and chloroquine), cyclosporine and niacinamide have been tried with variable results. Psoralen plus ultraviolet A (PUVA) therapy has been reported to be effective [8, 9].

Fumaric acid esters, which also are used to manage psoriasis, were found to have some benefit in a recent study treating eight patients [10]. In recent case reports, topical tacrolimus and pimecrolimus had positive outcomes. The incidence of side effects is very low [11, 12].

Infliximab (Remicade), a tumor necrosis factor B inhibitor, demonstrated a positive outcome in a patient with recalcitrant disseminated granuloma annulare [13]. Granuloma annulare is difficult to treat clinically; reassurance that the condition will self-resolve may be the best option.

REFERENCES:

1. Brey N, Malone J, Callen JP. Acute-Onset, Painful Acral Granuloma Annulare: A Report of 4 Cases and a Discussion of the Clinical and Histologic Spectrum of the Disease. *Arch Dermatol.* 2006;142(1):49-54. doi:10.1001/archderm.142.1.49.
2. Dahl MV. Granuloma annulare. In: Fitzpatrick TB, Eisen AZ, Wolff K, Freedberg IM, Austin KF, eds. *Dermatology in General Medicine*. 6th ed. New York, N.Y.: McGraw-Hill, 2003:980-4.

CASE REPORT

3. Smith MD, Downie JB, DiCostanzo D. Granuloma annulare. *Int J Dermatol*. 1997;36:326–33.
4. Li A, Hogan DJ, Sanusi ID, Smoller BR. Granuloma annulare and malignant neoplasms. *Am J Dermatopathol*. 2003;25:113–6.
5. Akyol M, Killcarsian H, Goze F, Emre S. Granuloma annulare associated with prostate carcinoma. *J Eur Acad Dermatol Venereol*. 2003;17:464–5.
6. Toro JR, Chu P, Yen TS, LeBoit PE. Granuloma annulare and human immunodeficiency virus infection. *Arch Dermatol*. 1999;135:1341–6.
7. Stein, Jennifer A; Fangman, Bill; & Strober, Bruce. (2007). Actinic granuloma. *Dermatology Online Journal*, 13(1).
8. Setterfield J, Huilgol SC, Black MM. Generalised granuloma annulare successfully treated with PUVA. *Clin Exp Dermatol*. 1999;24:458–60.
9. Kerker BJ, Huang CP, Morison WL. Photochemotherapy of generalized granuloma annulare. *Arch Dermatol*. 1990;126:359–61.
10. Eberlein-Konig B, Mempel M, Stahlecker J, Forer I, Ring J, Abeck D. Disseminated granuloma annulare—treatment with fumaric acid esters. *Dermatology*. 2005;210:223–6.
11. Harth W, Linse R. Topical tacrolimus in granuloma annulare and necrobiosis lipoidica. *Br J Dermatol*. 2004;150:792–4.
12. 36. Rigopoulos D, Prantsidis A, Christofidou E, Ioannides D, Gregoriou S, Katsambas A. Pimecrolimus 1% cream in the treatment of disseminated granuloma annulare. *Br J Dermatol*. 2005;152:1364–5.
13. Hertl MS, Haendle I, Schuler G, Hertl M. Rapid improvement of recalcitrant disseminated granuloma annulare upon treatment with the tumour necrosis factor-alpha inhibitor, infliximab. *Br J Dermatol*. 2005;152:552–5.
14. Chaitra V, Inchara Y K, Rajalakshmi T, Antony M. Granuloma annulare - Histology reconsidered. *Indian J Dermatol Venereol Leprol* 2010;76:568-9

Fig. 1: Elevated red rashes on proximal extremities, trunk and abdomen

Fig. 2: Closely set shiny, skin coloured papules on proximal extremities

Fig. 3: Closely set shiny, skin coloured papules on proximal extremities

Fig. 4: Closely set shiny, skin coloured papules on back

CASE REPORT

Fig. 5: Closely set shiny, skin coloured papules on back

Fig. 6: Multiple granulomas

Fig. 7: Multinucleate Giant cells with histiocytes

Fig. 8: Degenerated collagen with evidence of increased mucin

Fig. 9: After treatment post inflammatory hyperpigmentation on abdomen

Fig. 10: After treatment post inflammatory hyperpigmentation on proximal limb

Fig. 10: After treatment post inflammatory hyperpigmentation on back

CASE REPORT

AUTHORS:

1. M.G. Gopal
2. Divya Gupta
3. Sharath Kumar B.C.
4. Ramesh M.
5. Nandini

PARTICULARS OF CONTRIBUTORS:

1. Professor and HOD, Department of Dermatology, KIMS, Bangalore.
2. Post Graduate/Junior Resident, Department of Dermatology, KIMS, Bangalore.
3. Professor, Department of Dermatology, KIMS, Bangalore.
4. Associate Professor, Department of Dermatology, KIMS, Bangalore.

5. Assistant Professor, Department of Dermatology, KIMS, Bangalore.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. M.G. Gopal,
3793, 13th Cross, 21st Main,
Banashankari, 2nd Stage,
Bangalore.
Email – gopalamg@yahoo.co.in

Date of Submission: 29/10/2013.

Date of Peer Review: 30/10/2013.

Date of Acceptance: 20/11/2013.

Date of Publishing: 26/11/2013.