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A RARE SKIN MANIFESTATION IN A PATIENT OF RHEUMATOID ARTHRITIS: A CASE REPORT.

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ABSTRACT

Rheumatoid arthritis is a multi system inflammatory disorder affecting the joints, soft tissues and skin. Cutaneous manifestations are usually common in severe and long-standing cases of Rheumatoid arthritis. Here we report a case of Rheumatoid neutrophilic dermatitis, which is a rare and specific finding of Rheumatoid arthritis. The skin biopsy revealed typical findings and patient responded well to dapsone.

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Keywords: Rheumatoid arthritis, neutrophilic dermatoses, Rheumatoid neutrophilic dermatitis.

INTRODUCTION

Rheumatoid arthritis (RA) is associated with a variety of cutaneous disorders. The non-specific findings are atrophic skin, nail discoloration, palmar erythema and Raynaud's phenomenon. Specific findings include rheumatoid nodules, vasculitis, Pyoderma gangrenosum, Sweets syndrome and Rheumatoid neutrophilic dermatitis.[1] Rheumatoid neutrophilic dermatitis (RND) is a rare cutaneous manifestation of Rheumatoid arthritis.

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CASE REPORT

A 67 year old Malay lady was referred from Rheumatology clinic to dermatology department with two weeks history of lumps on elbows, abdomen and lower limbs. She had a background history of Rheumatoid arthritis diagnosed in May 2012 and was being treated with Methotrexate 20 mg/ week, Adalimumab 40 mg /every two weeks and Hydroxychloroquine 200 mg once daily. Other past medical history included hypertension for which she was on Amlodipine 10 mg/day.

On examination there were multiple erythematous plaques and nodules on both elbows and few painful hemorrhagic bullae on palms, abdomen and lower limbs (Figure 1). A differential diagnosis of Sweets

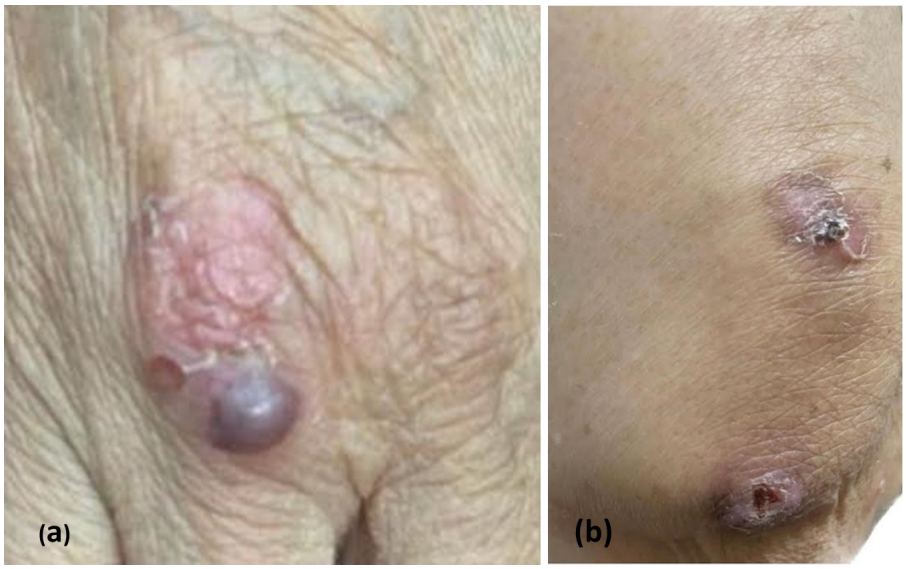

Figure 1: (a)Hemorrhagic bullae on dorsum of palms, and (b) Erythematous plaques and nodules on elbows.

syndrome and Erythema Multiforme was made and patient was started on topical steroids and antihistamines. There was only mild improvement at the time of review after two weeks. Blood tests including Full blood count, Renal function test, Liver function test, ESR, CRP and G6PD were within normal limits.

A diagnostic punch biopsy of the skin was offered to the patient but she refused. She was started on Prednisolone 20 mg OD tapering dose and reviewed after four weeks. As the patient continued to develop new lesions, she eventually agreed to proceed for skin biopsy. Histological findings like a neutrophilic infiltrate without vasculitis and prominent papillary dermal oedema were consistent with Rheumatoid neutrophilic dermatitis (Figure 2). Based on histopathological findings and clinical correlation, a diagnosis of Rheumatoid neutrophilic dermatitis was made. The patient was started on dapsone 50 mg OD and Prednisolone was slowly tapered and maintained on lowest possible dose (5 mg). On review after four weeks, the lesions had healed with post inflammatory hyperpigmentation and patient is on regular follow up.

DISCUSSION

Since Ackerman first described Rheumatoid neutrophilic dermatitis (RND) in 1978, only a few cases have been reported.[3] The disease usually affects women more often, with a 1:2 male to female ratio.[4] It is a specific skin manifestation of RA with a prevalence of 0.9-1.8 % among all RA patients.[5,6] The cutaneous findings are usually well circumscribed erythematous plaques and nodules with very few case reports of vesicles or bulla as in our patient. These lesions tend to occur over extensor surfaces of the extremities, trunk and buttocks and are usually symmetrical.[7,8] The lesions are usually asymptomatic but can be painful. The histological findings are characterized by dense dermal infiltrate consisting mainly of neutrophils without vasculitis.

RND may be confused with other neutrophilic dermatoses that are associated with RA like Sweets syndrome, Pyoderma gangrenosum and Erythema elevatum diutinum. Since oedema and erythema were not extensive and there was no history of febrile illness, Sweets syndrome was ruled out. Like RND, Erythema elevatum diutinum also presents with erythematous plaques and nodules over extensor aspect of extremities but histological findings like dense dermal neutrophilic infiltrate and leukocytoclastic vasculitis are absent in RND. Aetiology of RND is unknown but is believed to be immune complex medi-

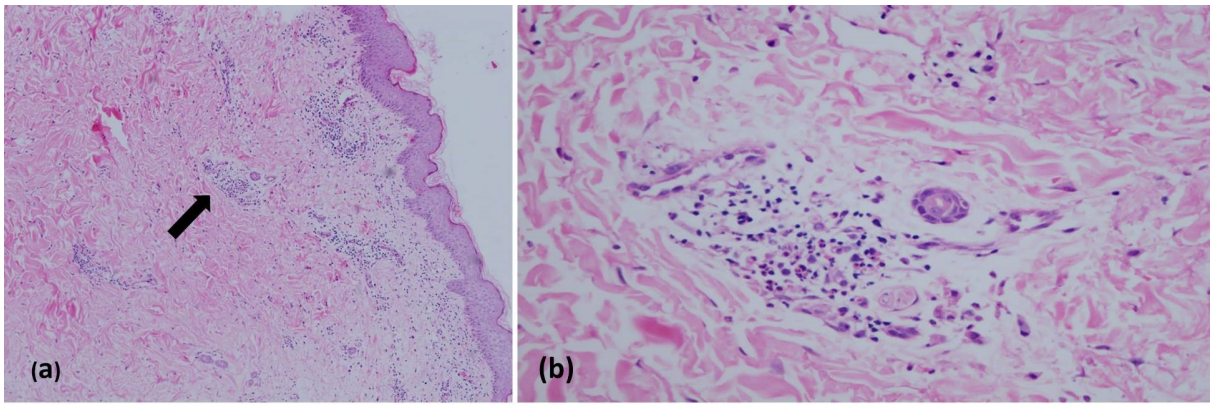

Figure 2: (a) Dermal perivascular inflammation, neutrophils, macrophages(H&E, X10), and (b) Upper dermal edema, interstitial and perivascular inflammation involving upper and mid dermis (H&E, X40—Magnified image of Figure 2a as indicated by black arrow).

ated.[1]

RND can be treated with Steroids, Dapsone and HCQS.[9,10] Usually the lesions resolve without scarring and leaving post inflammatory hyperpigmentation. Our patient partially responded to oral Prednisolone but was requiring a higher dose. However she responded well to dapsone, needing only a minimal dose of oral steroids.

CONCLUSION

RND is a rare manifestation of RA and should always be considered in a patient presenting with erythematous skin lesions, particularly localized over extensor surfaces of joints.

CONFLICT OF INTEREST

The author's declare no conflict of interest.

PATIENTS CONSENT FOR PUBLICATION

Consent was obtained from the patient for the publication of this case and images.

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REFERENCES

1: Tilstra JS, Lienesch DW. Rhematoid Nodules. Dermatol Clin 2015; 33:361-371.
2: Cugno M, Gualtierotti R, Meroni PL, Marzano AV. Inflammatory Joint Disorders and Neutrophilic Dermatoses: A Comprehensive Review. Clin Rev Allergy Immunol 2018; 54 :269-281.
3: Alavi A, Sajic D, Cerci FB, et al. Neutrophilic Dermatoses: An Update. Am J Clin Dermatol 2014 ;15 :413-423.
4: Fujio Y, Funakoshi T , Nakayama K, et al. Rheumatoid neutrophilic dermatosis with tense blister formation. A case report and review of the literature. Australas J Dermatol 2014: 55 :e 12-14.
5: Xue Y, Cohen JM, Wright NA, Merola JF. Skin Signs of Rheumatoid Arthritis and its Therapy induced Cutaneous side effects. Am J Clin Dermatol 2016; 17: 147-162.
6: Ziemer M, Muller AK, Hein G, et al. Incidence and Classification of Cutaneous manifestations in rheumatoid arthritis. J Dtsh Dermatol Ges 2016; 14 :1237-1246.
7: Hata T, Kavanaugh A. Rheumatoid arthritis in dermatology. Clin Dermatol 2006; 24 :430-437.
8: Filosa A, Filosa G. Neutrophilic dermatoses: a broad spectrum of disease. G Ital Dermatol Venereol 2018 ;153 :265-272.
9: Schadt CR, Callen JP. Management of neutrophilic dermatoses. Dermatol Ther.2012;25:158 -172.
10: Gerbing EK, Metze D, Luger TA, Stander S. Interstitial granulomatous dermatitis without arthritis: successful therapy with hydroxychloroquine. J Dtsh Dermatol Ges. 2003;1:137-141.