Erythema Annulare Centrifugum mimicking tinea corporis: A Case Report

Eritema Anulare Sentrifugum menyerupai Tinea korporis: Laporan Kasus

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Abstract
Background: Erythema annulare centrifugum (EAC) is a rare cutaneous disease characterized by erythematous and violaceous annular plaques that usually involved the thighs and the legs with unknown etiology. EAC has a clinical similar to tinea corporis but different in terms of therapy. **Case:** A 52-year-old woman was complain redness patches on her both legs and abdomen since 2 month. Redness patches appeared suddenly. Firstly, small patch like insect bite appeared in her abdomen, but rapidly spread into her extremities especially at lower legs accompanied with itchy. She never complains about pain and burning sensation on his rash. No complain about ear, nose and throat disturbances, She has complain about toothache since 3 month ago. Physical examination showed on extremities inferior dextra and sinistra, there were erythematous macules sharply marginated that is varying in size. Regio abdomen and extremitas superior there were hyperpigmentasi macule sharply marginated that is varying in size. A potassium hydroxide microscopic, examination showed a negative result for a fungal infection. A skin biopsy was performed and the histologic examination revealed epidermis with spongiosis and in dermis with infiltration hystiosit, eosinofil and lymphosit on capiler blood vessel. The clinical and histopathological features, with a supportive history of recurrent lesions, led to the diagnosis of EAC. We give patient with dexamethasone and cetirizine, the lesions regressed spontaneously 3 months after onset. **Discussion:** The main differential diagnosis in our patient include tinea corporis. Histopathology of the skin lesions was classical for EAC. EAC resolves either spontaneously or once the underlying disease has been successfully treated. Systemic glucocorticoids usually suppress EAC, but recurrence is common when these drugs are stopped.

Keyword: erythema annulare centrifugum, tinea corporis, itchy.

Abstrak
Latar Belakang: Erythema annulare centrifugum (EAC) adalah penyakit kulit langka yang ditandai oleh plak anular eritematosa dan keunguan yang biasanya muncul di paha dan kaki dengan etiologi yang tidak diketahui. EAC memiliki klinis yang mirip dengan tinea korporis tetapi berbeda dalam hal terapi. **Kasus**: Seorang wanita berusia 52 tahun mengeluhkan bercak kemerahan di kedua kaki, dan perut sejak 2 bulan. Bercak kemerahan muncul tiba-tiba, awalnya kecil seperti gigitan serangga di perutnya, tetapi dengan cepat menyebar ke ekstremitas terutama di kaki bagian bawah disertai dengan gatal. Pasien tidak pernah mengeluh tentang rasa sakit dan sensasi terbakar pada ruamnya. Tidak mengeluh tentang gangguan telinga, hidung, dan tenggorokan, Pasien mengeluh tentang sakit gigi sejak 3 bulan lalu. Pemeriksaan fisik ekstremitas inferior kanan dan kiri, terdapat makula eritematosa yang berbatas tegas dengan ukuran yang bervariasi. Regio abdomen dan ektremitas superior terdapat makula hiperpigmentasi berbatas tegas yang bervariasi dalam ukuran. Pemeriksaan KOH, menunjukan hasil negatif untuk infeksi jamur. Dilakukan biopsy kulit dan pemeriksaan histologis menunjukkan epidermis dengan spongiosis dan pada dermis dengan infiltrasi histiosit, eosinophil, dan limfosit di pembuluh darah kapiler. Gambaran klinis dan histopatologis, dengan riwayat lesi rekuren mendukung dan mengarah pada diagnosis EAC. Kami memberikan terapi dengan deksametason dan cetirizine, lesi membaik 3 bulan setelah onset. **Diskusi**: Diagnosis banding utama pada pasien kami meliputi tinea corporis. Histopatologi lesi kulit bersifat klasik untuk EAC. EAC sembuh baik secara spontan atau penyakit yang mendasarinya setelah berhasil diobati. Glukokortikoid sistemik biasanya menekan EAC, tetapi kekambuhan sering terjadi ketika obat ini dihentikan.

Kata kunci: erythema annulare centrifugum, tinea corporis, gatal.

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INTRODUCTION

Erythema annulare centrifugum (EAC) is a rare cutaneous disease characterized by an asymptomatic or pruritic eruption of variable duration that usually

involves the thighs and the legs. EAC and is usually observed in women. The average age of onset is 49 years; however, ages can range from 16 to 83 years. Erythema annulare centrifugum is classified as a reactive erythema, it is an annular erythematous lesion that appears as urticaria-like papules and enlarges centrifugally and clears centrally. Two distinct forms of EAC (superficial and deep) have been distinguished. In the superficial variant the lesions tend to be clinically nonindurated and manifest scaling along the ring-shaped or gyrate border. Histologically, superficial perivascular dermal lymphohistiocytic infiltrate with eosinophils is observed. Slight papillary edema, spongiosis, and parakeratosis can also be present. In the deep type, a similar perivascular infiltrate is seen, but in addition, the inflammatory. infiltrate involves in addition the reticular dermis.[1,2,3]

The most commonly involved areas for erythema annulare centrifugum are the trunk and proximal extremities, especially the buttocks, hips, and upper legs. The pathogenesis of EAC is unknown. A hypersensitivity reaction to many external or internal stimuli has been postulated. EAC has been associated with many entities: infectious diseases (bacterial, viral, fungal, mycobacterial, and parasitic), hormonal disturbances (menstrual cycle, hyperthyroidism), some food and drugs (salicylate, antimalarial, cimetidine, amitriptyline, gold sodium thiomalate, and etizolam), and even occult malignant solid or hematologic neoplasms have been incriminated as causative factors. However, in a large proportion of cases no causative agent can be detected (idiopathic EAC).[1,4]

The treatment of erythema annulare centrifugum is focused towards the relief of any associated symptoms and resolution of clinical lesions when no underlying disorder can be identified. Both the deep and superficial forms of erythema annulare centrifugum may be treated with corticosteroids; the former may require systemic administration whereas the latter can often be successfully managed with topical preparations. Systemic antihistamines may also be used when pruritus is present.[2]

We report a case of erythema annulare centrifugum mimicking tinea corporis. This case may often be misdiagnosed with tinea corporis because of similar clinical manifestations. This report discusses about the clinical presentation, diagnosis, and treatment response.

CASE

A 52-year-old woman came with chief complain redness patches on her both legs, and abdomen since 2 month before hospitalization. Redness patches appeared suddenly. Firstly, small like insect bite appeared in her abdomen, but rapidly spread into her extremities especially at lower legs accompanied with itchy. She never complains about pain and burning sensation on his rash. She got medicine from Public Health Care, methylprednisolone 4 mg 3 times daily, mebhidrolin 50 mg 3 times daily and natrium fusidat but the redness pathces still persist. Patient got therapy for 2 weeks and then patient not control, and stopped therapy by herself. No history of the same disease before. No complain about ear, nose and throat disturbances. She has complain about toothache since 3 month ago. A physical examination extremities inferior dextra and sinistra, there were erythematous macules sharply marginated that is varying in size. Regio abdomen and extremitas superior there were macule hyperpigmentasi sharply marginated that is varying in size (Figure 1). The eruption began as small erythematous papules that coalesced into annular plaques with central clearing and centrifugal spread. Our patient had reported that the lesions were intensely itchy. Some lesions presented a peripheral scaling border. No mucosal lesions were present and the rest of the physical examination disclosed no abnormalities. Her medical history was unremarkable and our patient did not use drugs. We performed a complete routine laboratory investigation including blood examination, urine examination; all values were within the normal range. A potassium hydroxide microscopic showed a negative result for a fungal infection (Figure 2). We give patient with dexamethasone 1 mg 3 times daily and cetirizine 10 mg 2 times daily, after 1 week, patient still complained about rash and itcy. We tryed to give ketoconazol salf on femoral sinistra, but after 2 days patient complained about increase of itcy, erythematous macule and burning sensation, so we stopped ketoconazole dan continous dexamethasone 1 mg 2 times daily. A skin biopsy was performed and the histologic examination revealed epidermis with spongiosis and in dermis with infiltration hystiosit, eosinofil and lymphosit on capiler blood vessel (Figure 3). The clinical and histopathological features, with a supportive history of recurrent lesions, led to the diagnosis of EAC. The lesions regressed spontaneously 3 months after onset.

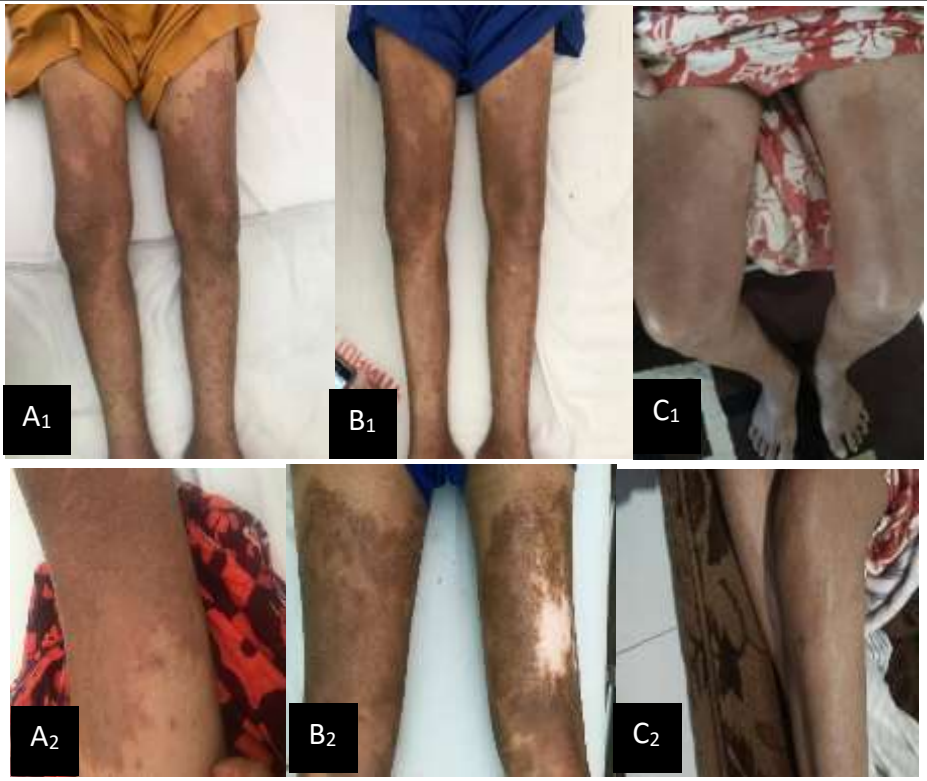

Figure 1. ($A_{1,2}$) erythematous macules sharply marginated that coalesced into annular plaques with central clearing and centrifugal spread before therapy ($B_{1,2}$) at week-2 after dexsamethasone therapy ($C_{1,2}$) at week-4 after dexamethasone therapy.

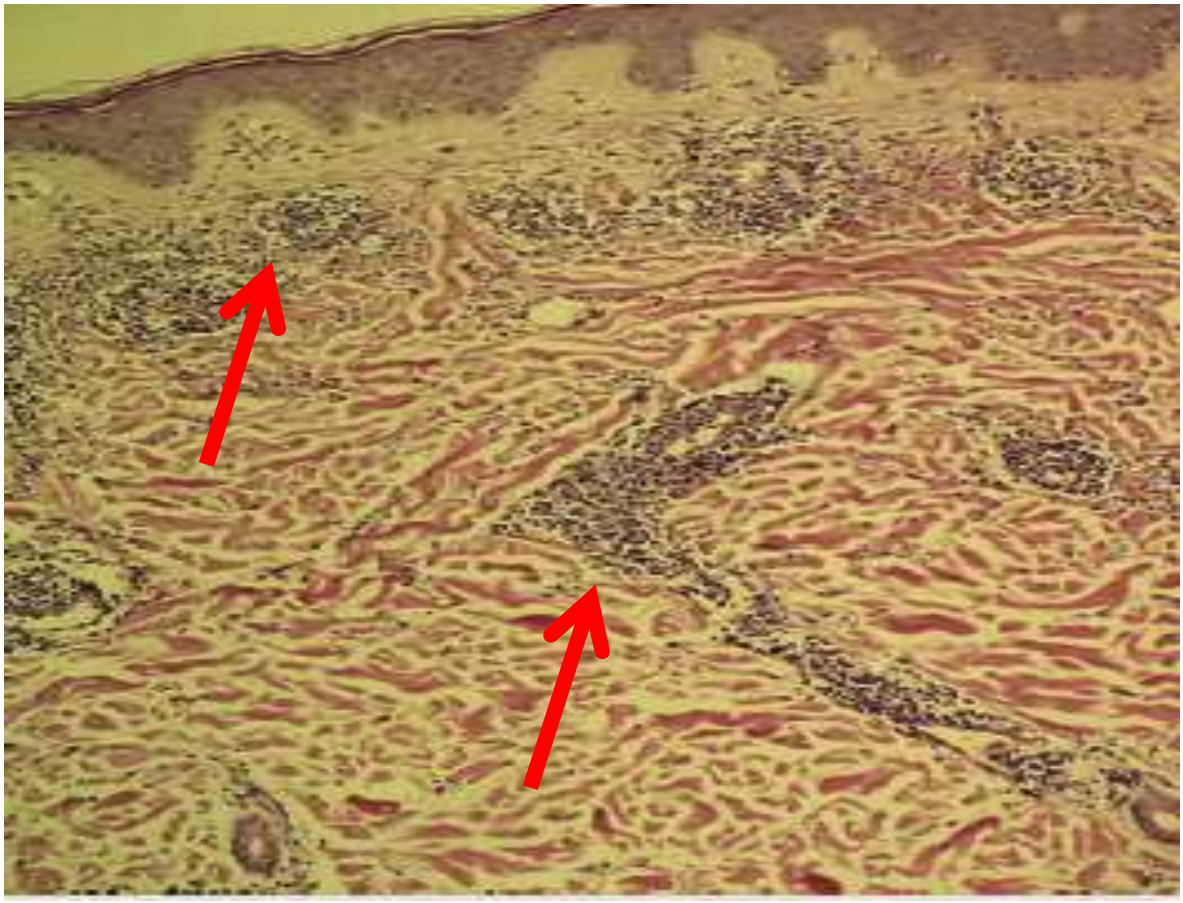

Figure 2. A potassium hydroxide microscopic slide showed a negative result for a fungal infection.

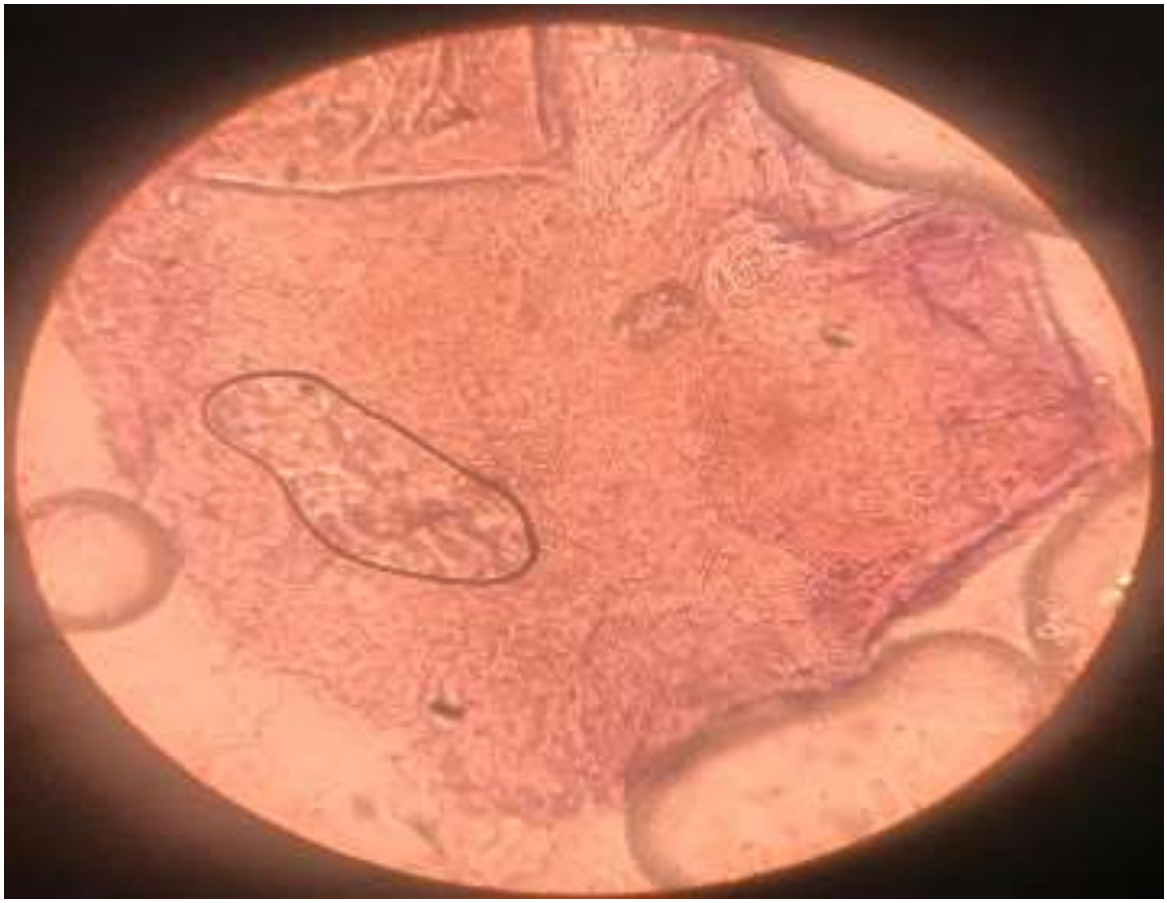

Figure 3. Epidermal with spongiotic and dermal with infiltration of hystiosit, eosinophil, and lymphosit on capiler blood vessel.

DISCUSSION

Erythema annulare centrifugum is uncommon inflammatory condition characterized by annular or arcuate erythematous eruptions that slowly enlarge centrifugally. The lesions tend to involve the upper and lower extremities and occasionally the trunk. The face, palms, and soles are constantly spared. No associated symptoms can be detected. The lesions appear invariably during the spring or summer months, tend to persist from 15 days to 5 months, and regress spontaneously in the summer or autumn. No effective treatment has been described. The phatogenesis of EAC remains unknown. Inspite of a systematic search for possible causes no clear precipitating factors could be identified. A possible environmental factors (temperature, seasonal plants, or fungus) that could explain the periodic and constant course of the disease could be postulated. The absence of facial or trunk involvement and the presence of annular plaques on nonexposed skin seem to rule out the role of sun exposure.[4,5,6]

In our case represents the superficial variant of EAC. This variant has the same clinical and histopathological features of the classical superficial form of EAC and is usually observed in women. The average age of onset is 49 years, however, ages can range from 16 to 83 years. The lesions tend to involve the legs and arms and sporadically the trunk, while the face, hands and foot are always spared. The lesions, which appear constantly during the spring or summer months, tend to regress spontaneously after a variable period of days to months with yearly recurrence for many years. Normally, no causative agent can be detected and for this reason EAC is usually considered an idiopathic disease. Moreover, associated symptoms are generally not present. Nevertheless, a full physical examination and diagnostic workup is very important in order to exclude an underlying disorder. In this case we suspect that a predisposing factor for EAC is an infection of the patient's teeth. Because after we also deal with the problem on the patient's teeth, and dexamethasone therapy is still given. Patients are more likely to respond than before treating the patient's dental problems.[5,7,8]

The main differential diagnosis in our patient include tinea corporis. Other differential diagnosis include Subacute Lupus Erythematosus. Even potassium hydroxide microscopic which a negative

result for a fungal infection we still tryed to give ketoconazole salf in half of femoral sinistra, but after 2 days patient complain about increased of itcy, erythematous macule and burning sensation. So we stoped ketoconazole dan continous dexamethasone 1 mg 2 times daily.

Histopathology of the skin lesions was classical for EAC. The migratory feature and the resolution of the skin lesions with dexamethasone therapy are not features of tinea corporis. EAC resolves either spontaneously or once the underlying disease has been successfully treated. Systemic glucocorticoids usually suppress EAC, but recurrence is common when these drugs are stopped. Systemic therapy with antipruritics may help, Topical vitamin D analogs, perhaps combined with ultraviolet irradiation, are another option. Empiric use of antibiotic, antifungal, or anticandidal agents has sometimes been useful. Biologics may represent yet another option.[7,8,9,10]

The prognosis for EAC is excellent, except when associated with an underlying malignancy and other systemic disease. It is important to highlight that EAC can appear many years before, concomitantly or after the onset of a malignancy. For all these reasons, a diagnosis of EAC should be followed by a full physical examination and diagnostic workup in order to exclude an underlying disorder. However, sometimes no causative agent can be identified and in these cases EAC is considered idiopathic.[1,2,11,12,13]

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