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CORRESPONDENCE

Recurrent pregnancy-associated erythema annulare centrifugum in a single gestation period

Erythema annulare centrifugum (EAC) is reportedly related to many factors such as immunological disorders, infections, malignancies, foods, and drugs. Pregnancy-associated EAC is extremely rare, with only six cases reported in the literature.[1–6] To date, there have been no reports of EAC that disappeared and recurred during a single gestation period.

A 34-year-old woman visited our department in the 36th week of her first pregnancy with asymptomatic multiple annular erythematous lesions on the legs. On the examination, the erythematous areas were slightly raised and had slight scales (Figure 1A, B). She reported that the eruption had first appeared in week 10 and spontaneously disappeared within 2 months, then reappeared in week 28 and gradually enlarged centrifugally and increased in number. This was confirmed in serial photographs she had taken. Skin biopsy revealed hyperkeratosis, parakeratosis, mild spongiosis in the epidermis, and a superficial perivascular lymphohistiocytic infiltrate (Figure 1C). She was in good health and had not taken any medication or vaccination during the pregnancy. She had a good pregnancy course except that the fetus was in the breech position. The laboratory test results were normal, including complete blood count, renal and hepatic functions indices, immunoglobulins, antinuclear antibodies, anti-SS-A and anti-SS-B antibodies, and rheumatoid factors. She had no evidence of Sjögren syndrome. She delivered a healthy baby by elective cesarean section in week 38. Although all the erythematous lesions had been increasing in number and enlarging until the delivery, they started to disappear within 2 days after the delivery and wholly resolved within 1 month without any treatment. No recurrence was observed during 4 years of follow-up.

In all six reported cases of pregnancy-associated EAC, including ours, eruptions appeared during the first pregnancy. The onset of the lesions occurred in week 12 in two cases and weeks 26–33 in four.[1–6] The lesions improved in weeks 33–36 in two cases, and at 3 days to 1 month postpartum in four. These findings suggest that the change in maternal hormone levels during pregnancy is a crucial etiological factor.[5] The major possible causative candidates include

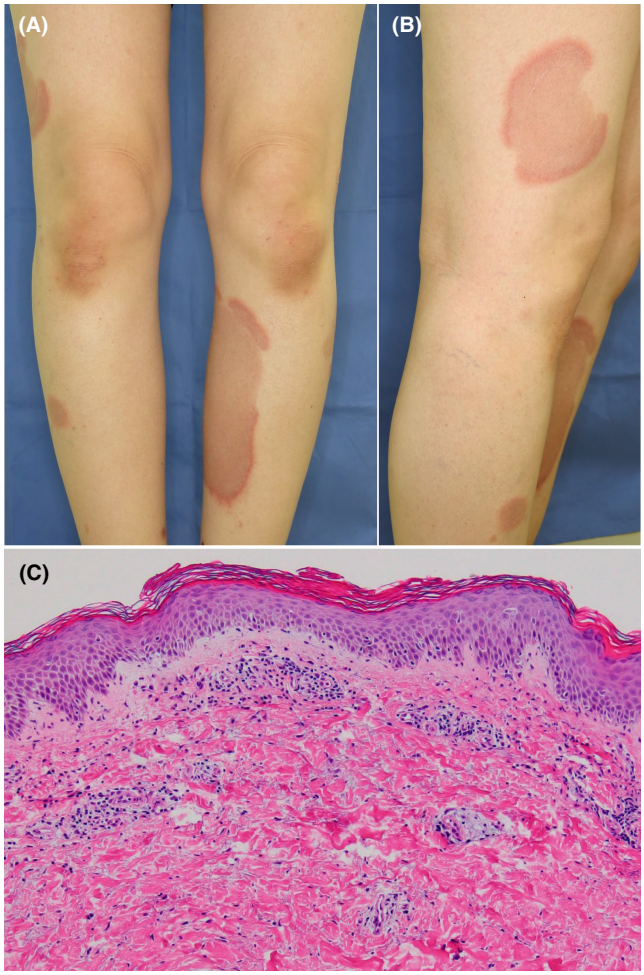

FIGURE 1 Clinical and histopathological features. (A, B) asymptomatic multiple annular erythematous lesions in the 36th week of the first pregnancy. (C) Histopathology of the erythematous lesion shows hyperkeratosis, parakeratosis, mild spongiosis in the epidermis, and a superficial perivascular lymphohistiocytic infiltrate in the dermis

estrogen, progesterone, and human chorionic gonadotropin (hCG).[6] The secretion of hCG differs from that of the other hormones and many other placental proteins. hCG is first detected in maternal serum within 9 days after conception. The hCG levels then rise in a logarithmic fashion, peaking at 8–10 weeks after the last menstrual period, followed by a decline to a nadir at 18 weeks, with subsequent levels remaining constant or slightly increasing in some individuals until delivery.[7,8] The concentrations of estrogen and progesterone gradually increase and are maintained at high concentrations until delivery.[8] The fact that the initial lesions appeared during early pregnancy, spontaneously disappeared, and then recurred in a single gestation period in our case may suggest that hCG is the most promising causative candidate in our case. However, it is likely that unknown cofactors will exist because EAC never develops in the second pregnancy. EAC during pregnancy resolves when the hormones return to prepregnancy concentrations.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

DECLARATION SECTION

Approval of research protocol: Not applicable.

Informed Consent: The patient provided informed consent to publish his photographs and case details.

Registry and the Registration No. of the study/trial: Not applicable.

Animal Studies: Not applicable.

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