

Erythema Annulare Centrifugum

Erythema annulare centrifugum (EAC) is the most prevalent of the gyrate erythemas, a group of dermatological conditions sharing similar clinical features. It is often used interchangeably with the term "gyrate erythema," as it represents the most common manifestation within this category. EAC is characterized by pink to red annular, arcuate, or polycyclic lesions that slowly expand with central clearing. These lesions may display a trailing scale along the inner edge of the advancing erythema, though vesicles are rarely observed. While the condition is typically asymptomatic, some individuals may experience mild itching. Lesions most commonly appear on the trunk, thighs, and buttocks. EAC affects individuals of all ages, races, and genders. Despite being visually disturbing, the condition is generally benign and resolves with minimal intervention.

Pathophysiology and Etiology

The exact cause of EAC remains unclear, but it is generally believed to result from a hypersensitivity reaction triggered by a broad range of potential inciting factors. This includes infectious agents (bacterial, viral, and parasitic), autoimmune diseases (such as lupus and sarcoidosis), and certain medications or foods (e.g., tomatoes). In many cases, however, no underlying etiology is identified. Although it is a self-limiting condition, EAC may be associated with both benign and malignant processes, but the latter is rare. The pathogenesis of EAC is still under investigation, but it is thought to involve an immunological reaction that leads to lymphocytic infiltration and inflammatory changes in the skin.

Clinical Presentation

The hallmark of EAC is the appearance of annular, arcuate, or polycyclic lesions that begin as small, erythematous patches and expand outward, often with central clearing. These lesions may be accompanied by mild pruritus but typically are asymptomatic. The characteristic trailing scale along the inner border of the advancing erythema is one of the diagnostic features. EAC lesions primarily occur on the trunk, thighs, and buttocks, though they can appear in other areas of the body. Over time, the lesions may resolve on their own but often reappear in the same or different areas, following a recurrent pattern that can persist for months, years, or even decades. The average duration of the condition is approximately 1 year.

Diagnosis

Diagnosis of erythema annulare centrifugum is primarily clinical, based on its distinct lesion morphology. A thorough medical history and physical examination are essential in identifying potential triggers or underlying conditions. Given that fungal infections, such as tinea corporis, may resemble EAC, a skin scraping is often performed to rule out dermatophyte infections. Further laboratory investigations, such as blood tests or a chest X-ray, may be warranted, especially if an

underlying condition like lupus or sarcoidosis is suspected. However, comprehensive investigations for occult malignancy are typically not recommended, as cancer is a very rare cause of EAC.

The differential diagnosis includes several other skin conditions with similar presentations, including pityriasis rosea, subacute cutaneous lupus, secondary syphilis, and erythema migrans. A careful clinical evaluation is needed to exclude these conditions and confirm the diagnosis of EAC.

Histopathology

When skin biopsy is performed, the histological features of EAC typically include mild spongiosis (edema within the epidermis) and parakeratosis (the retention of nuclei in the stratum corneum, indicating increased epidermal turnover). There is often lymphocytic infiltration in the superficial or deep dermis, with a characteristic "coat-sleeve" or "cuffing" pattern around the blood vessels. Importantly, the epidermis is not significantly involved in the pathogenesis of EAC. The depth of lymphocytic infiltration helps classify the condition as deep or superficial, but these features do not provide conclusive insight into the underlying cause or direct the course of treatment.

Treatment and Management

Management of erythema annulare centrifugum typically focuses on alleviating symptoms and addressing any underlying conditions that may be contributing to the development of the lesions. The majority of cases are self-limiting, with lesions resolving over time, but symptomatic treatment can help to manage the condition effectively.

- **Topical Corticosteroids:** Topical steroids are the primary treatment for managing current lesions. These medications are highly effective in reducing inflammation and controlling itching, but they do not alter the long-term course of the disease.
- **Management of Underlying Conditions:** If an underlying infectious, autoimmune, or drug-related cause is identified, treating the primary condition often leads to the resolution of the skin lesions. For example, if EAC is associated with systemic lupus erythematosus or sarcoidosis, treatment of the systemic disease often results in improvements in the skin lesions.
- **Patient Education and Reassurance:** Given that the condition is typically benign and resolves on its own, patient education and reassurance are crucial in managing patient anxiety about the appearance of the lesions. While recurrence can occur, especially in the absence of treatment for underlying triggers, the prognosis for EAC is generally positive.
- **Further Treatment Options:** In cases where topical steroids are not effective or the lesions are extensive, some clinicians may consider oral corticosteroids for short-term management. However, this is typically reserved for severe cases and is not considered a first-line treatment.

Prognosis

Erythema annulare centrifugum is generally a self-limiting condition with a relatively good prognosis. The lesions tend to resolve over a period of weeks to months, although recurrences are common. The duration of the disease can vary, with some individuals experiencing periodic flares over several years or even decades. If an underlying cause is identified, addressing that condition can help prevent recurrence of EAC lesions.

Conclusion

Erythema annulare centrifugum is a benign yet often visually disturbing skin condition that can occur in association with a wide range of underlying factors, including infections, autoimmune diseases, and medications. Diagnosis is primarily clinical, with histopathologic confirmation often providing additional insight. While topical corticosteroids are effective for symptom management, the condition generally resolves on its own, and the prognosis is favorable. Regular follow-up is essential for monitoring recurrences and evaluating for potential underlying causes.

References

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