ERYTHEMA ANNULARE CENTRIFUGUM

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Erythema annulare centrifugum (EAC) is the most common of the gyrate erythemas, a collection of diseases with similar clinical characteristics. In fact, it is also common for some to use the term to encompass many of the gyrate erythemas. It is classically described as pink to red annular, arcuate or polycyclic lesions that slowly expand with central clearing. A trailing scale may be found on the inner rim of the advancing erythema and vesicles are rarely seen. While visually disturbing, lesions of EAC are asymptomatic, or may be associated with itching. There does not seem to be a predilection for age, race or gender as this disease is found in all patients. Lesions occur primarily on the trunk, the thighs and the buttocks.

The underlying cause of EAC is not known, but it is thought that the underlying process is a hypersensitivity reaction to a large range of possible inciting factors. Conditions associated with EAC include the very benign like ingestion of drugs or foods such as tomatoes, internal diseases like lupus or **sarcoidosis**, infections (bacterial, viral and parasitic), and rarely cancer. However, in most cases an underlying cause is never found.

Diagnosis is made primarily by visual examination and a thorough history and physical exam. A skin scraping is often done to rule out fungal infection. Further investigations may include basic blood work with or without a chest x-ray, but testing is not always necessary. Special attention should be paid to the hands, feet and groin to ascertain if there is coexisting fungus infection as this is frequently found to be associated with EAC. An exhaustive workup for occult malignancy is not recommended or warranted because malignancy is the cause of EAC in only a very small number of patients. Differential diagnosis may include **tinea corporis**, **pityriasis rosea**, **subacute cutaneous lupus**, **secondary syphilis** and **erythema migrans**.

A **biopsy** would show mild spongiosis (edema) and parakeratosis (retention of the nucleus in the stratum corneum indicating increased cell turnover). Lymphocytes may be present in the deep or superficial dermis and are frequently found in a "coat-sleeve" or "cuffing" pattern around the blood vessels. The epidermis is not involved. The depth of the lymphocytes guide whether the condition is classified as deep or superficial, but this does not help with eliciting the underlying cause or guiding treatment.

Once present, lesions may take several weeks to months to resolve, but new lesions may develop in the same area. This pattern may repeat and continue for months, years or decades and eventually disappear spontaneously. The average duration is about 1 year. Treatment consists of reassurance and education. **Topical steroids** are very effective for treating current lesions, but do not change long-term course of the disease. If an underlying process is found to be related to erythema annulare centrifugum, treatment of that condition will also result in resolution of the skin lesions. Because the diagnosis of this uncommon disease may be difficult, a consultation with a dermatologist is recommended.

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