Erythema Nodosum

Erythema nodosum is described by painful inflammatory lesions of subcutaneous fat, and is a type of panniculitis. These lesions result in tender, red nodules seen on the anterior shins. This skin disorder is associated with a variety of conditions, such as Crohn's disease, sarcoidosis, TB, ulcerative colitis, histoplasmosis, coccidioidomycosis and pregnancy.



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Pathophysiology

Panniculitis
Pan-with-fat-on-fire
Erythema nodosum is the most common type of panniculitis. Panniculitis describes a group of diseases leading to inflammation and pain of subcutaneous fat in the skin.

Painful Inflammation
Pain-bolt In-flames
Patients first develop flu-like symptoms followed by tender, warm inflammatory lesions under the skin.

Subcutaneous Fat
Sub-q-tip with Fat
Erythema nodosum can occur anywhere that there is fat under the skin.

Anterior Shins
Anteater with Shins
This is most commonly seen in the anterior shins. It can also be present in the thighs, neck, face, arms and trunk.

Risk Factors

Coccidioidomycosis
Cock at Sea
Erythema nodosum is often the first sign of a systemic illness, and can present when a patient is infected with coccidioidomycosis. This is a soil-borne fungal infection that causes a self-limited upper airway infection, but can progress to Valley Fever, which is a constellation of symptoms, including fever, arthralgias, erythema nodosum or erythema multiforme, and chest pain.

Pregnancy or OCP Use
Pregnant-woman and OCP-case
Erythema nodosum is a delayed-type hypersensitivity reaction, and common triggers for disease include pregnancy or oral contraceptive use. The association of this disease with pregnancy is incompletely understood, but seems to be related to immune mechanisms in association with hormonal changes that occur during gestation. It is through this logic that oral contraceptives are also associated with disease development.

Crohn's Disease
Crown-of-intestines
Inflammatory bowel diseases, such as Crohn's disease, are associated with erythema nodosum development.

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Tuberculosis (TB)

TB-TV

Most cases of erythema nodosum are idiopathic in nature, but they are highly correlated with infectious diseases, such as primary Tuberculosis infection.

Histoplasmosis

History channel on plasma

Histoplasmosis is a fungal infection caused by Histoplasma capsulatum, and typically leads to pulmonary infections. Erythema nodosum often presents in those infected with Histoplasmosis, and this occurs as an immune reaction, leading to skin manifestations.

Sarcoidosis

Shark-koi-fish

Erythema nodosum is associated with various conditions, including autoimmune disorders like sarcoidosis.

Ulcerative Colitis

Ulcer-volcano with Colon

Erythema nodosum is the most common skin manifestation associated with ulcerative colitis. Remember that this autoimmune inflammatory bowel disorder is also associated with pyoderma gangrenosum.

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