Ecthyma

Ecthyma is a cutaneous infection by *Streptococcus pyogenes* or *Staphylococcus aureus* with dermal extension. As it extends into the dermis, it is often referred to as a deeper form of impetigo.

**Epidemiology**

- There are no figures for incidence but it is more frequent in children and the elderly.
- There is no apparent predilection for race or sex.

**Risk factors**

- Tissue damage from excoriations, insect bites or dermatitis and a compromised immune system as in diabetes or neutropenia, predisposes to the development of ecthyma. Other causes of immune compromise may include malignancy and HIV.
- Poor hygiene aids spread as do overcrowded living conditions.
- It is more common in hot and humid climates.
- Untreated impetigo with poor hygiene may progress to ecthyma.
- Malnutrition is also a risk factor.

**Presentation**

- Ecthyma starts like impetigo, sometimes in a pre-existing wound.
- Ecthyma usually begins as vesiculopustules with a grey-yellow crust that evolves into shallow punched-out ulcers with a necrotic base and haemorrhagic crust.[1]
- Lesions can be multiple and are commonly seen on the lower extremities.

**Symptoms**

- Ecthyma usually arises on the lower legs or feet of children, those with diabetes, or neglected elderly people.
- Lesions are typically painful with associated lymphadenopathy.
- In tropical climates, ulcers are commonly found on the ankles and dorsum of the feet.

**Signs**

- The most commonly affected sites are buttocks, thighs, legs, ankles and feet.
- It starts as a vesicle or pustule over inflamed skin and then deepens to ulcerate with an overlying crust.
- The crust is grey-yellow and is thicker and harder than the crust of impetigo.
- A shallow, punched-out ulcer is seen if the crust is removed.
- The deep dermal ulcer has a raised and indurated margin.
- Ecthyma lesions may remain of constant size and resolve without treatment or they can enlarge to 3 cm in diameter.
- Ecthyma heals slowly, usually with a scar.
- Regional lymphadenopathy is common, even with solitary lesions.

**Differential diagnosis**

- Ecthyma gangrenosum (a similar condition caused by *Pseudomonas* spp.).[2] It tends to be more severe and, if diagnosis is delayed, there is a significant mortality.
- Streptococcal ecthyma can mimic potentially serious zoonotic infections.[1]
- Ecthyma contagiosum is an alternative name for orf, which can look similar.[3] The diagnosis of orf is usually based on the patient's history of relevant exposure.
Also consider:
- Insect bites
- Leishmaniasis
- Lymphomatoid papulosis
- Pyoderma gangrenosum
- Sporotrichosis
- Venous or arterial ulcers

**Investigations**
- Swab for bacteriology.
- Fasting glucose or HbA1c to exclude diabetes.
- FBC for neutropenia.

**Associated diseases**
Ecthyma is more likely to occur in association with diabetes or other conditions of immune compromise.

**Management**[^4]

**Non-drug**
- Treatment depends on the progression of the disease.
- Hygiene is important. Use bactericidal soap and frequently change bed linens, towels and clothing.
- Remove crusts and apply an antibiotic ointment daily.
- Povidone-iodine and hydrogen peroxide may be used as antiseptics.

**Drugs**
- Topical mupirocin ointment is very effective. Fusidic acid and retapamulin are alternatives. Topical antibiotics are usually satisfactory if the infection is localised.
- More extensive lesions require oral antibiotics, possibly for several weeks to obtain full resolution.
- Penicillin should be adequate to treat streptococci.
- If *S. aureus* is also present, an antibiotic resistant to penicillinase may be advised.
- Consider parenteral antibiotics if there is widespread involvement.

**Surgical**
Gently debride the crusts if they are extensive.

**Complications**[^5]
- Ecthyma rarely produces systemic symptoms.
- Invasive complications of streptococcal skin infections can include cellulitis and erysipelas, gangrene, lymphangitis, suppurrative lymphadenitis and bacteraemia.
- Non-suppurative complications of streptococcal skin infections include scarlet fever and acute glomerulonephritis. Antibiotics do not appear to reduce the rate of post-streptococcal glomerulonephritis.
- Possible sequelae of secondary untreated *S. aureus* pyodermas include cellulitis, lymphangitis, bacteraemia, osteomyelitis and acute infective endocarditis. Some *S. aureus* strains produce exotoxins that can lead to staphylococcal scalded skin syndrome and toxic shock syndrome.[^6]

**Prognosis**
Healing is slow with scar formation but response to appropriate antibiotics occurs over several weeks.

**Prevention**
In tropical climates, pay attention to hygiene and use insect repellents to reduce bites.
Further reading & references

- Ecthyma; DermNet NZ


4. Ecthyma (including ecthyma gangrenosum); Primary Care Dermatology Society (PCDS), July 2015

5. Ecthyma; Lippincott's Guide to Infectious Diseases


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