BACTERIAL INFECTIONS OF THE SKIN

BY

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Common staphylococcal infections

Impetigo

Ecthyma

Folliculitis

Furunculosis

Carbuncle

Common streptococcal infections

Impetigo

Ecthyma

Erysipelas

Cellulitis

Impetigo and Ecthyma are caused by both staphylococci and streptococci

Staph aureus causes: bullous impetigo, folliculitis, furunculosis and carbuncle

Streptococci are the main causative organism of cellulitis and erysipelas

Impetigo

Common highly contagious superficial pyogenic infection

Mainly: infants and young children, mostly during summer

More prevalent in developing countries

Predisposing factors:

Atopic eczema Scabies Seborrheic dermatitis of the scalp

Chickenpox Insect bite Skin trauma

Types:

Non bullous: staph and strept

Bullous: staph

Ulcerated (Ecthyma): staph and strept

Impetigo

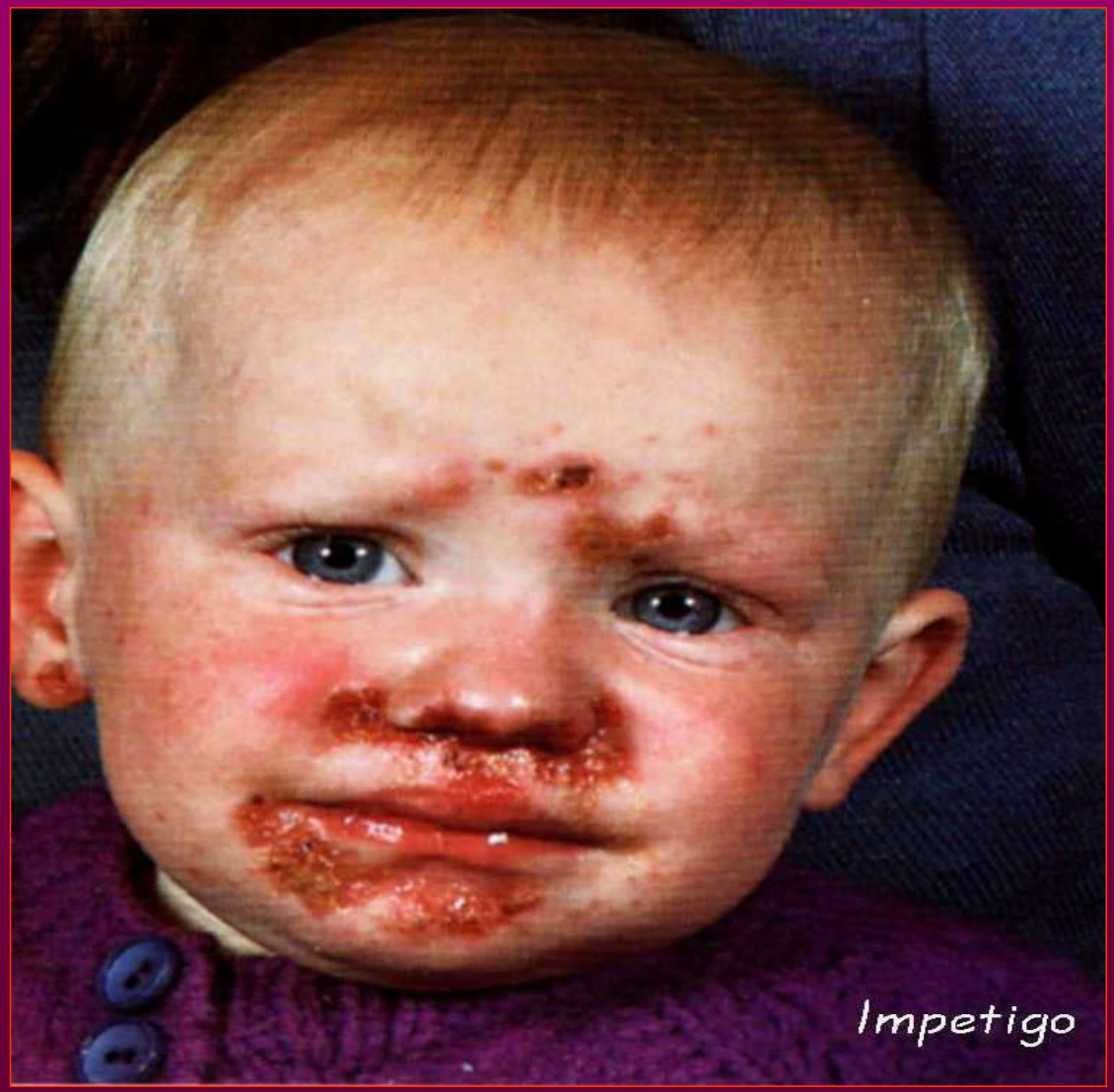
Clinical picture

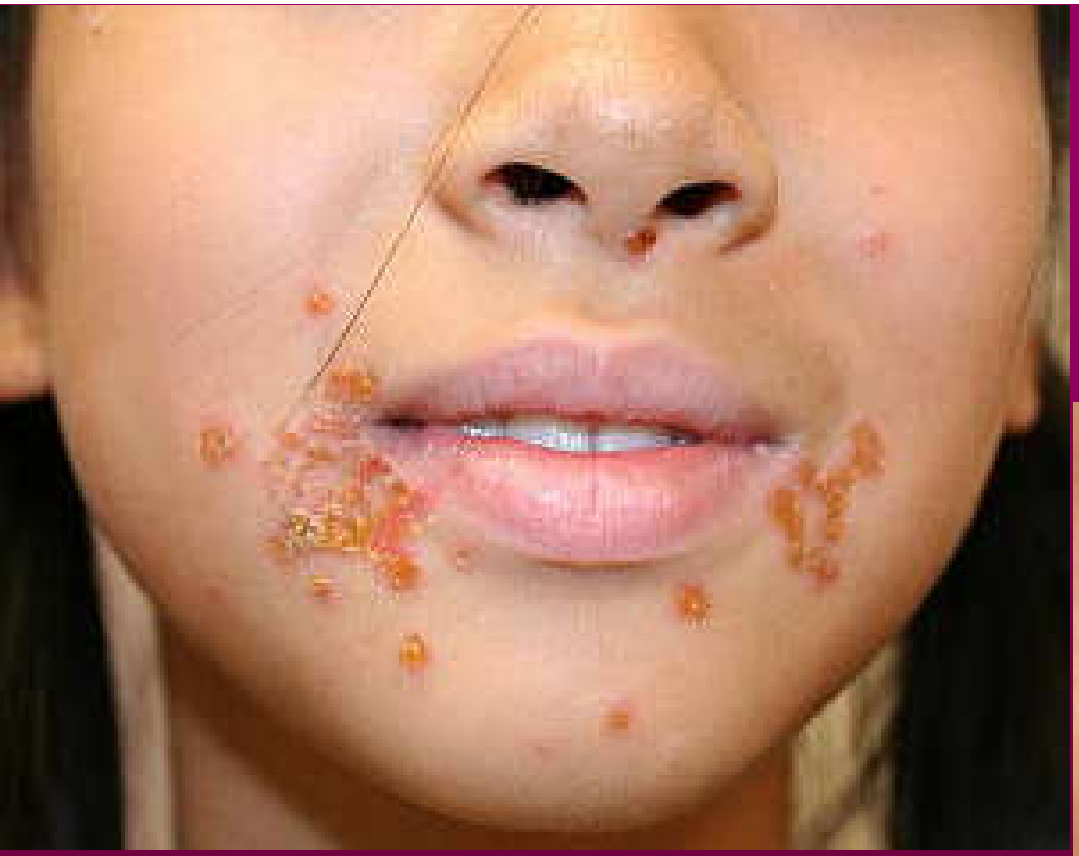
1- In non-bullous impetigo, staph and strept invade a site of minor trauma where exposed proteins allow the bacteria to adhere.

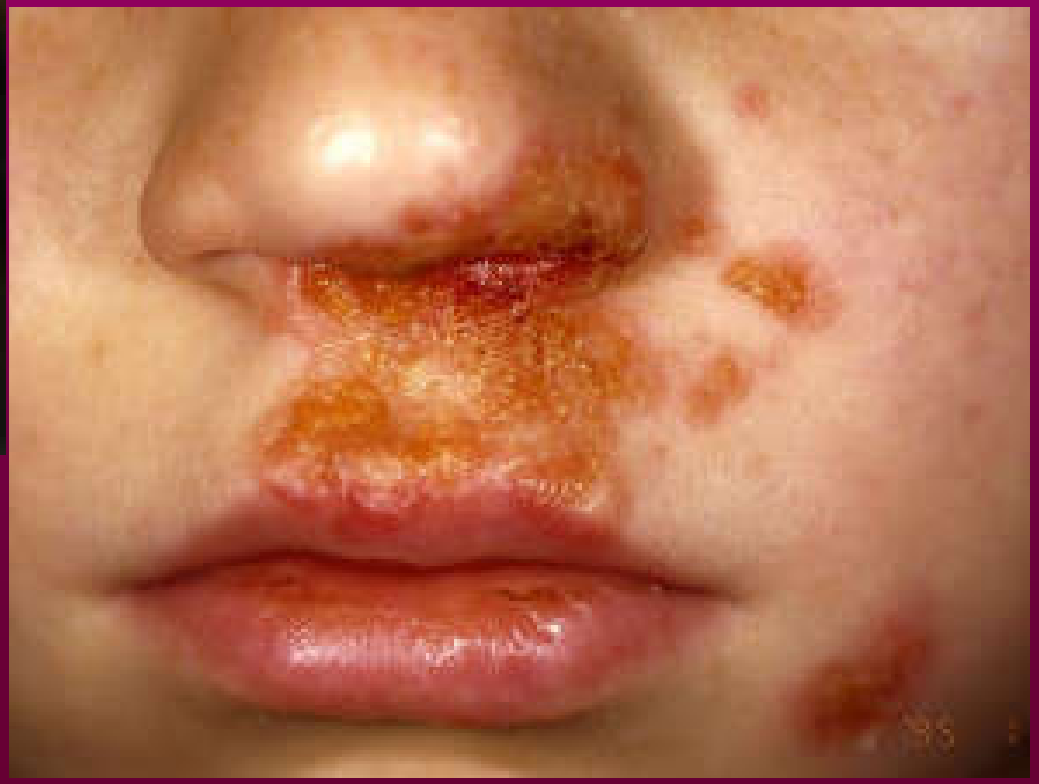
Starts with a pink macule → a thin walled vesicle or pustule on an erythematous base → ruptures very rapidly and the exuding serum dries → yellowish brown crusts **(school sores)** → dry and separate to leave erythema → fades without scarring

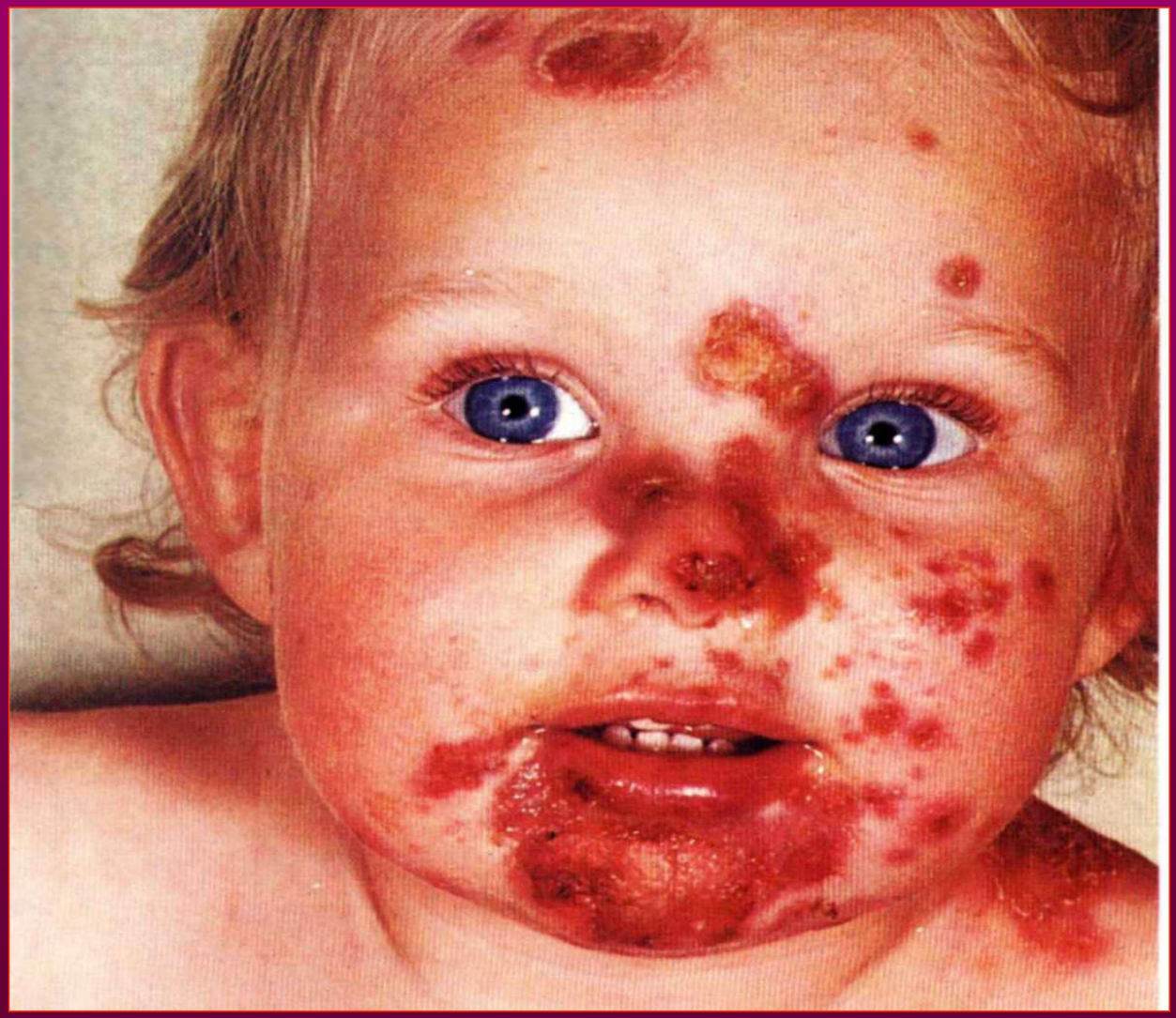
Spread of the lesions to other parts of the body occurs by fingers or towels.

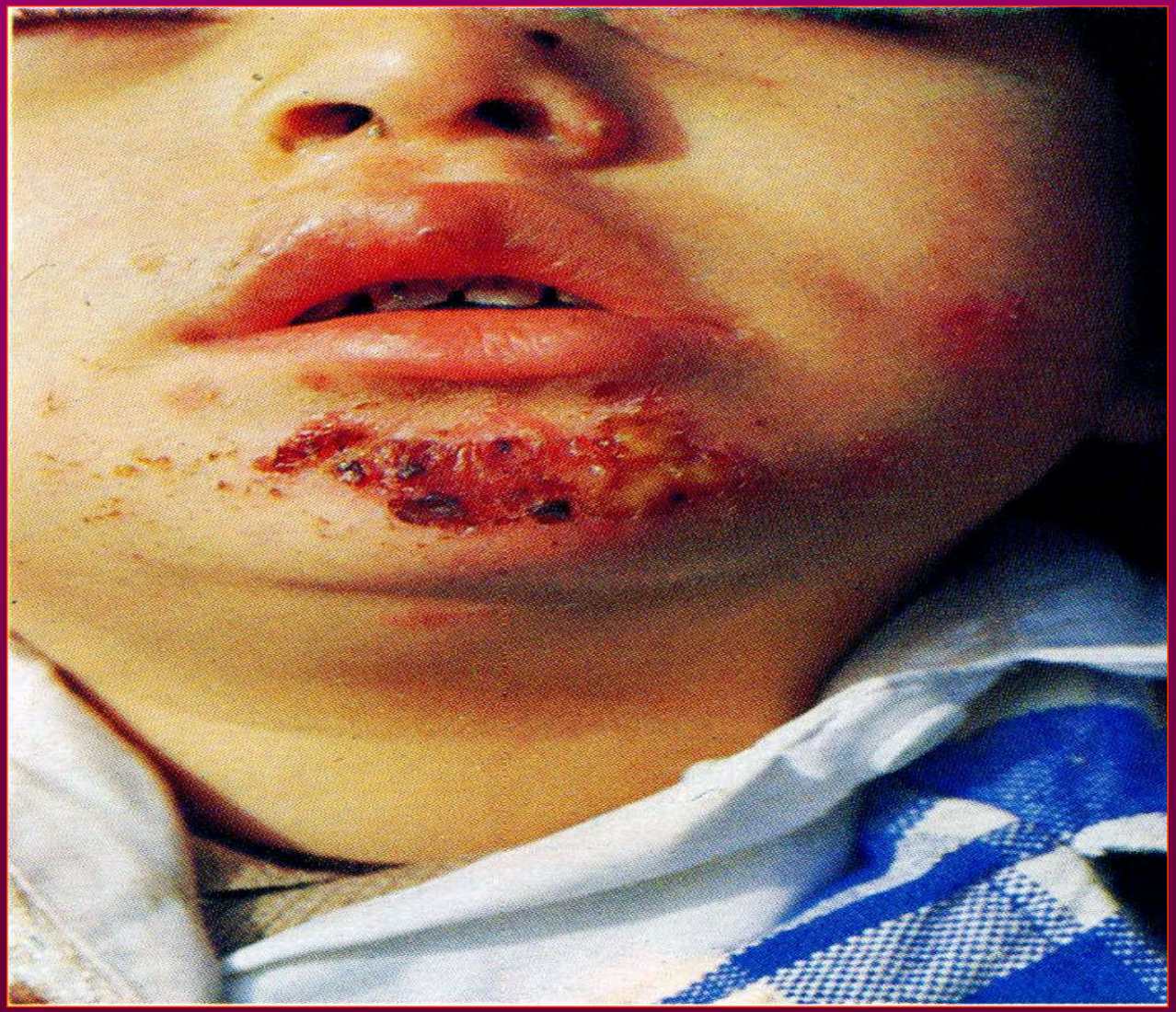
In severe cases, there may be regional adenitis, fever and other constitutional symptoms.

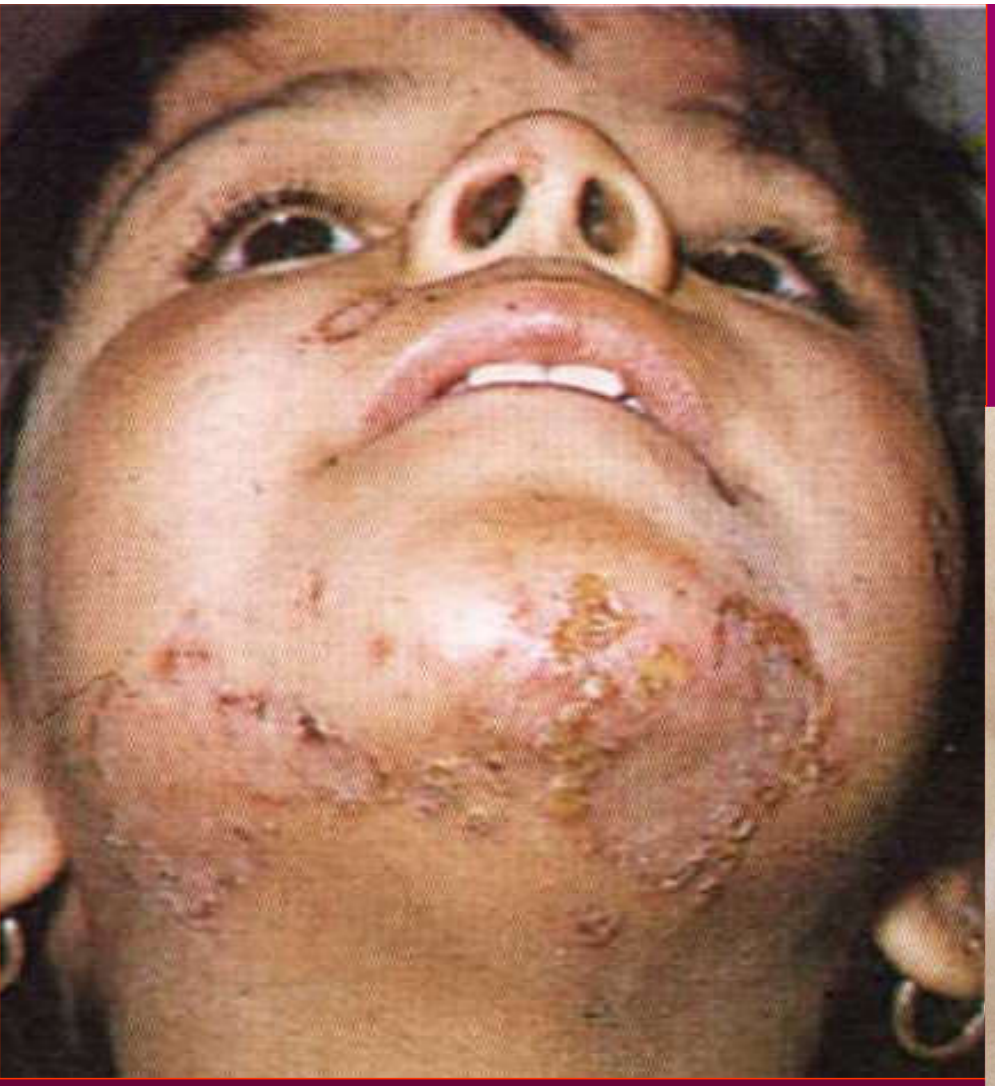

Impetigo

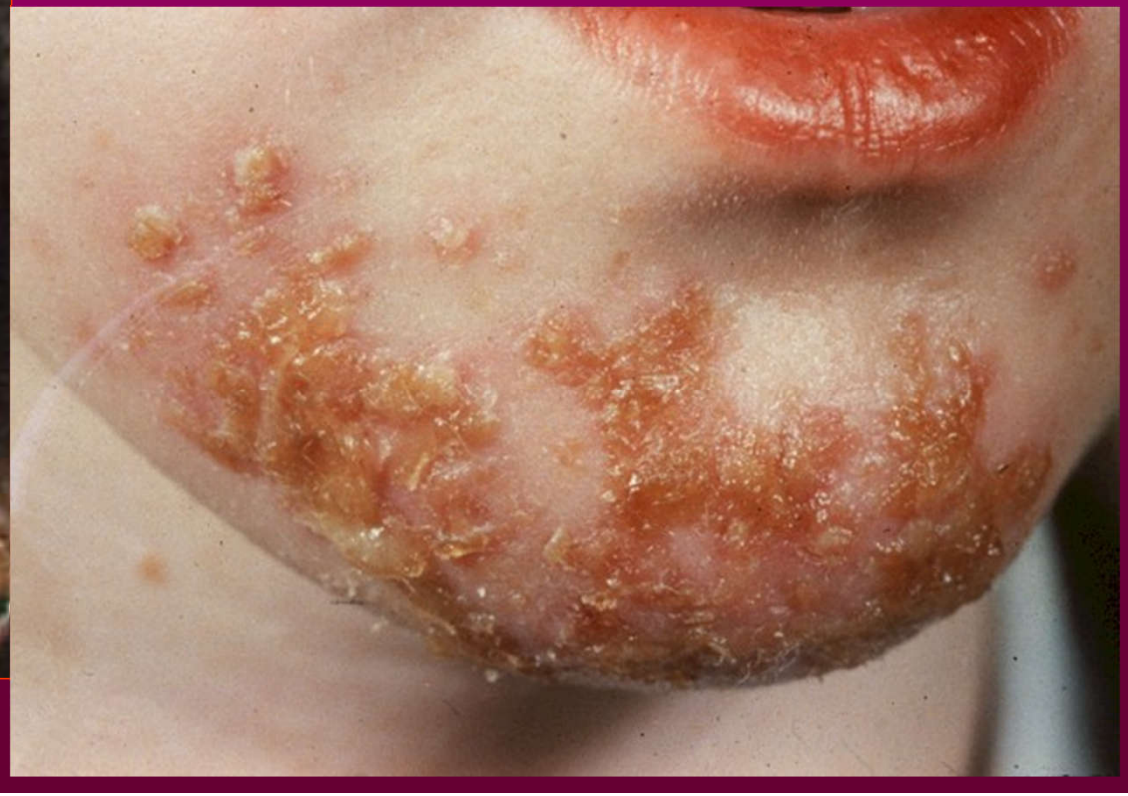




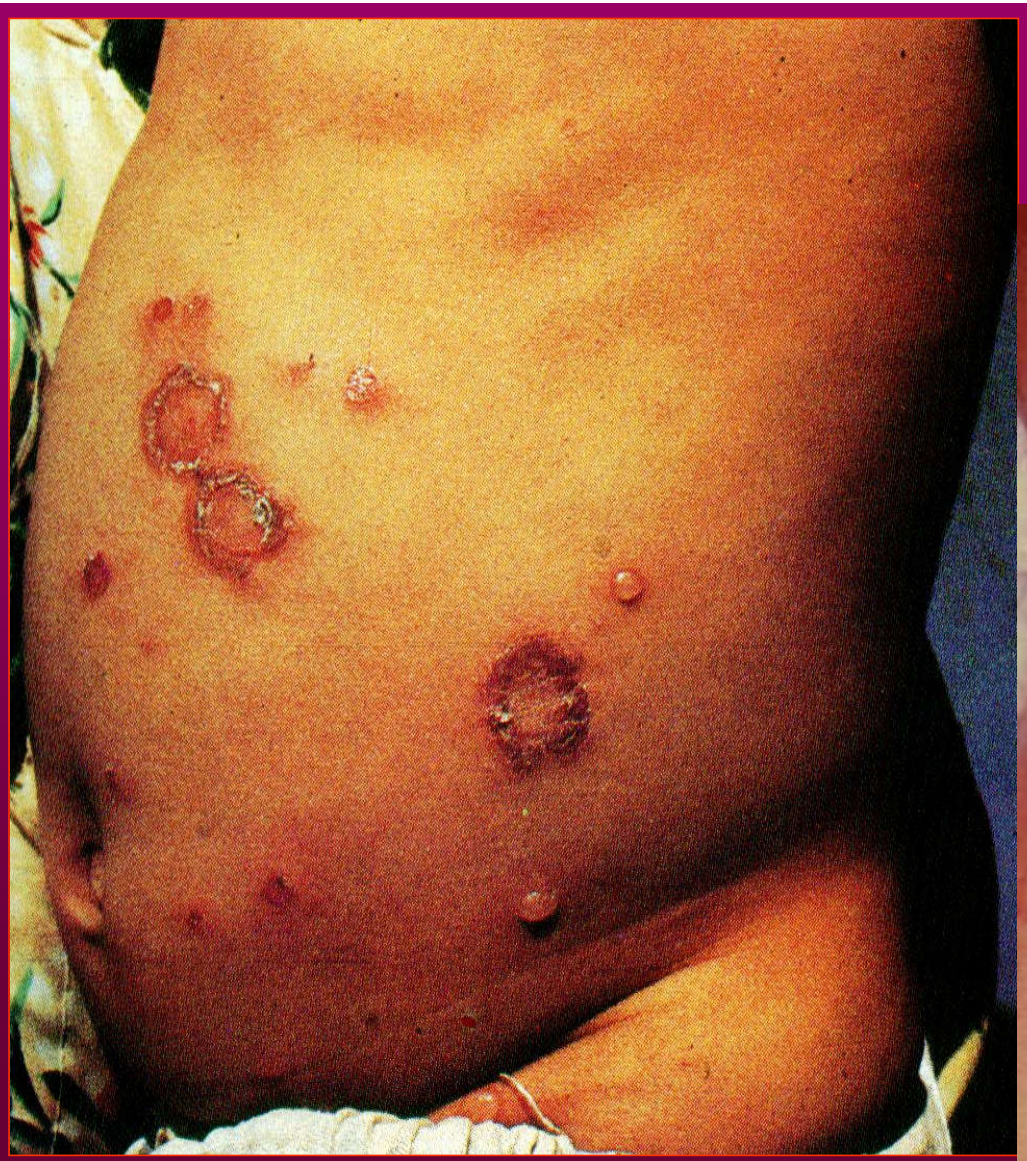


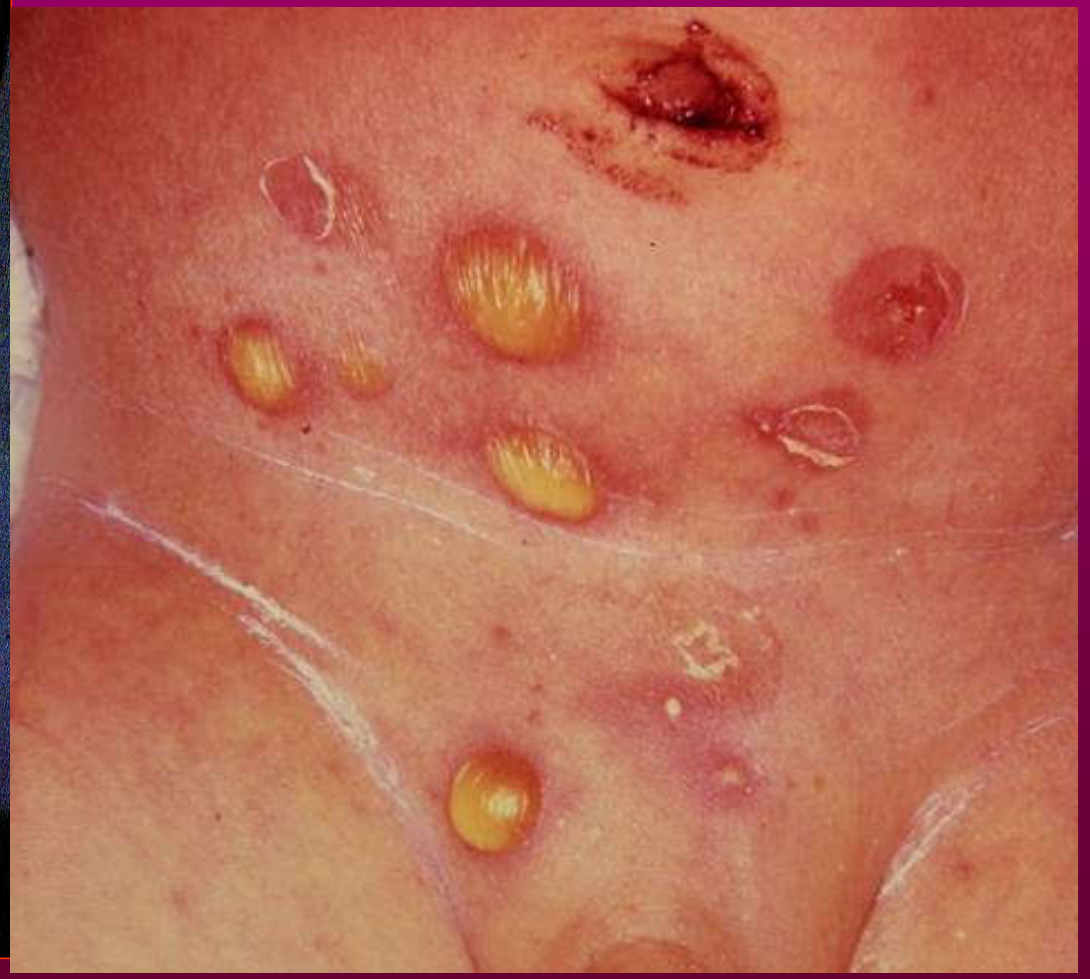






- **Imptigo** occurs most frequently on the exposed parts of the body: the face, hands, neck and extremities
- **Imptigo of the scalp** is a frequent complication of pediculosis capitis and seborrheic dermatitis
- **Imptigo on top of scabies** is common in infants and young children, less in adults
- **In bullous Impetigo**, the bullae are few in number, less rapidly ruptured, much larger and may occur anywhere on the body
- **Acute glomerulonephritis** may occur as a complication of group A beta-hemolytic streptococcal skin infection





Treatment of impetigo

* Control of predisposing factors such as (insect bits, pediculosis, scabies)
* Topical antibiotics such as (Fusidic acid, bacitracin, mupiricin)
* Systemic antibiotics such as (Flucloxacillin, erythromycin, azithromycin)

Ecthyma (ulcerated impetigo)

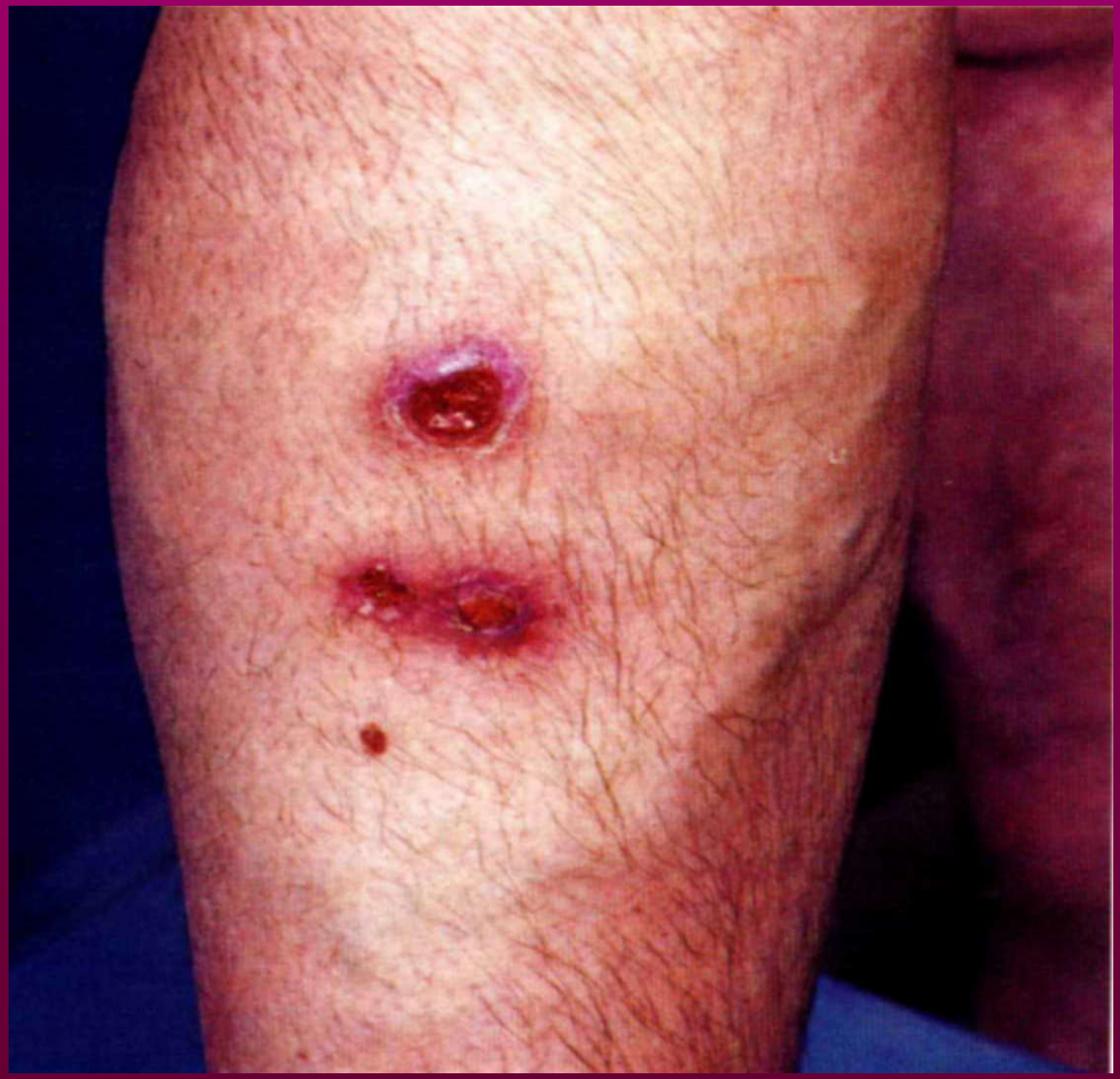
It is a pyogenic infection of the skin caused by staphylococci & streptococci

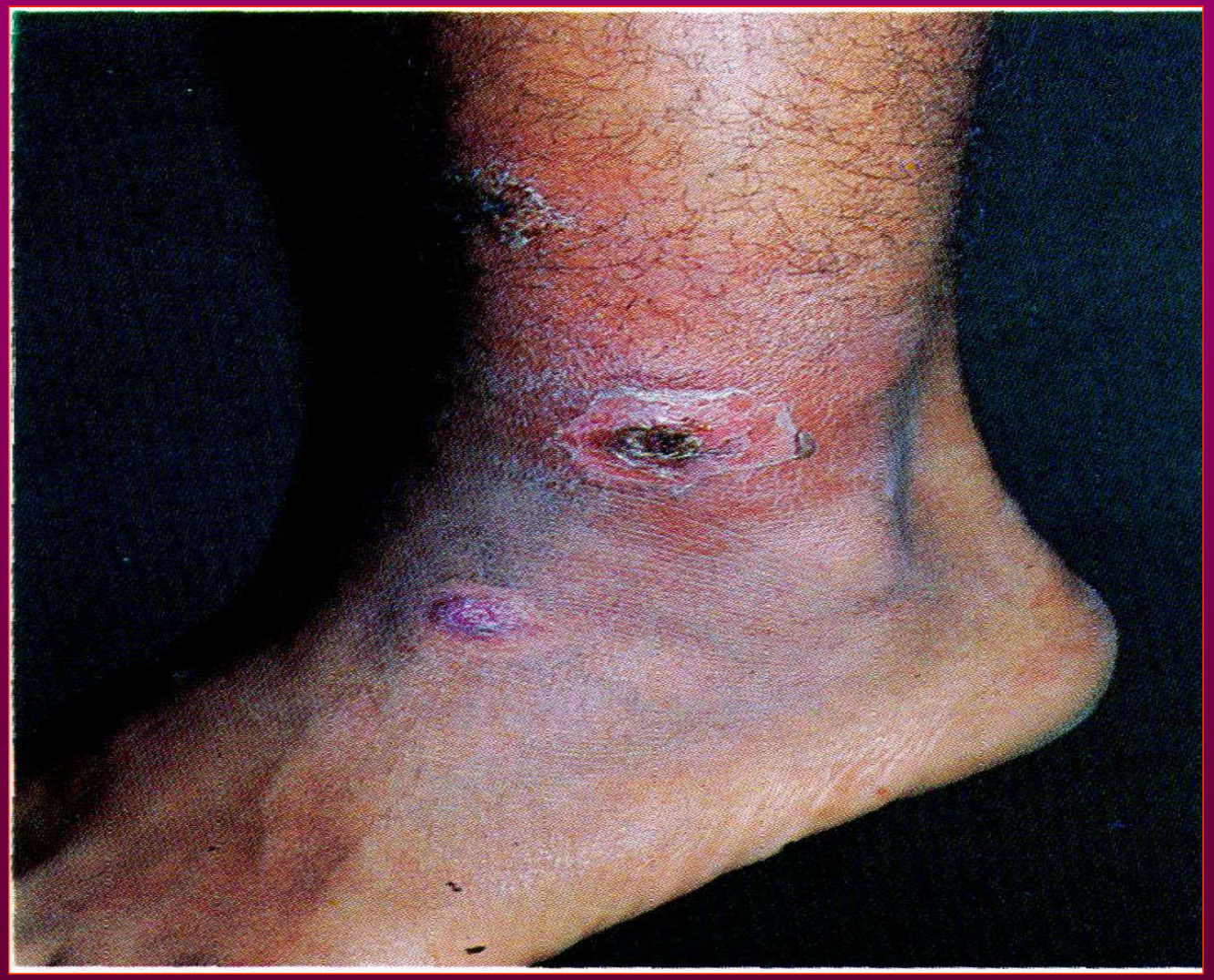
Clinical picture

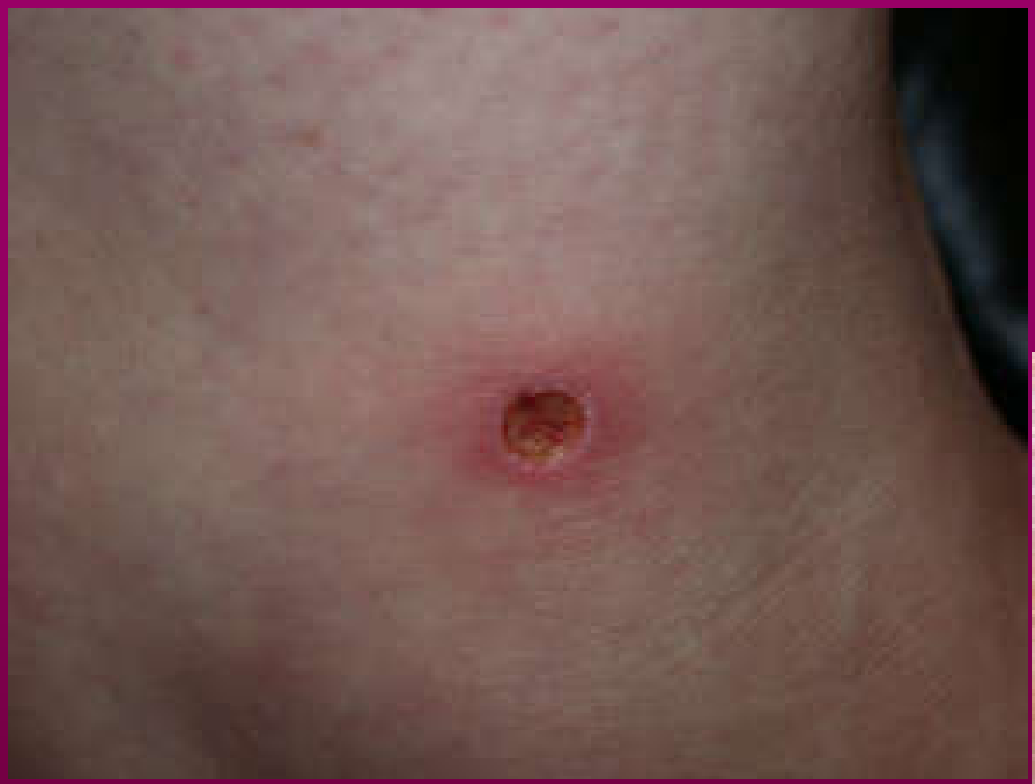
- Adherent crusts beneath which ulceration occurs
- It is usually a few in number
- The buttocks, thighs & legs are the common sites
- Healing occurs after a few weeks with scarring

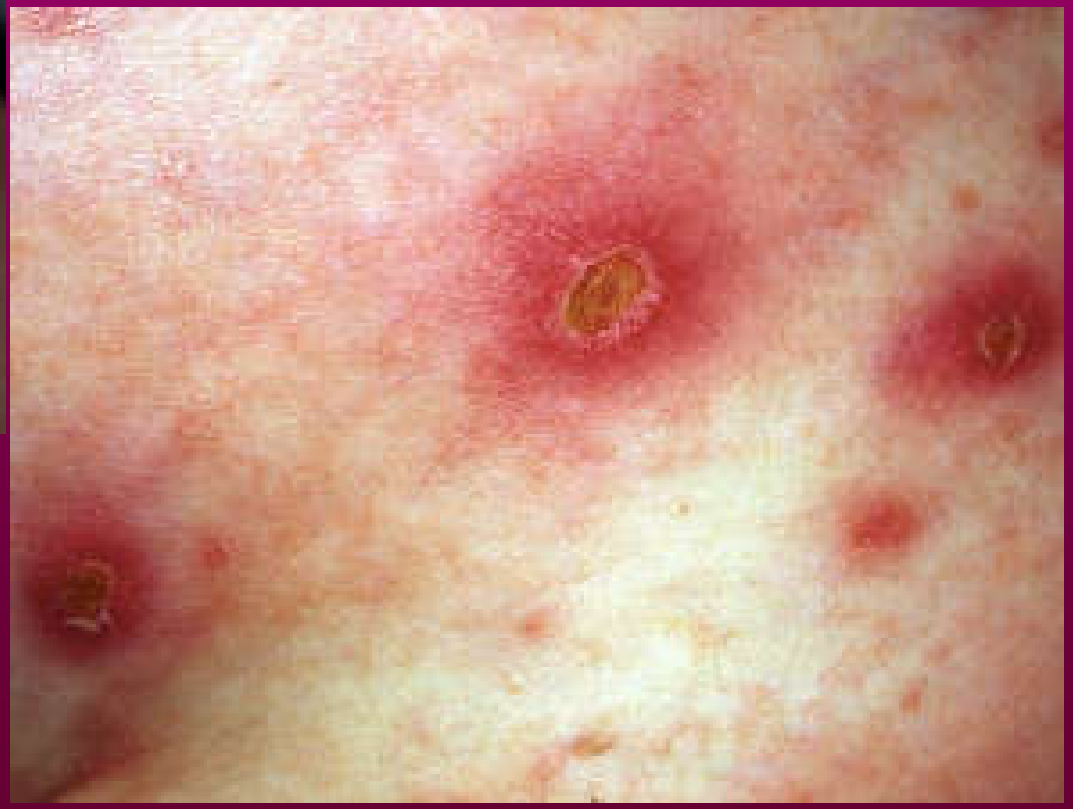
Treatment

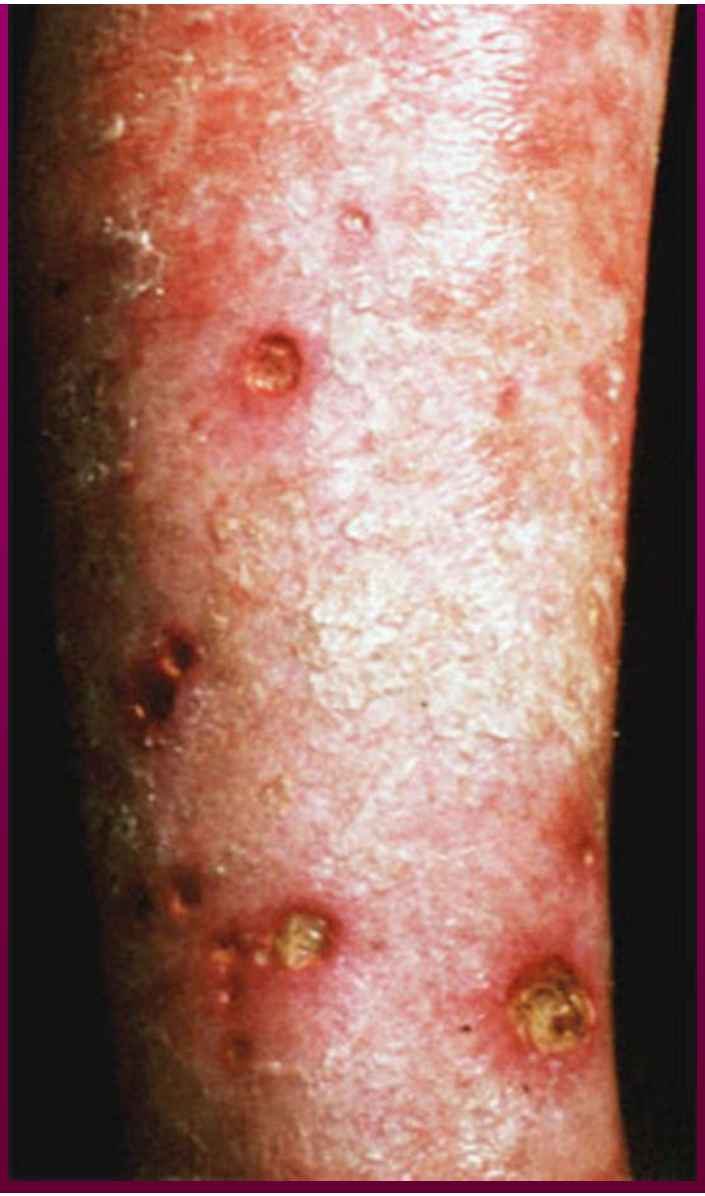
Topical and systemic treatment as impetigo

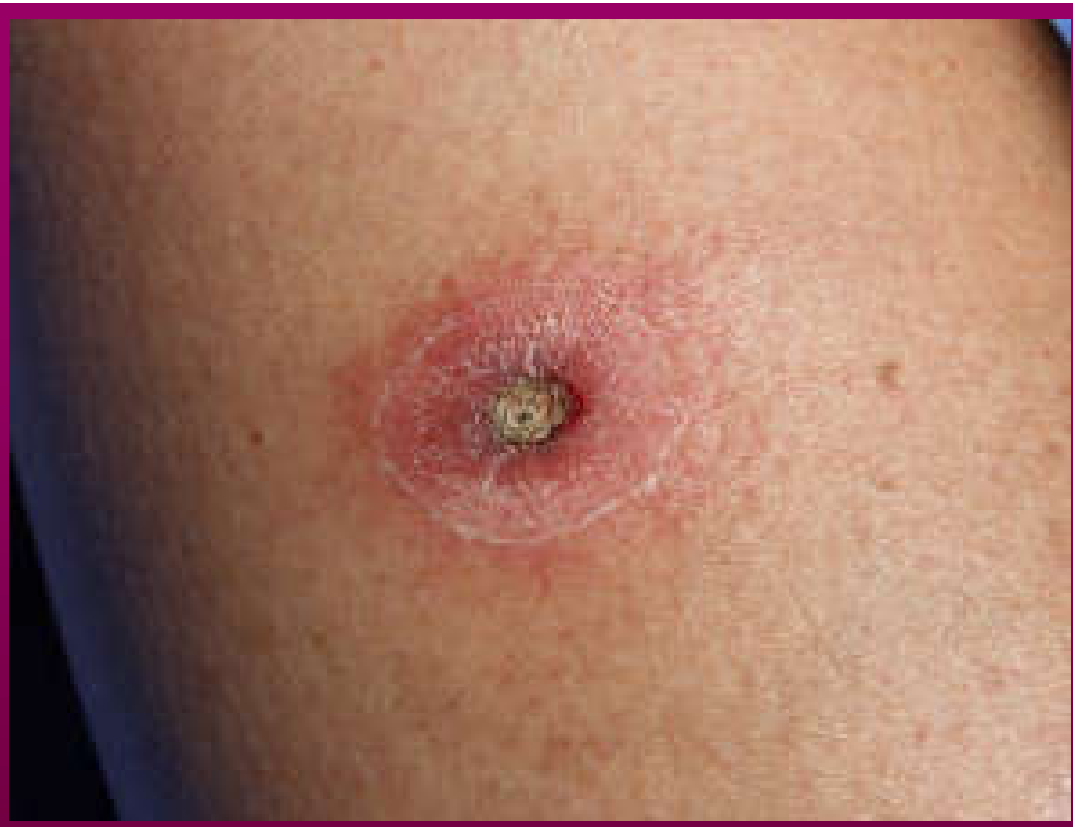












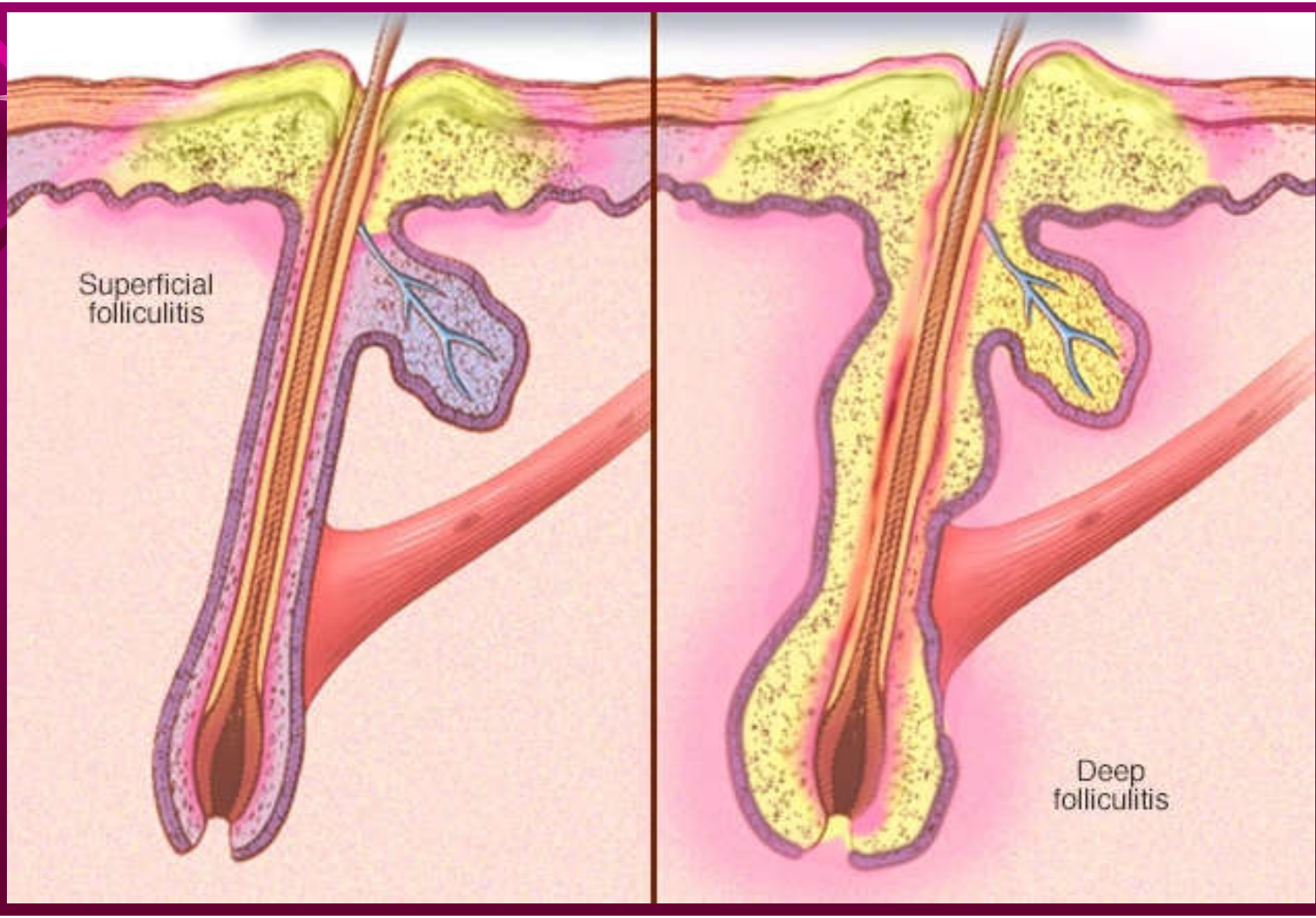
Folliculitis

Inflammation and infection in the hair follicles

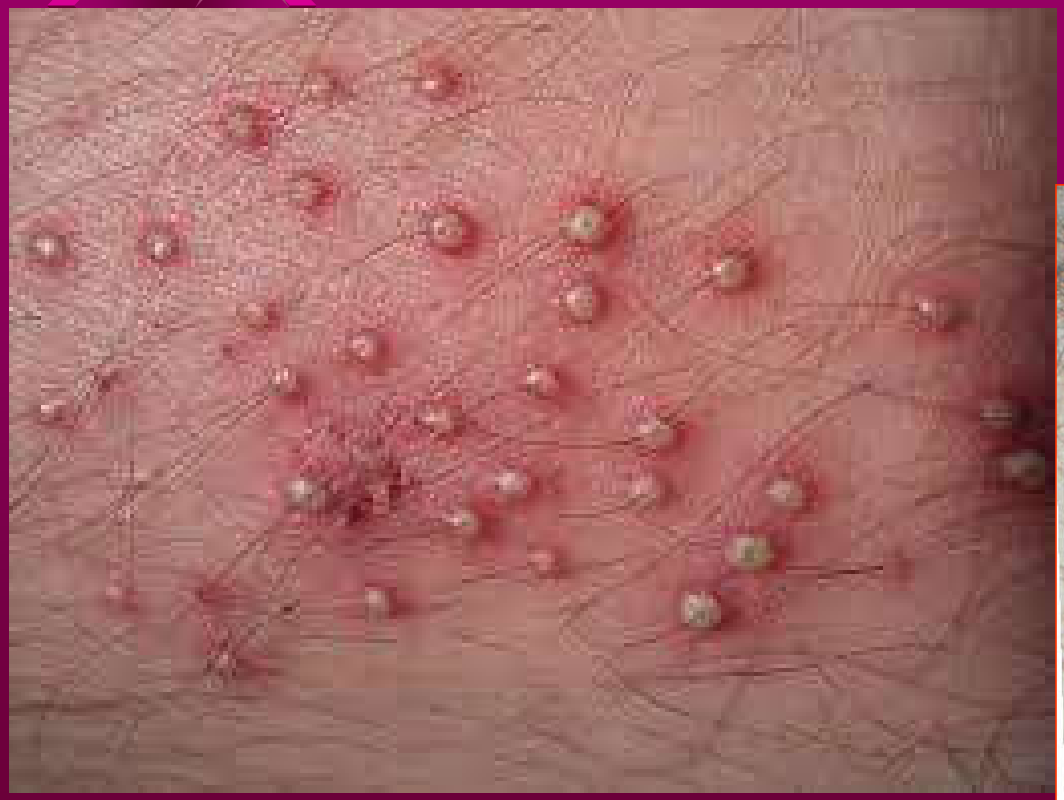
The causative organism is staph aureus

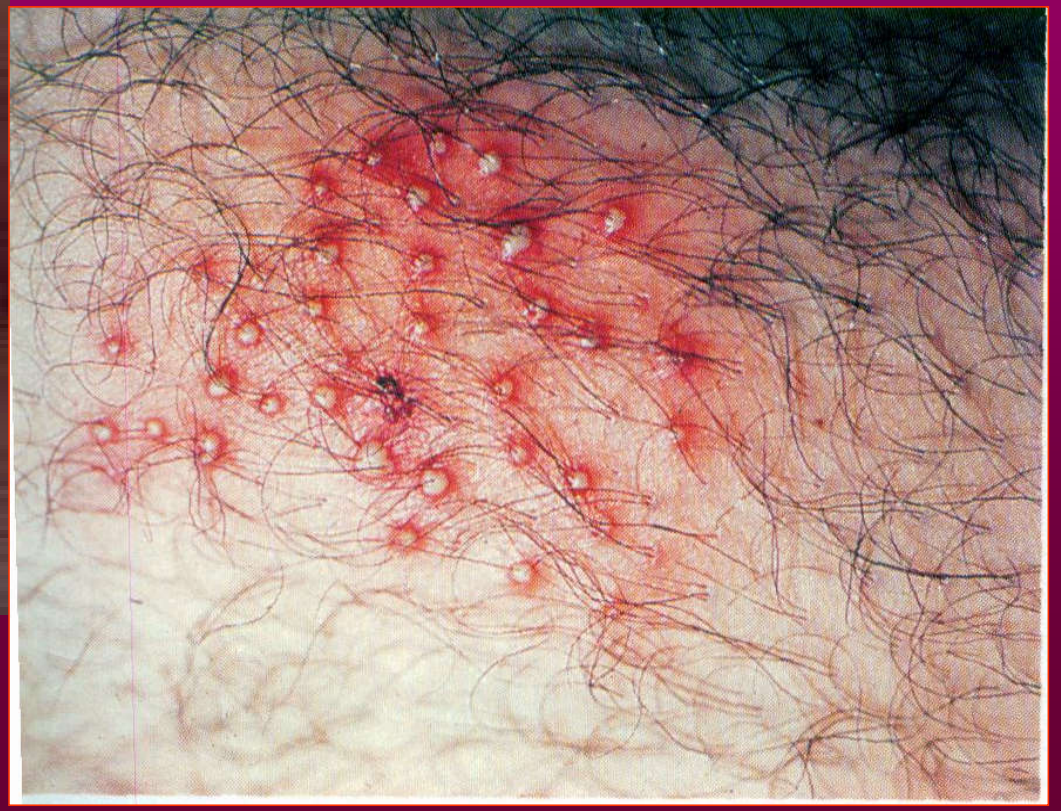
Erythematous papules and pustules surrounding the hair follicles

- Superficial folliculitis (Bockhart's impetigo): small, no scarring
- Deep folliculitis: sycosis vulgaris, boils, curbuncles: larger lesions, leave scars
- Pseudo folliculitis (non infectious, mechanical irritation): minute red papules, no scarring


Superficial
folliculitis
Deep
folliculitis

Superficial folliculitis





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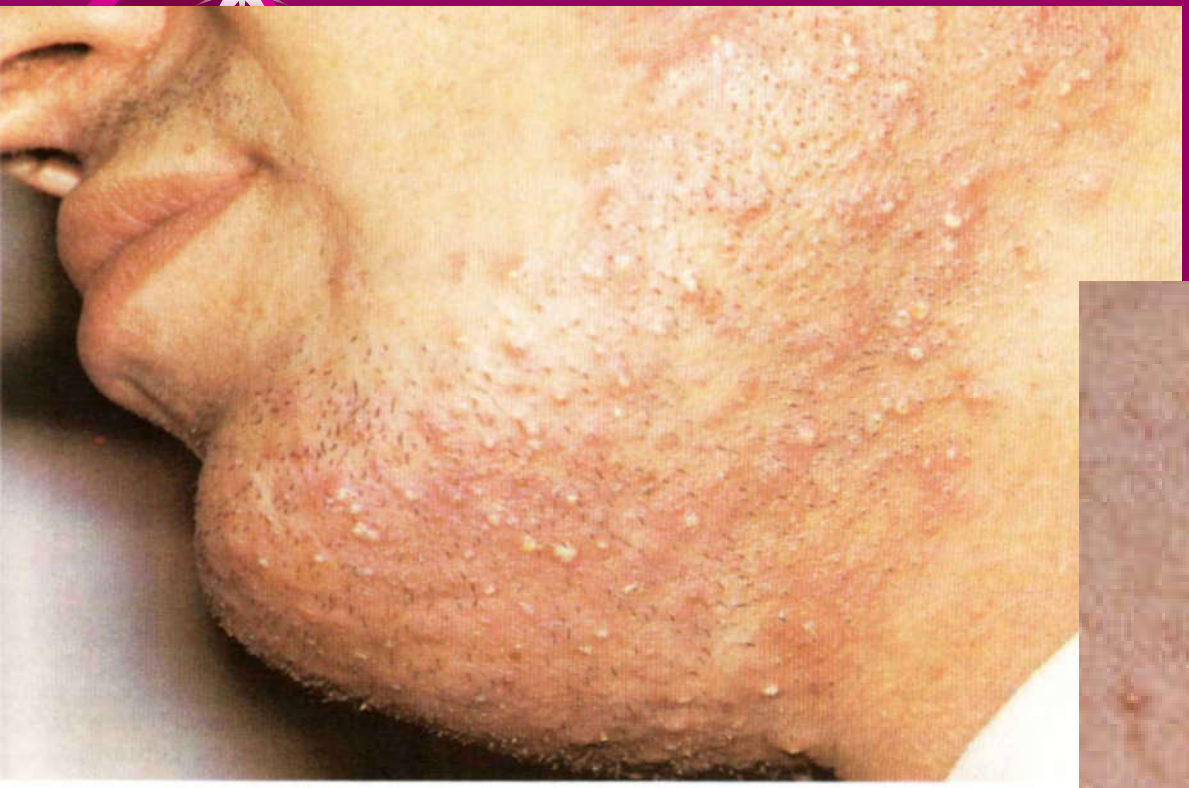
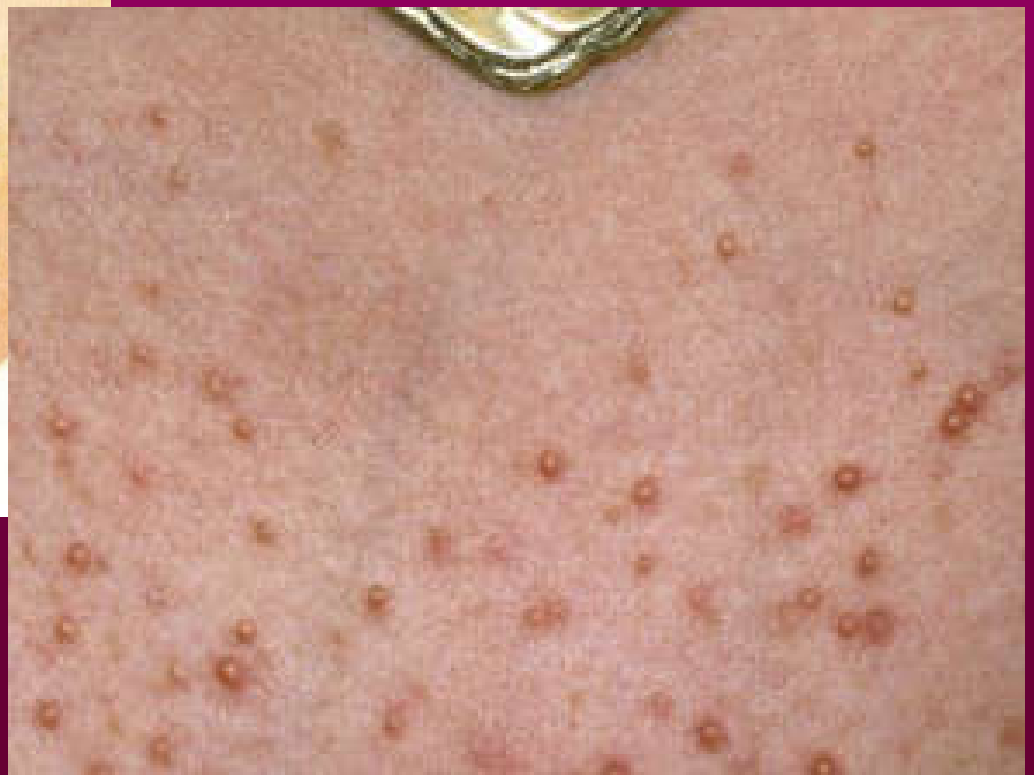
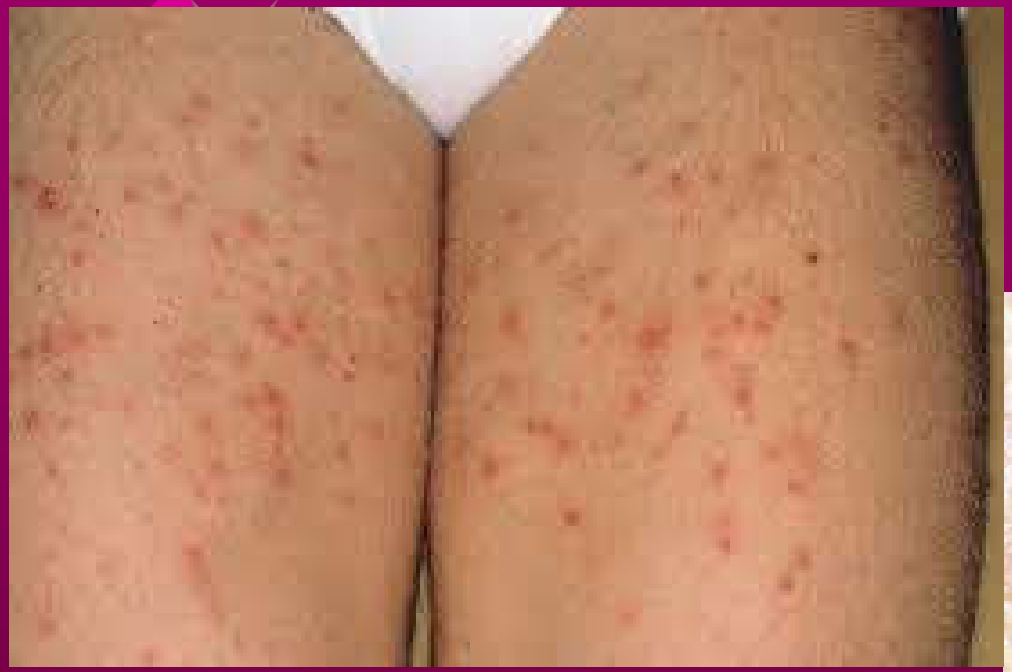
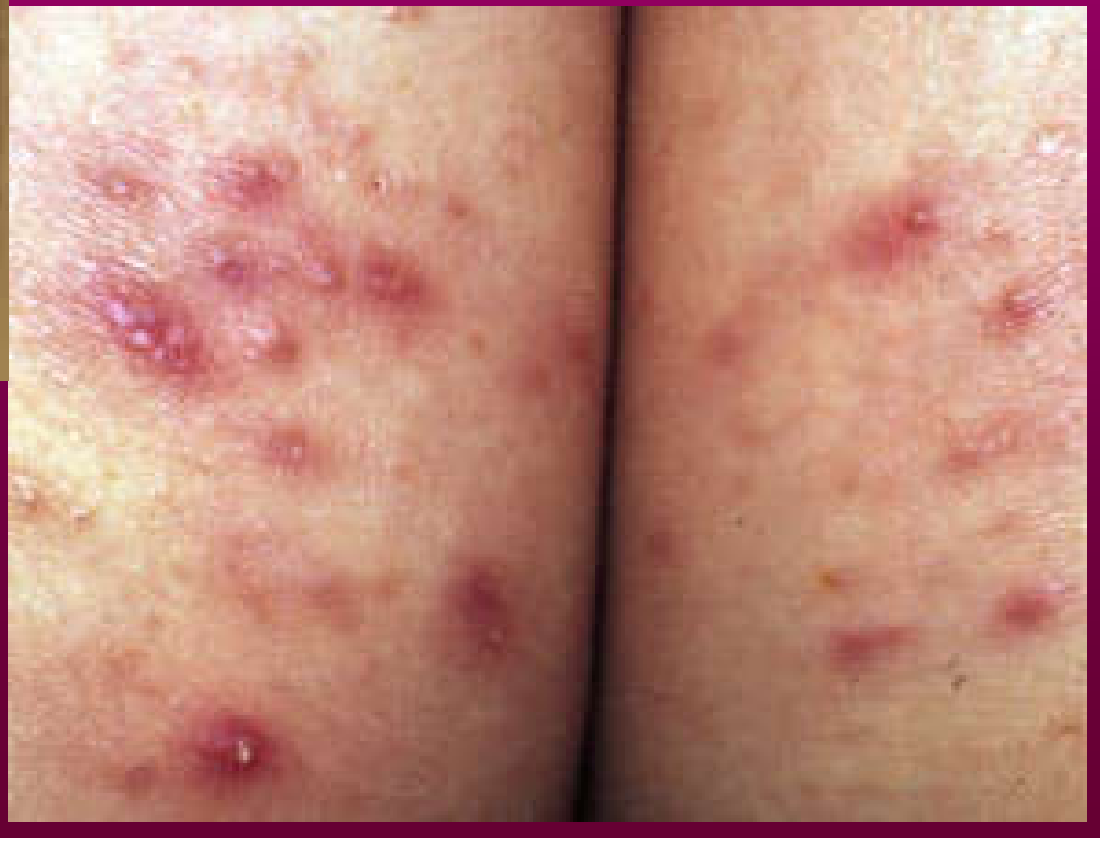


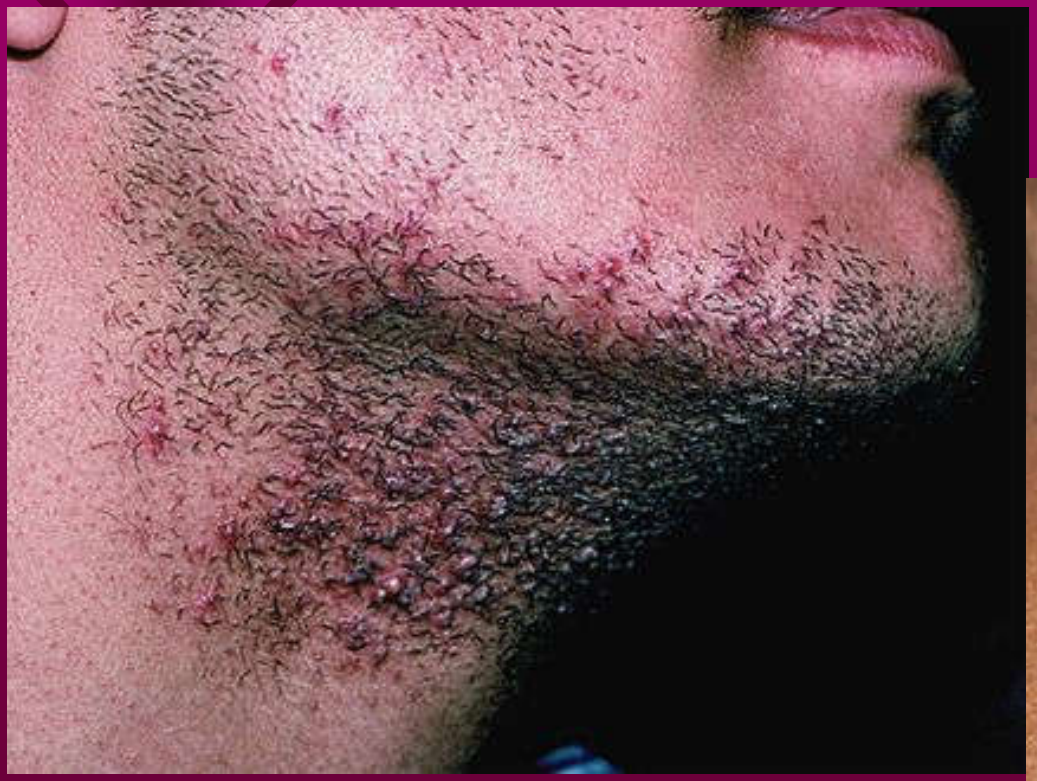


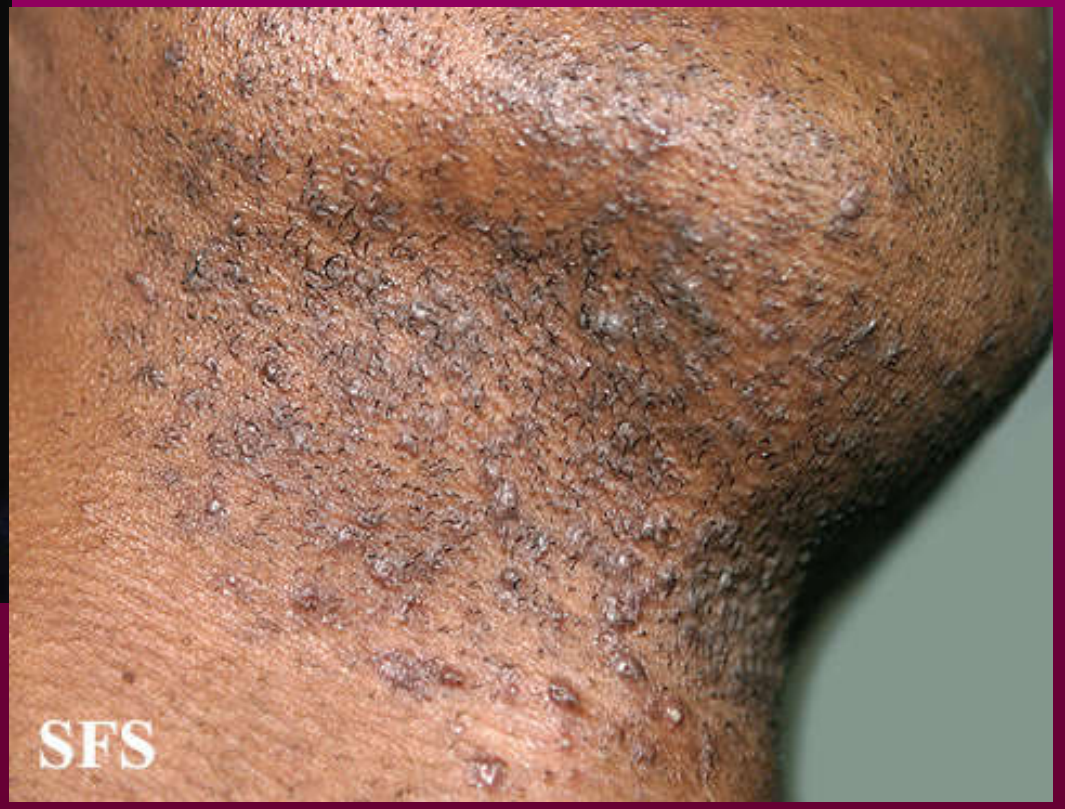
Superficial folliculitis

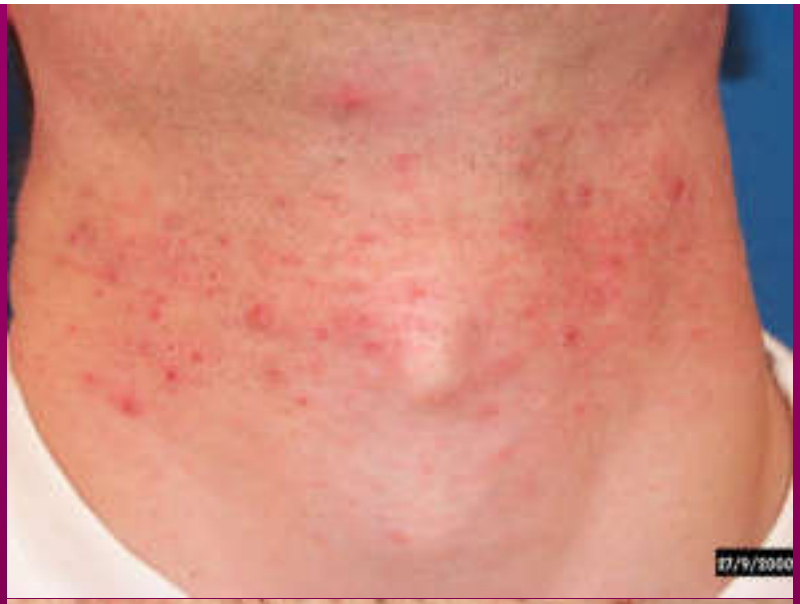


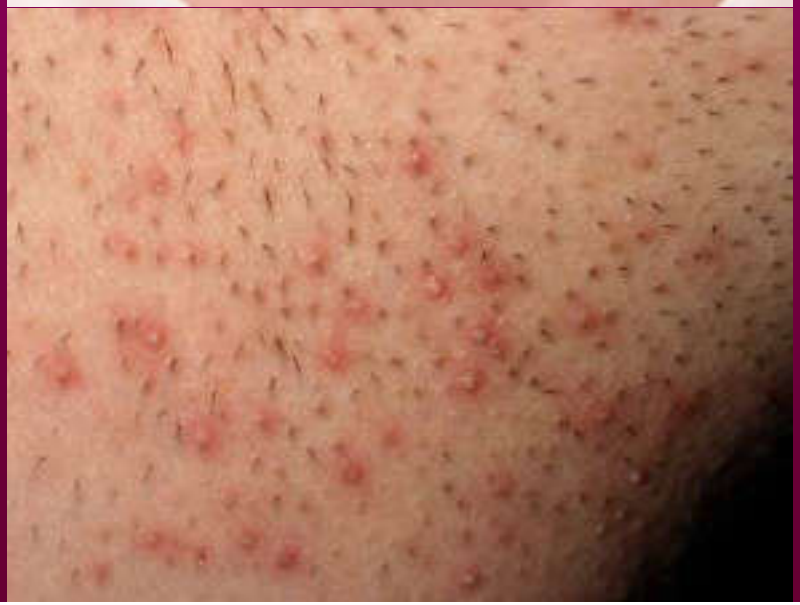


Pseudo folliculitis

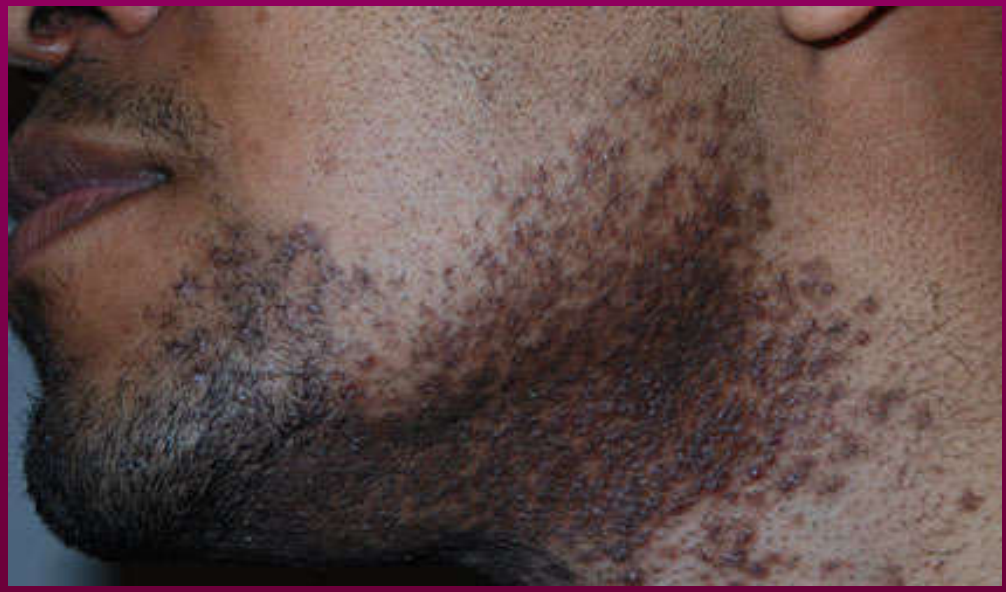




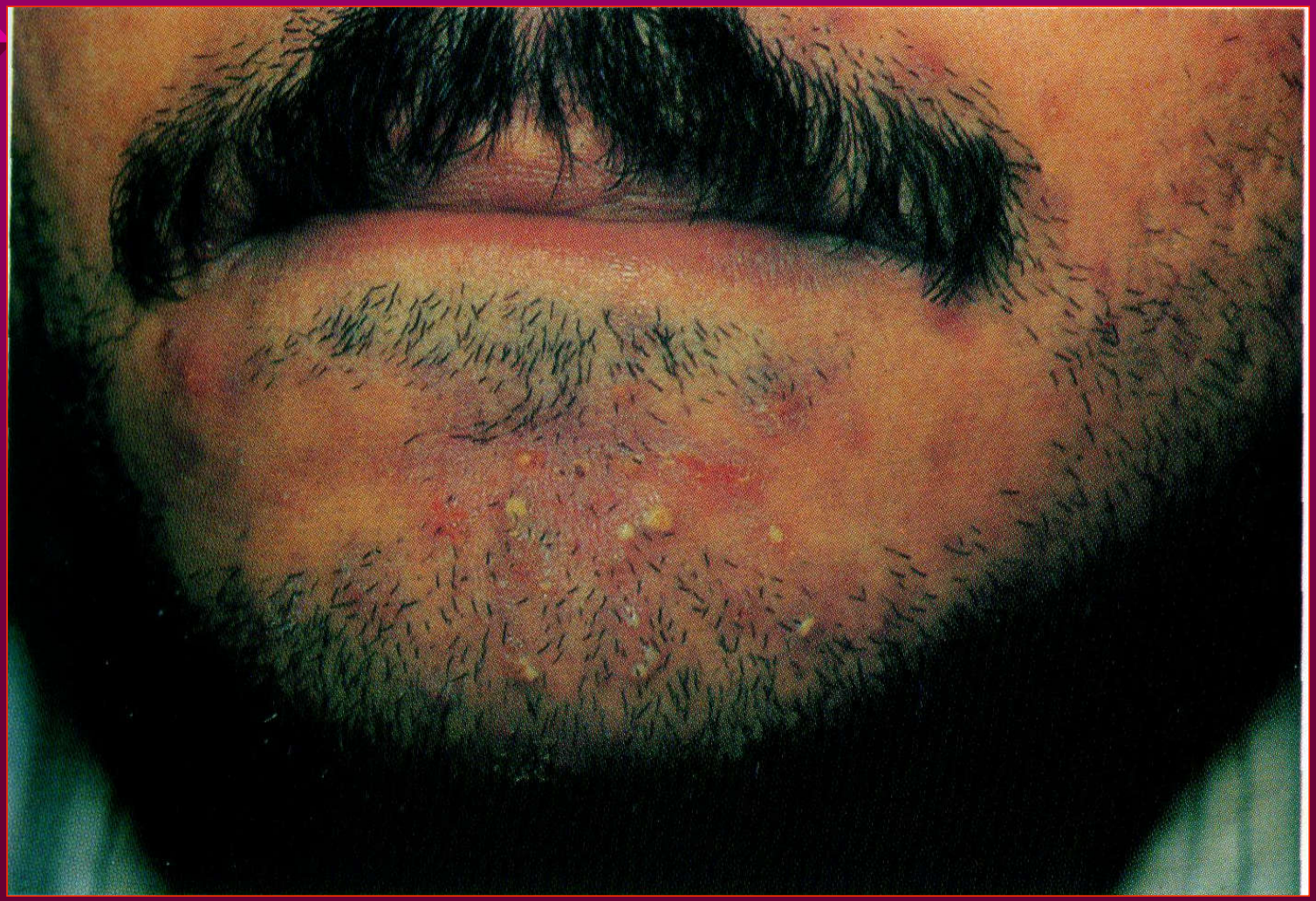




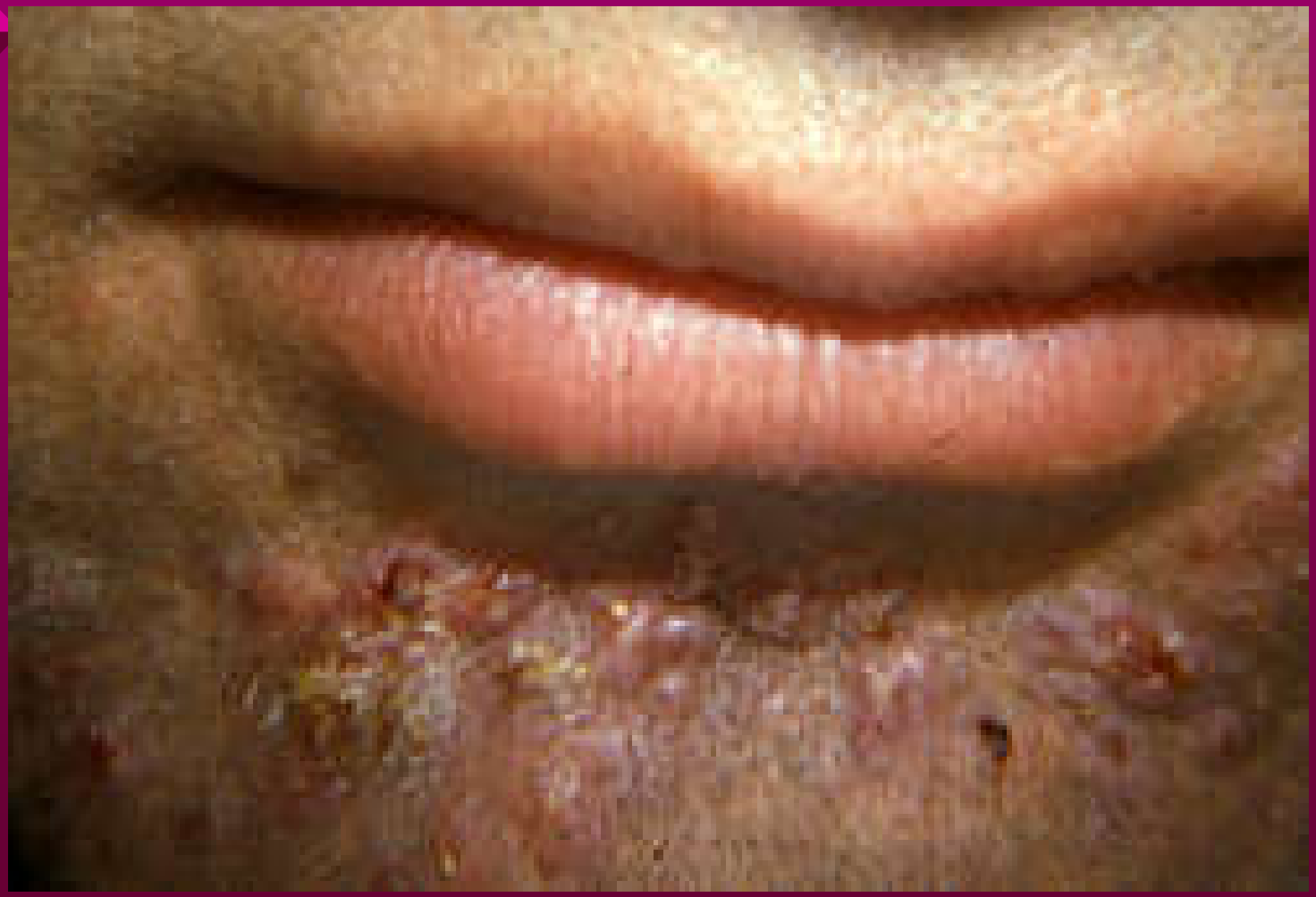
Pseudofolliculitis



Deep folliculitis (Sycosis vulgaris)



Deep folliculitis (Sycosis vulgaris)



Furunculosis (Boils)= Deep folliculitis

Boil (Furuncle) is an acute round, tender, circumscribed follicular staphylococcal abscess that generally ends in central suppuration

A carbuncle is merely two or more confluent furuncles, with separate heads

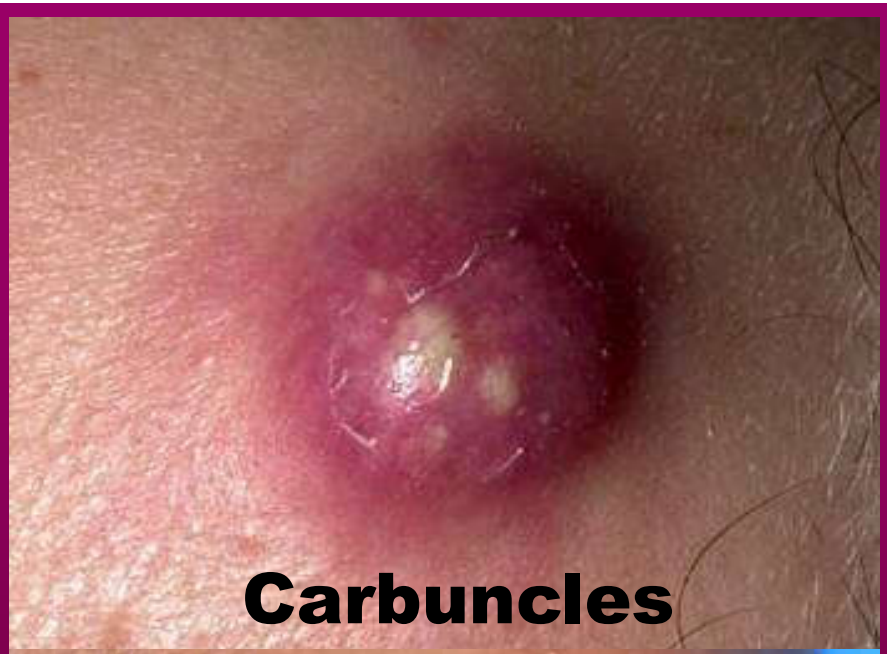
Abscess: is a cavity filled with pus. It contains WBCs, dead tissue and bacteria (staph).

Predisposing factors

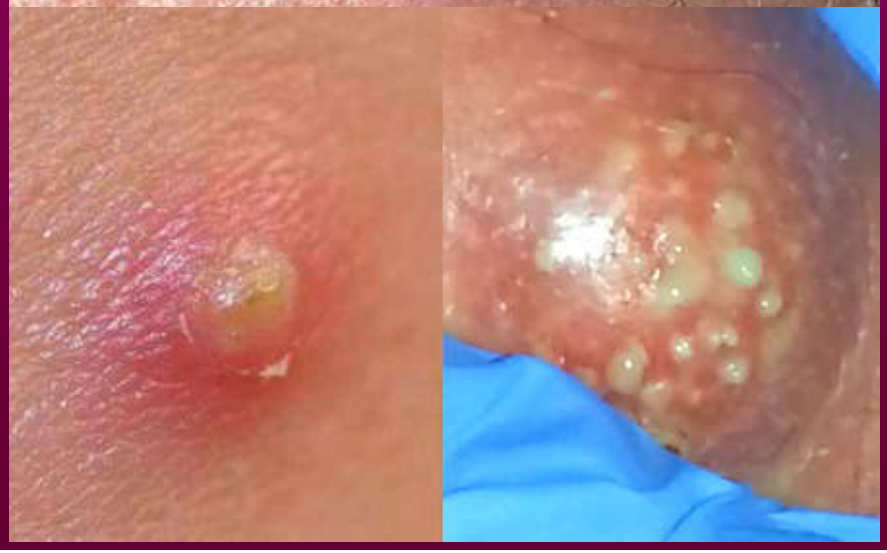
* **Impaired integrity of the skin surface by**
  - Irritation
  - Friction
  - Hyperhidrosis
  - Dermatitis or
  - Shaving
* **Presence of a contagion or autoinoculation from a carrier focus, usually in the nose or groin**
* **Systemic disorder as**
  * Malnutrition
  * Blood diseases
  * Diabetes
  * AIDS

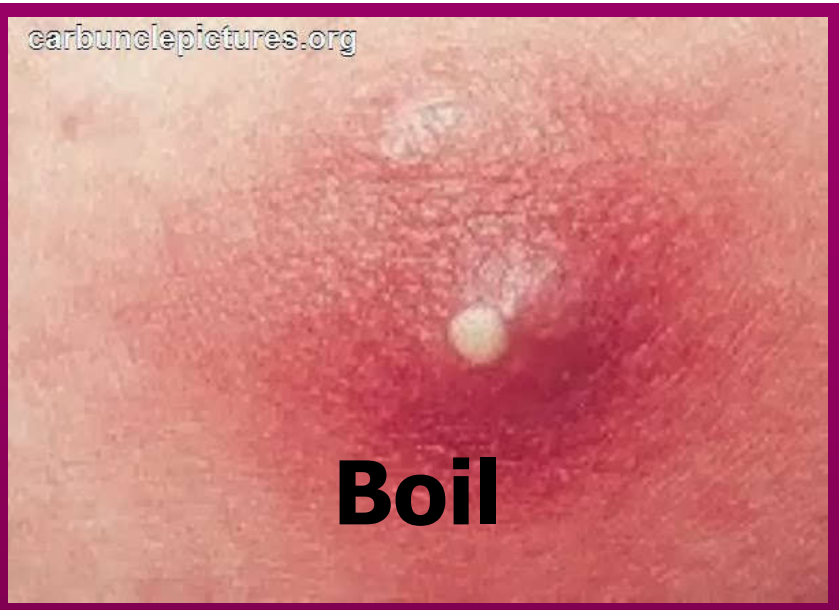
Clinical picture

- The lesions begin in hair follicles, and often continue for a prolonged period by autoinoculation
- Some lesions disappear before rupture, but most undergo central necrosis and rupture through the skin, discharging purulent, necrotic debris
- The sites commonly involved are the face and neck, the arm, wrist and fingers, the buttocks and the anogenital region

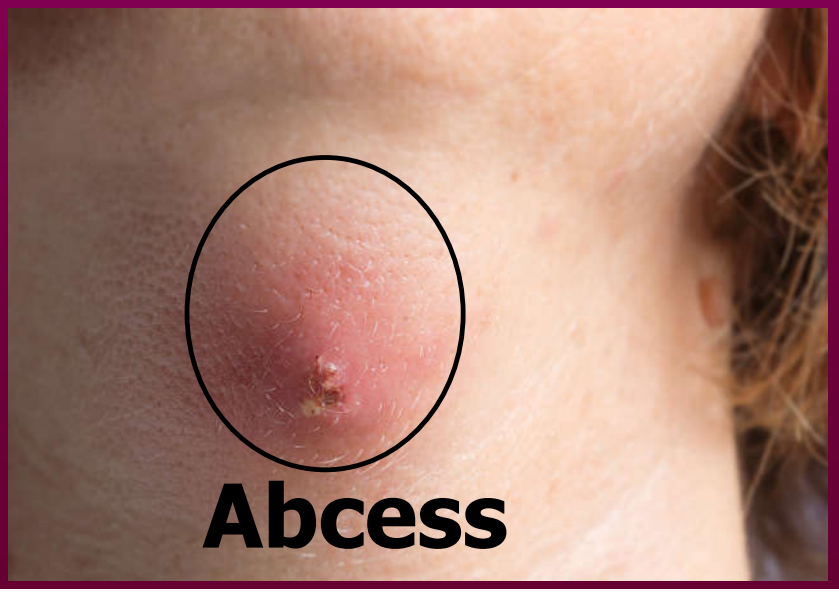


Carbuncles





Boil



Abcess

Treatment of boils, carbuncles and abscesses

- Topical and systemic antibiotics as for impetigo, longer duration (2 weeks), injectable antibiotics; specially for carbuncles and abscesses
- Incision and drainage of some cases (carbuncles and abscesses)
- Control the predisposing factors

Cellulitis and Erysipelas

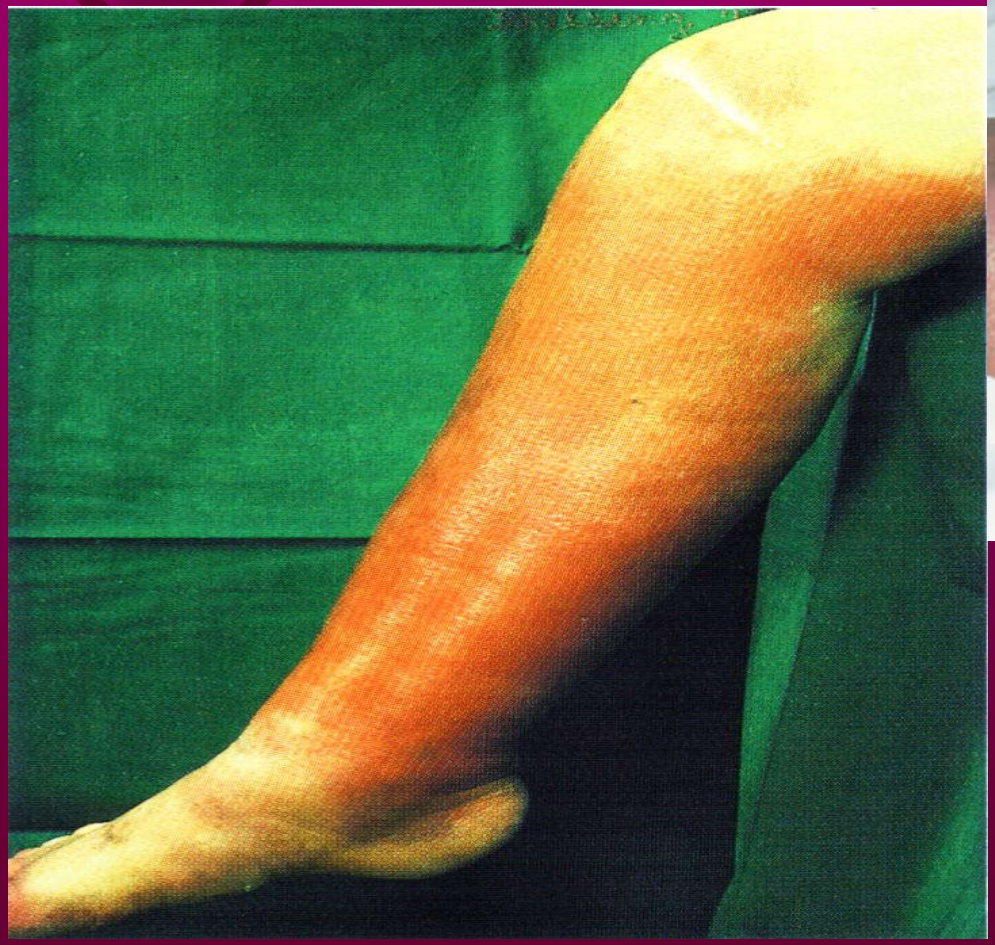
- Cellulitis is an infection of the subcutaneous tissue
- Erysipelas is more superficial as it involves the dermis and upper subcutaneous tissue
- Cellulitis may extend superficially and erysipelas deeply so that the two conditions overlap
- Cellulitis and erysipelas are caused mainly by ***Streptococcus pyogenes***

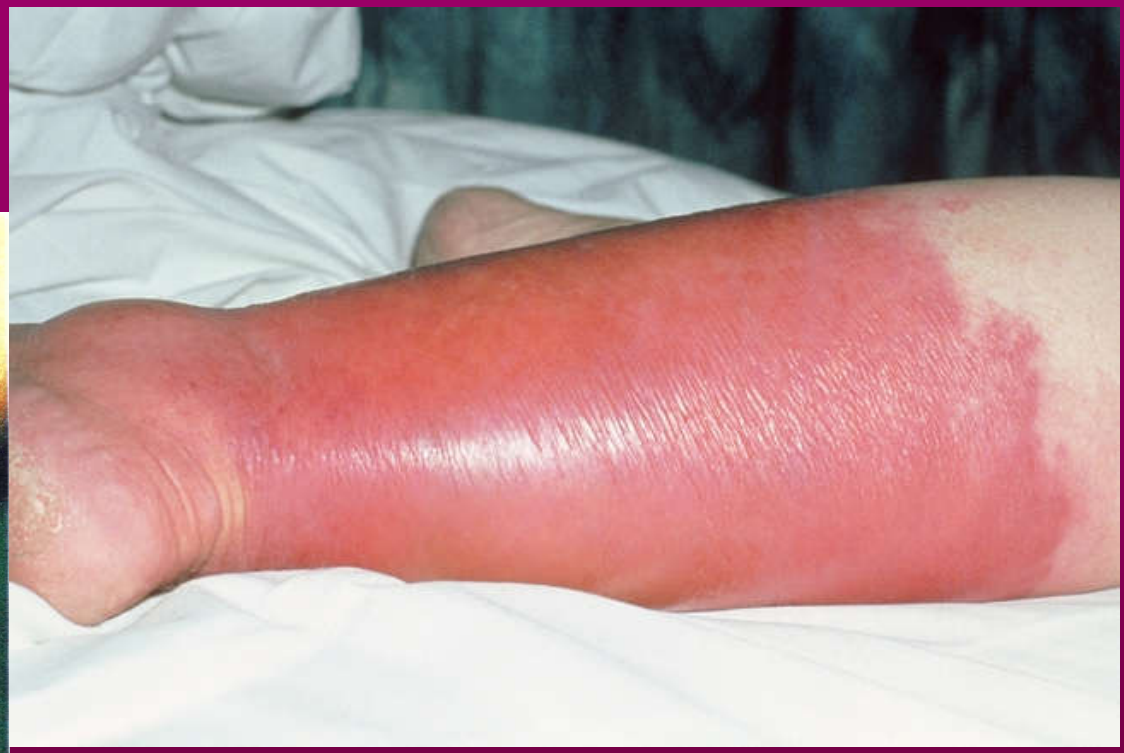
Clinical picture

- Erythema, heat, swelling and pain or tenderness are constant features
- **In erysipelas** the edge of the lesion is well-demarcated and raised, but in Cellulitis it is diffuse
- Blistering and hemorrhage are more common in erysipelas
- **Lymphangitis and lymphadenopathy** are frequent → lymphedema
- **The face and the legs** are the most frequent sites affected
- Unusual complications:

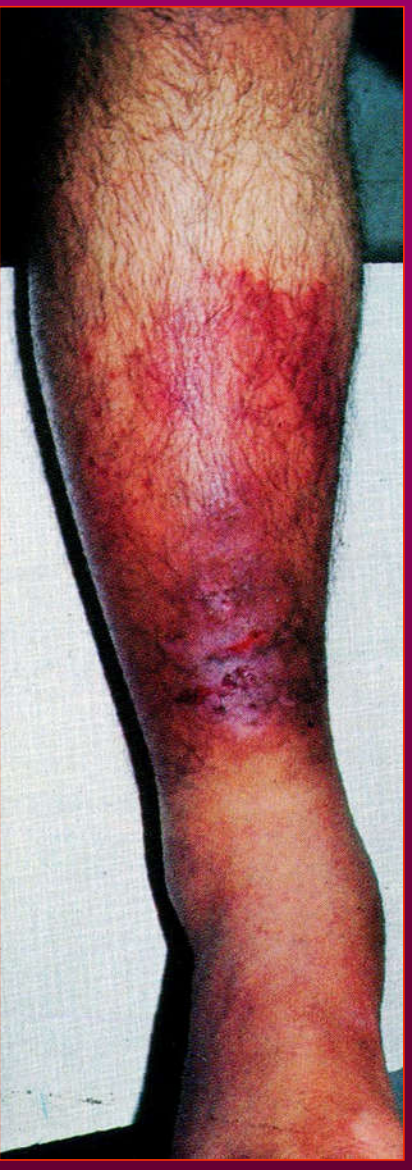
  - Gangrene
  - Metastatic abscesses
  - Grave sepsis
  - glomerulonephritis
  - lymphedema (recurrent)

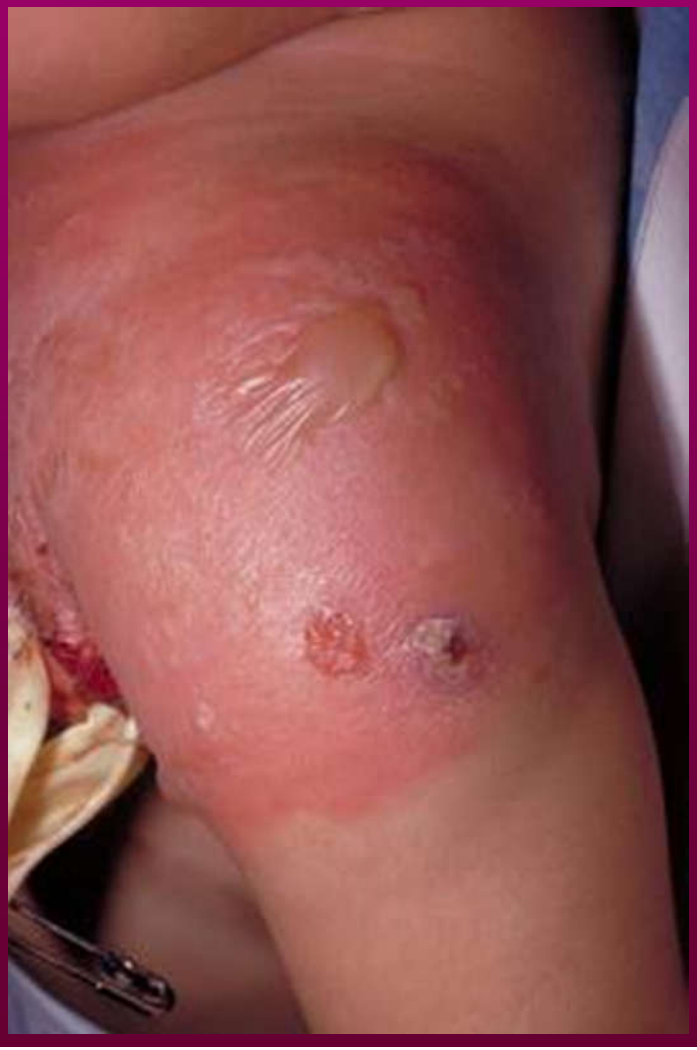
Cellulitis

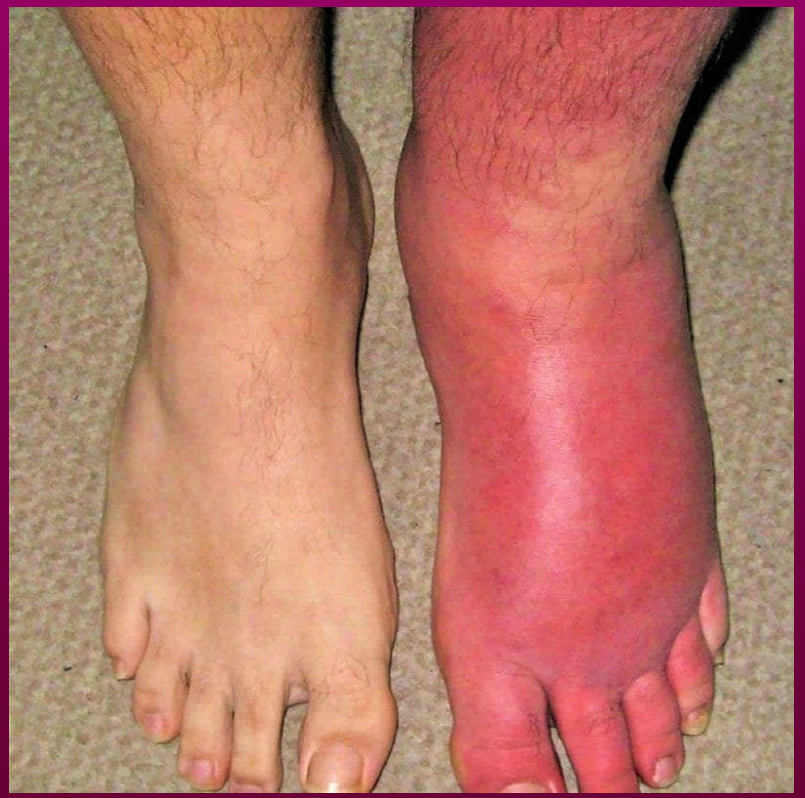




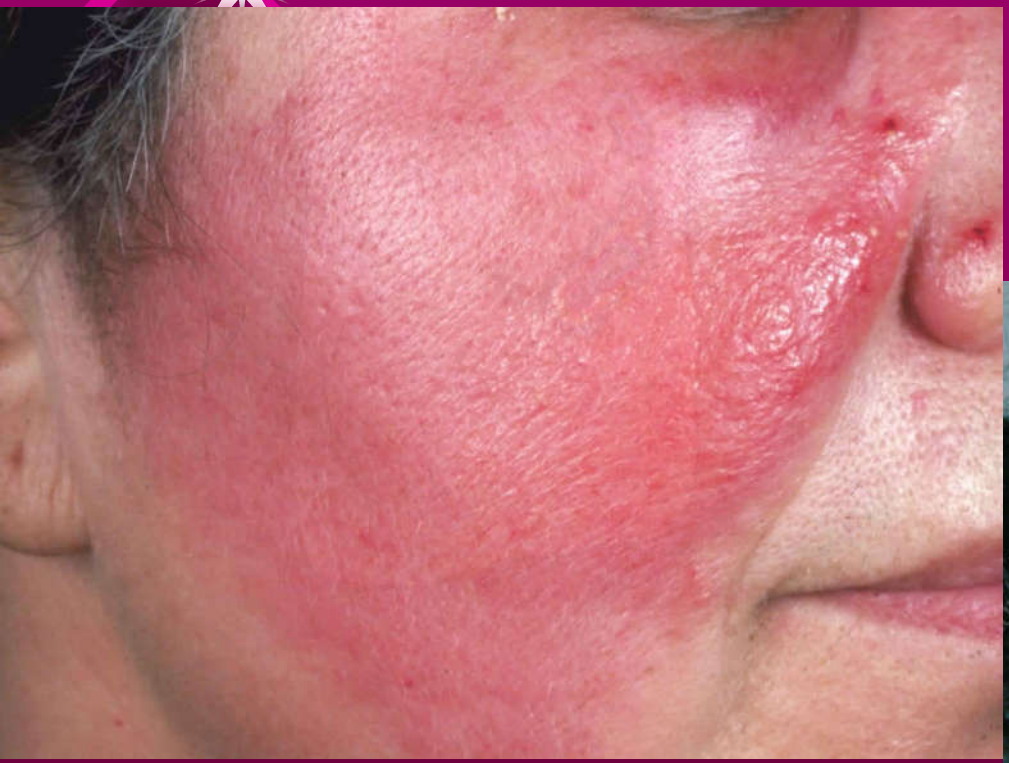
Cellulitis

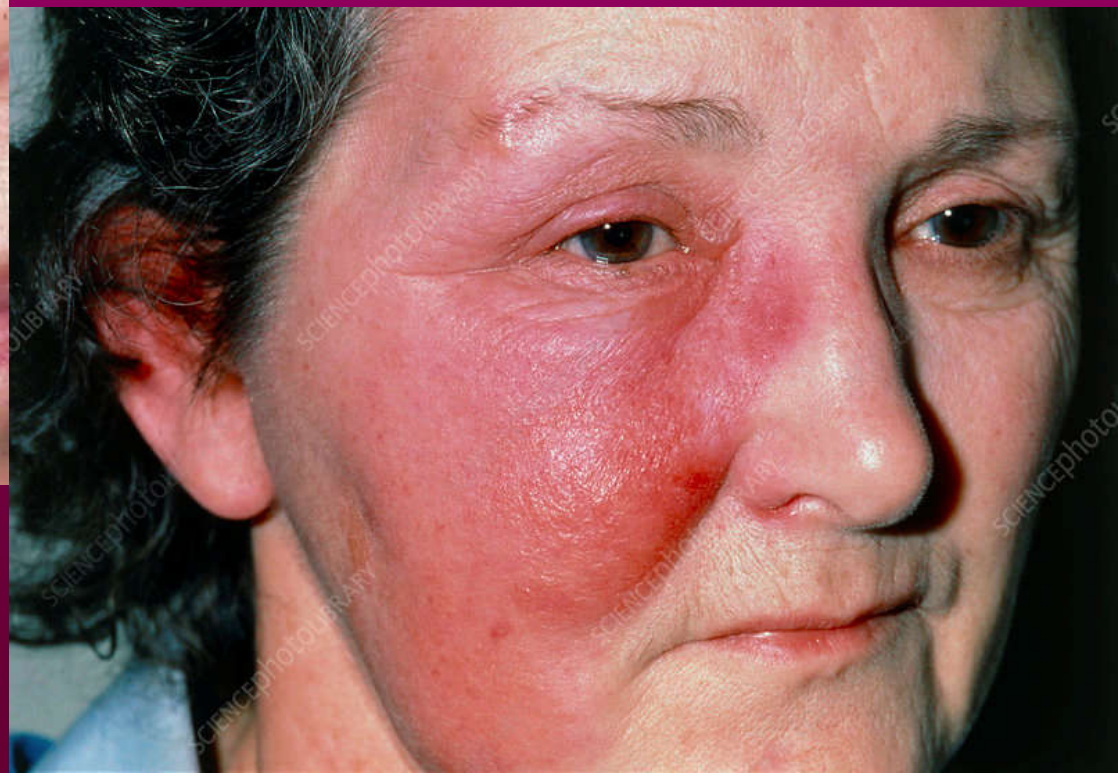


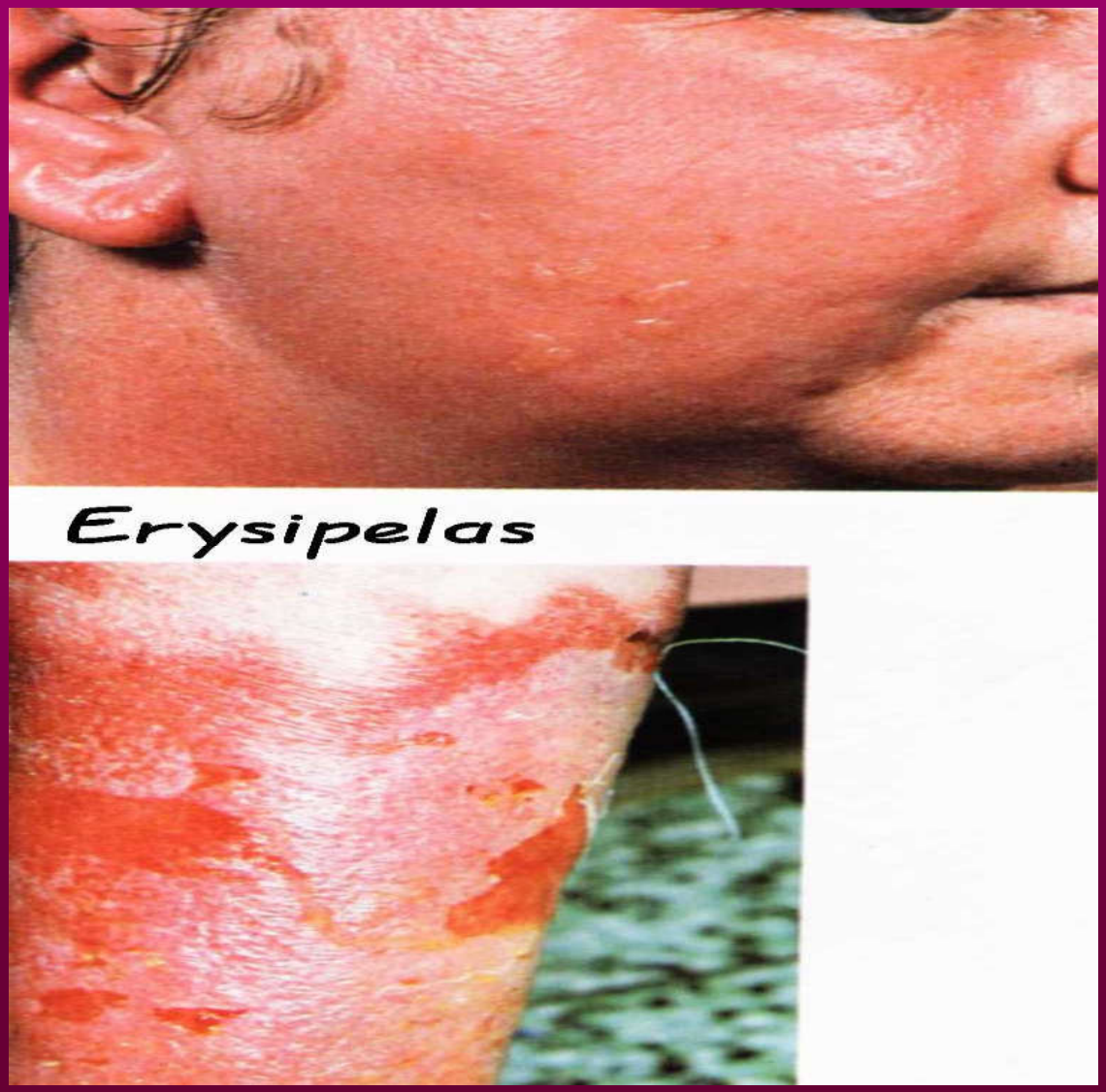




Cellulitis






Erysipelas

Treatment of Cellulitis and Erysipelas

Systemic penicillin and cephalosporin are usually effective

For 14 days or more

Add anti Gram negative agent

Parenteral antibiotics are used in severe cases

Control the predisposing factors

Avoid excessive use of NSAIDs

Erythrasma

Mild, chronic, localized superficial infection of the skin

More common in adult

Etiology: ***Corynebacterium minutissimum***

Predisposing factors - A warm and humid climate

- Diabetes mellitus

Clinical picture

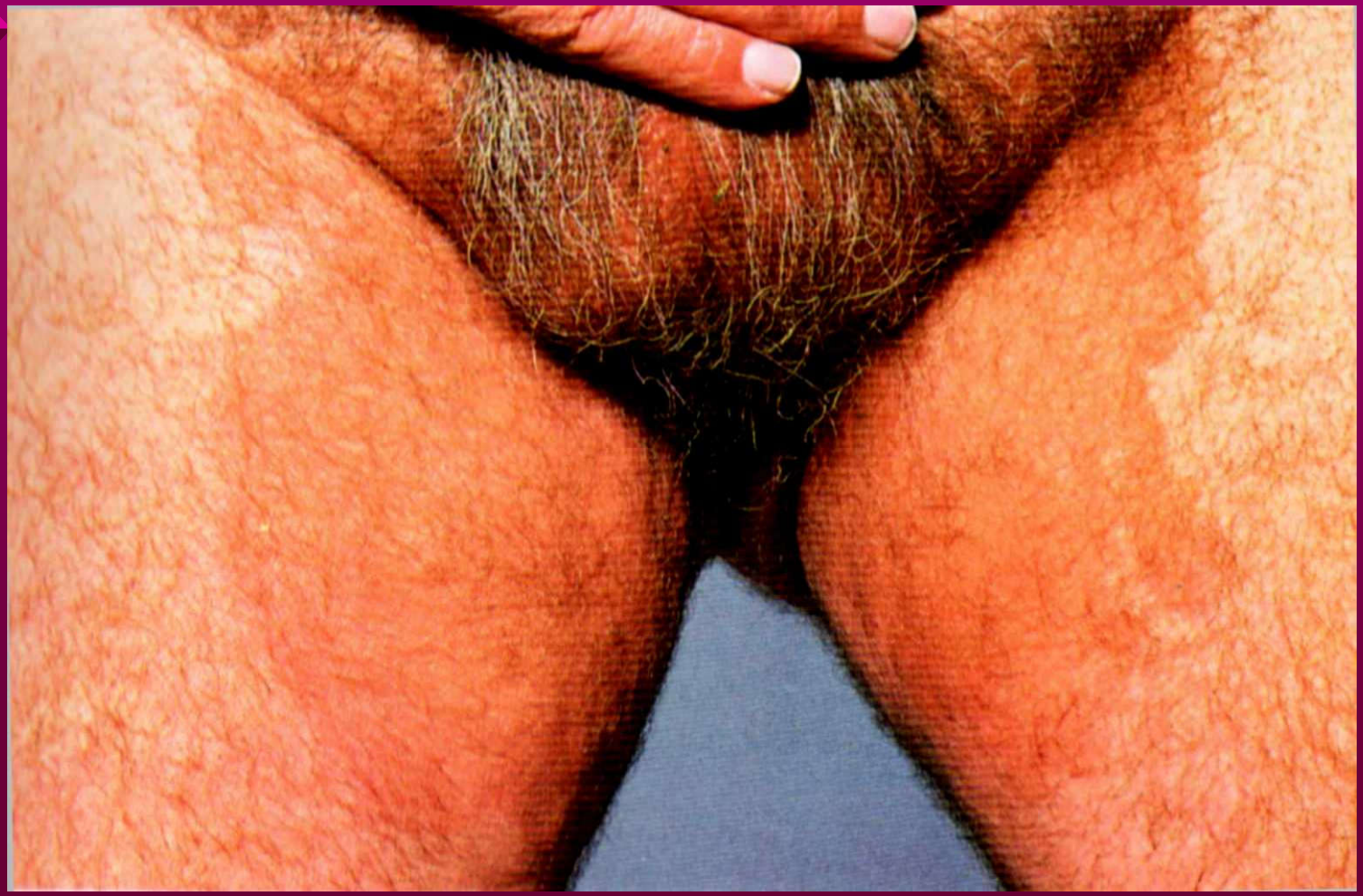
Patches: Sharply marginated, dry, red to brown, slightly scaly in the intertriginous areas)

Wood's light examination: Coral red fluorescence

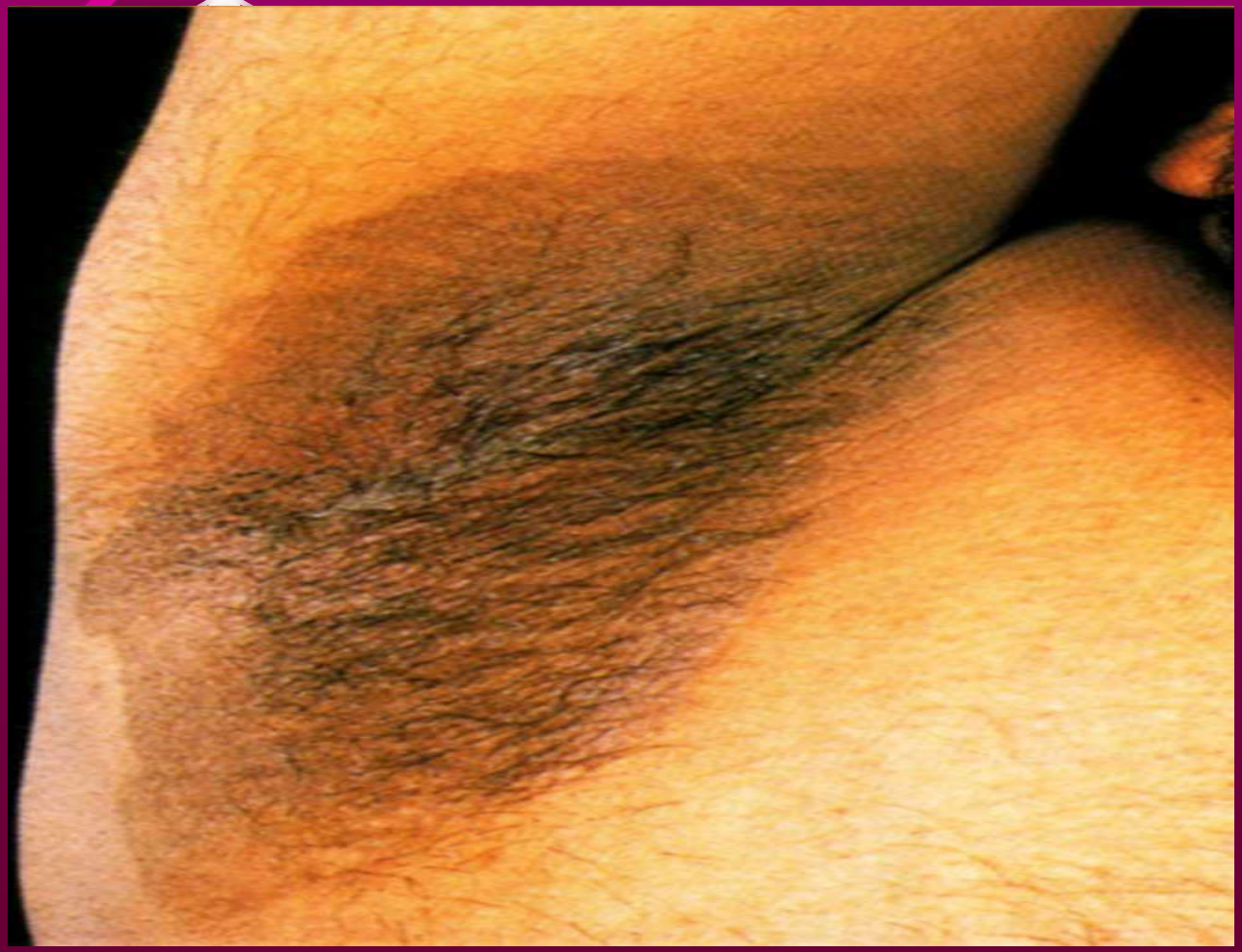
Treatment:

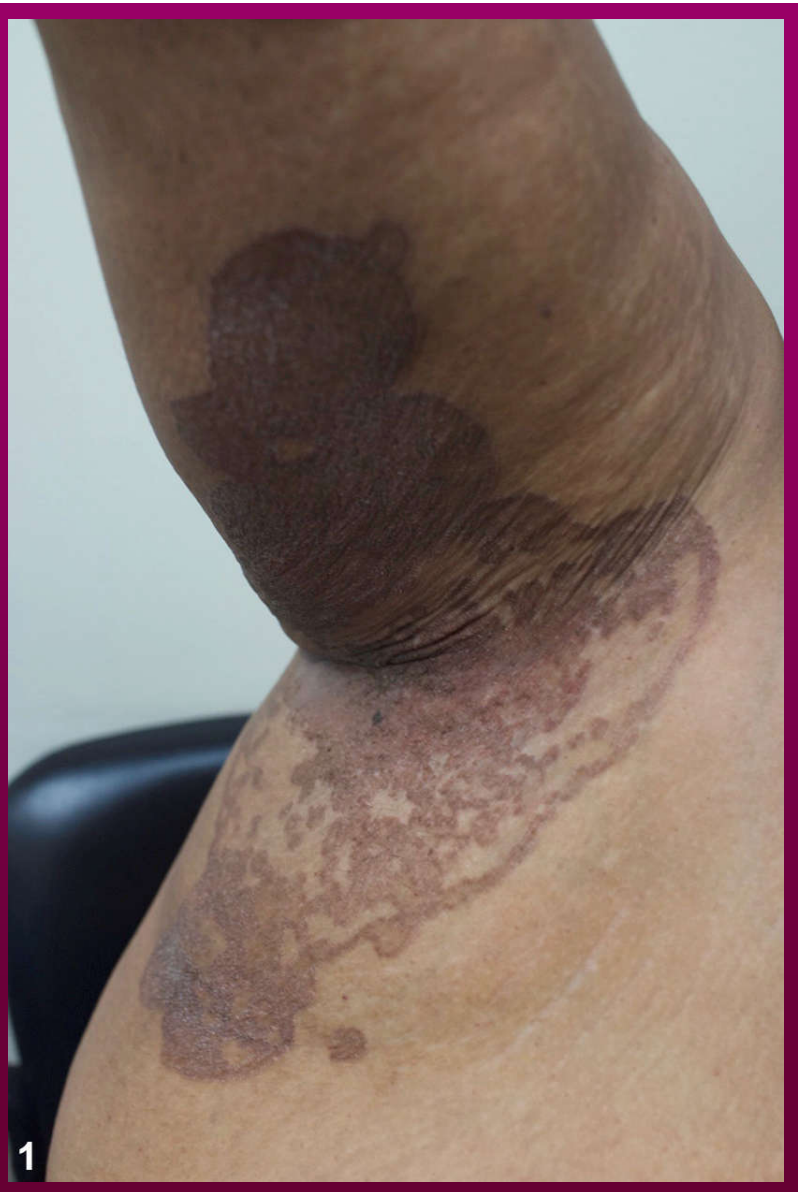
* Topical azole antifungals
* Oral erythromycin, azithromycin in extensive cases

Erythrasma

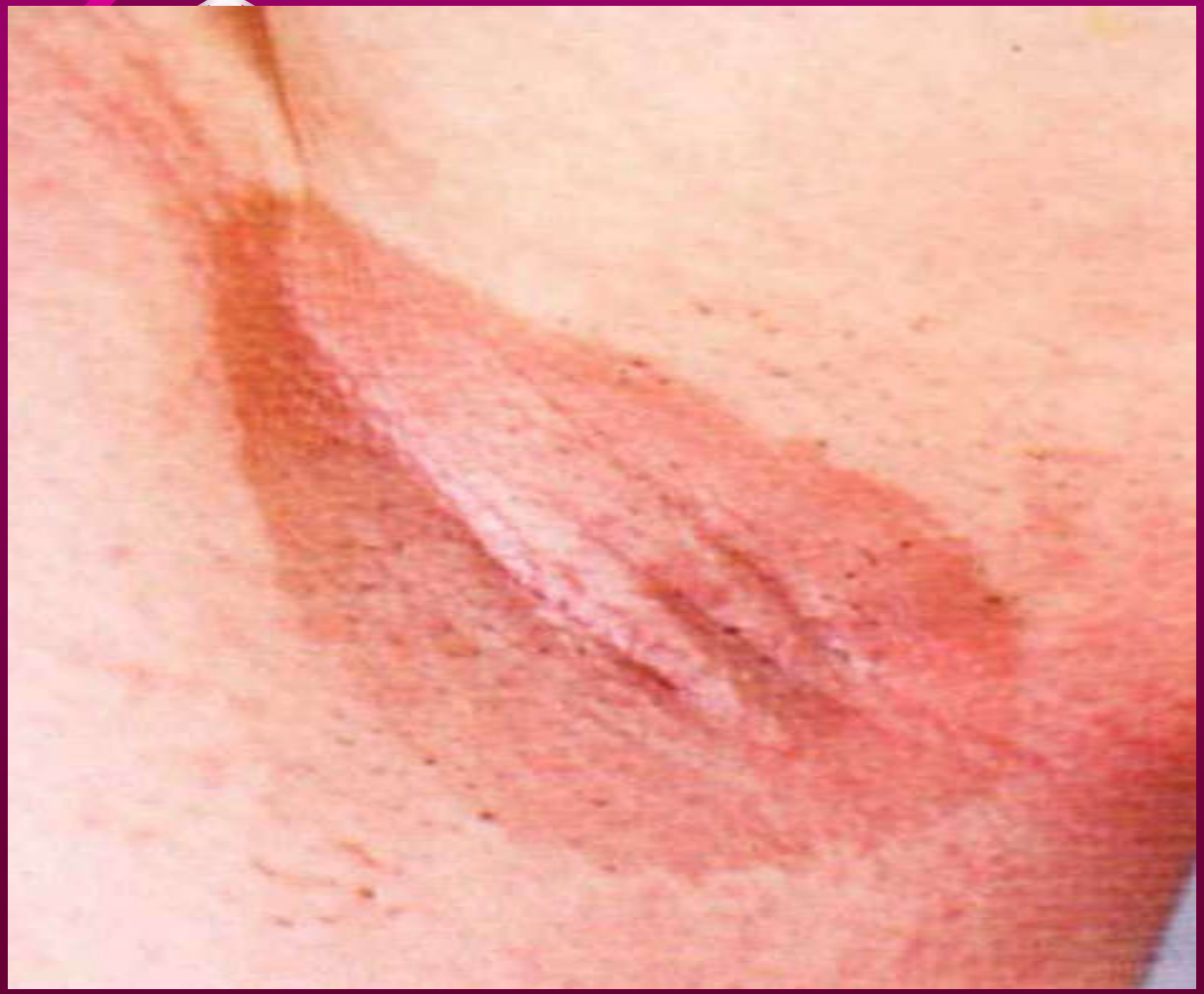


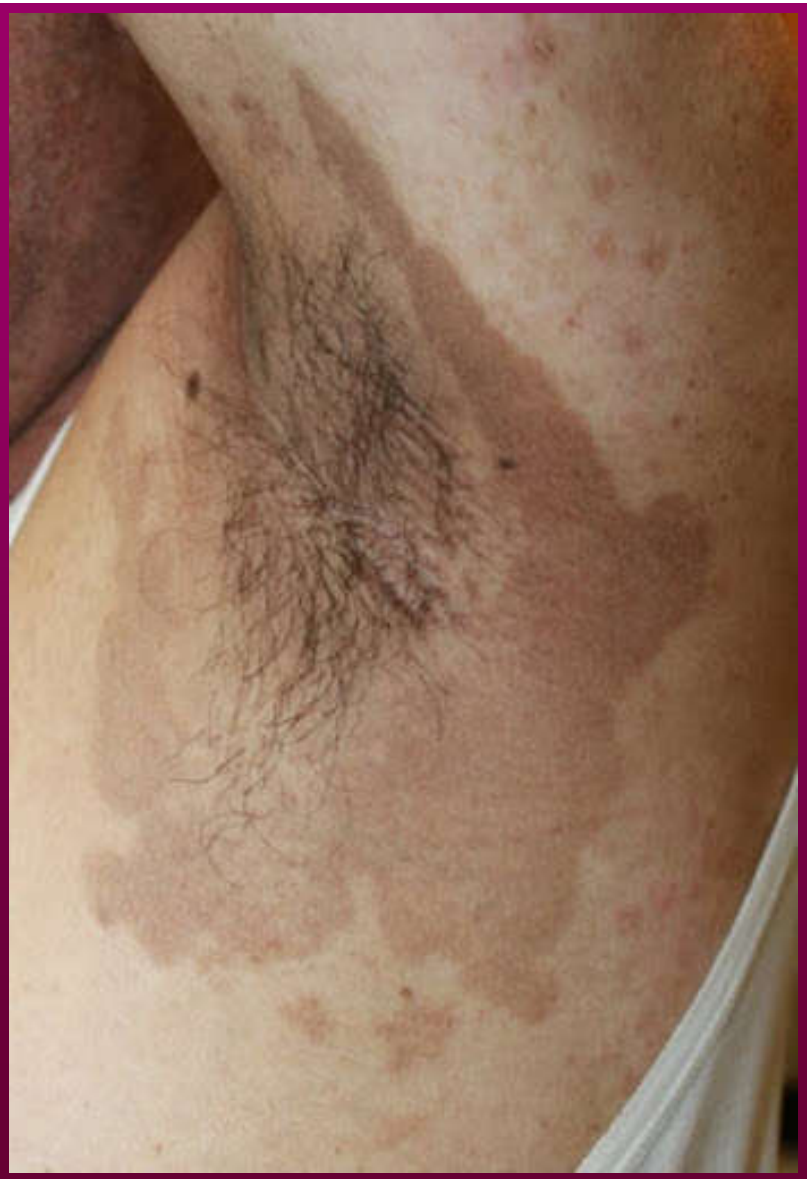
Erythrasma



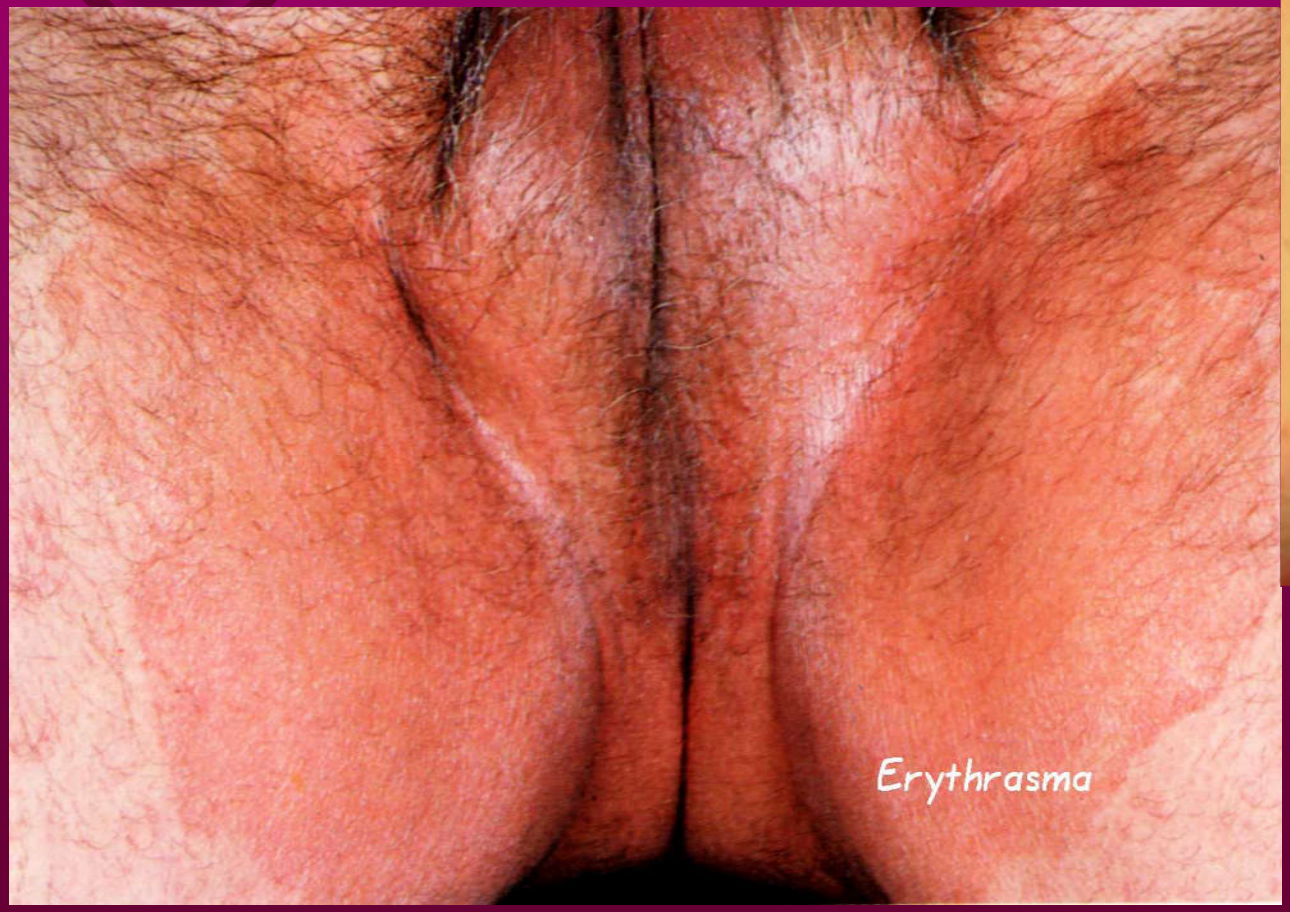


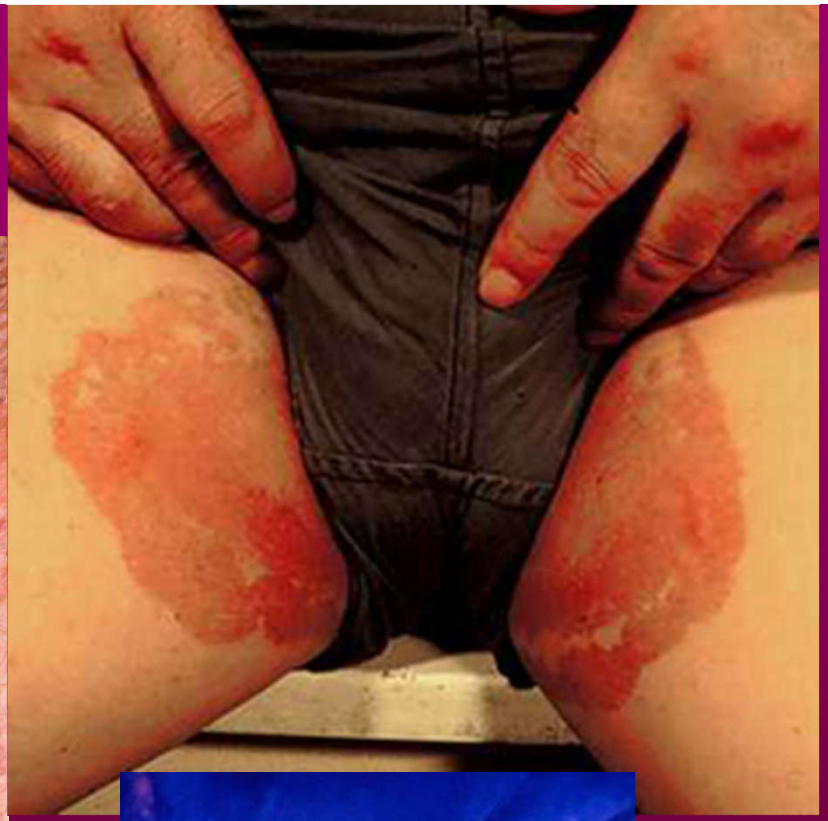
Erythrasma

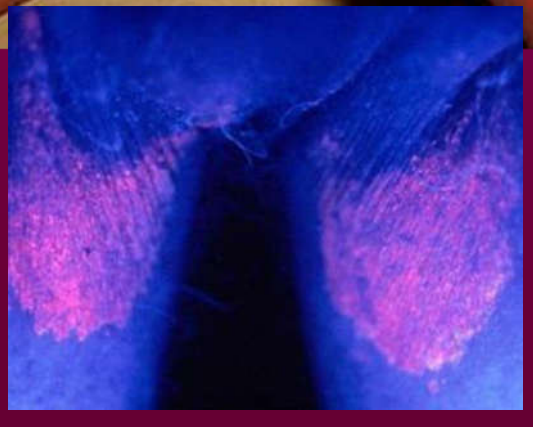




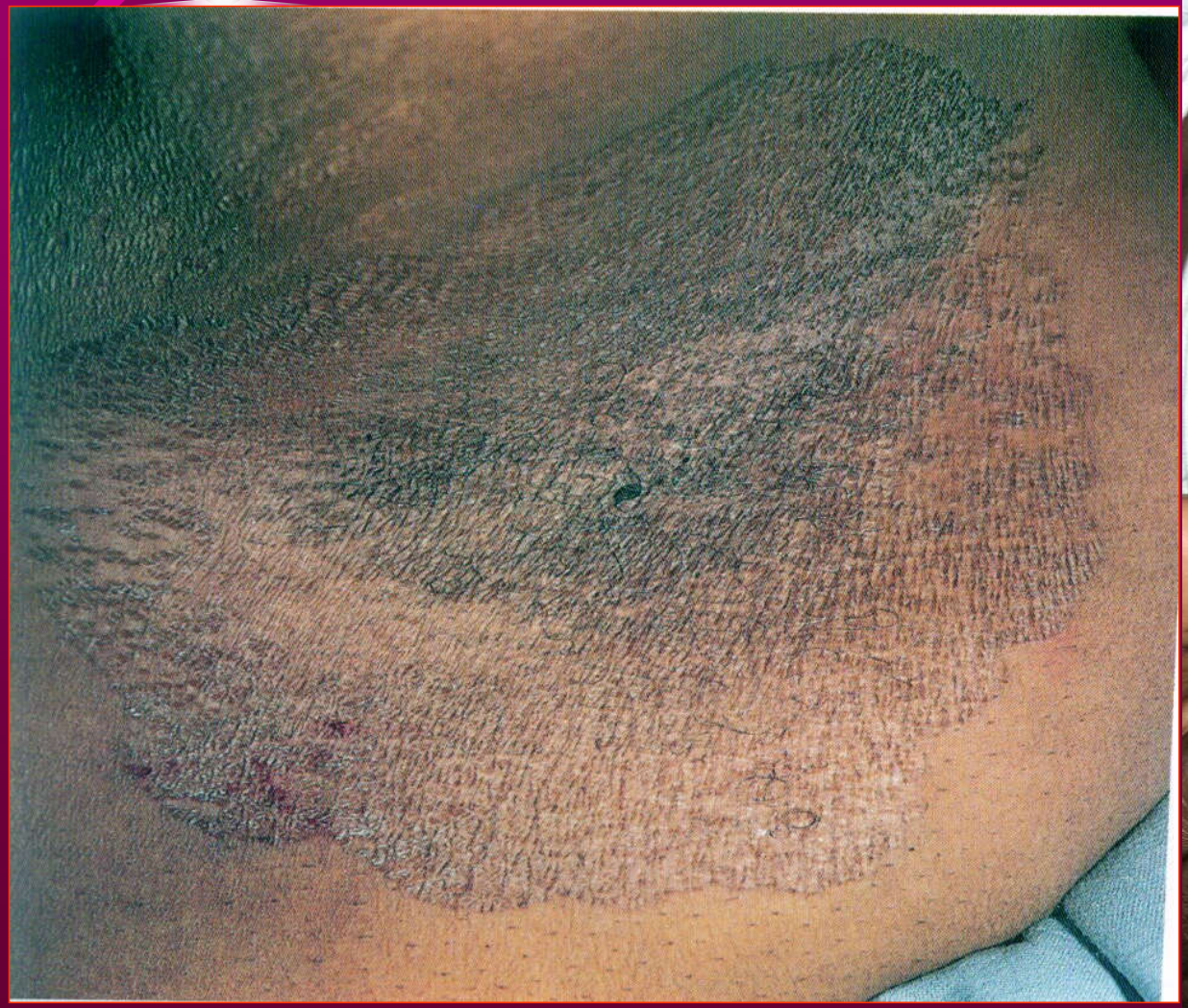
Erythrasma

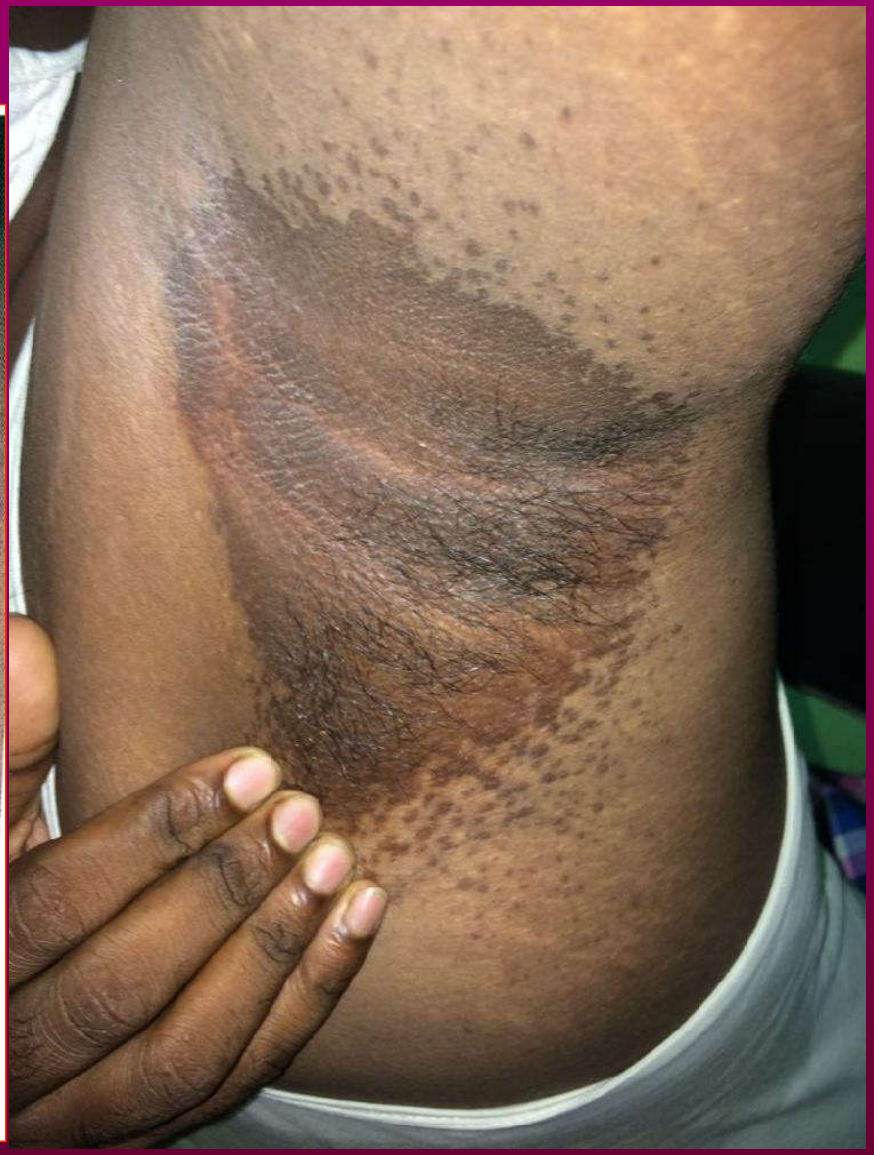






Erythrasma





Differential diagnosis of intertrigo

Infectious causes:

1-Fungal:

Tinea cruris: active edge

Candidiasis: satellite lesions

Pityriasis versicolor: hperpigmented macules and patches

2-Bacterial: **Erythrasma:** Sharp margin, dry, red to brown, scaly

Non infectious causes:

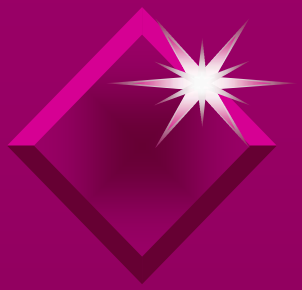
Flexural psoriasis: salmon pink, no scaling

Seborrheic dermatitis: dull red macules and patches, greasy yellow scales

Contact dermatitis: history

Atopic dermatitis: dry itchy skin

Simple intertrigo: summer, obesity, exclusion



THANK YOU