The skin and systemic disease

Clues to possible systemic disease:

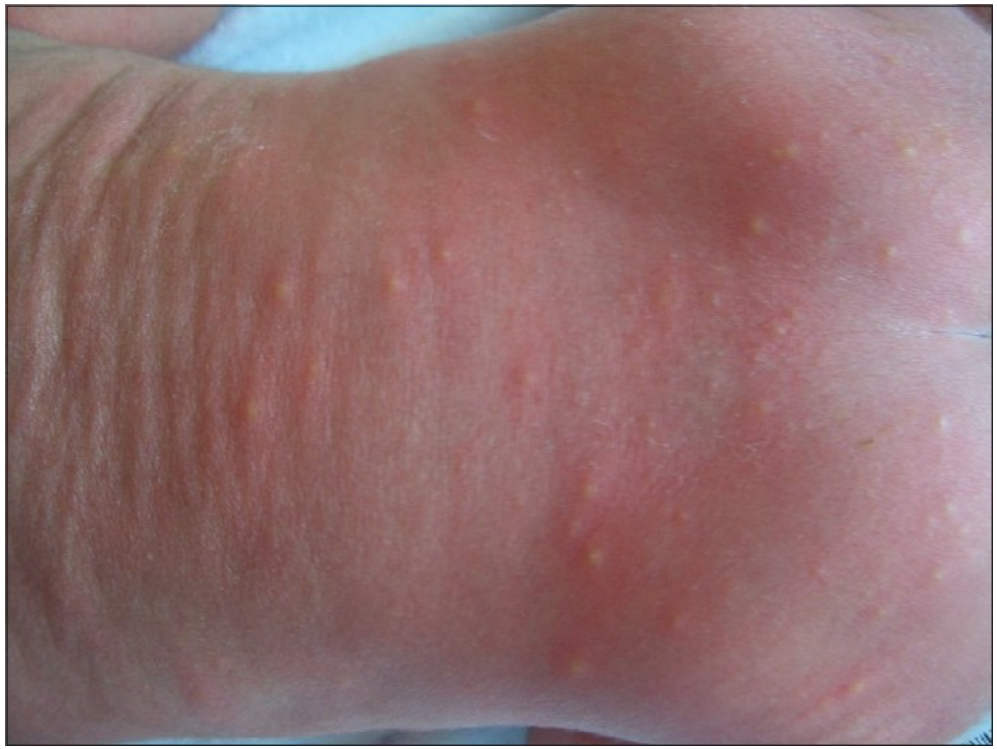
- Rash ass. with joint pain, fever, weight loss, weakness, SOB, altered bowel function
- Rash not responding to topical tx
- Erythema of the skin (inflammation around blood vessels)
- Non blanching palpable purplish fixed lesion , painful and blistering >> vasculitis
- Unusual changes in pigmentation or texture of the skin.
- Palpable dermal lesion 2ry to granuloma , mets , lymphoma and so on…

Characteristic rash that indicates underlying systemic disease :

- Erythema multiforme >> HSV, Hep B/C, mycoplasma pneumonia
- Pyoderma gangrosum >> IBD , RA , hematological malignancy
- Erythema nodosum >> IBD , streptoccocal infxn , TB , sarcoidosis , behcet's
- Vasculitis >> Hep B /C , SLE , lymphoma , leukemia

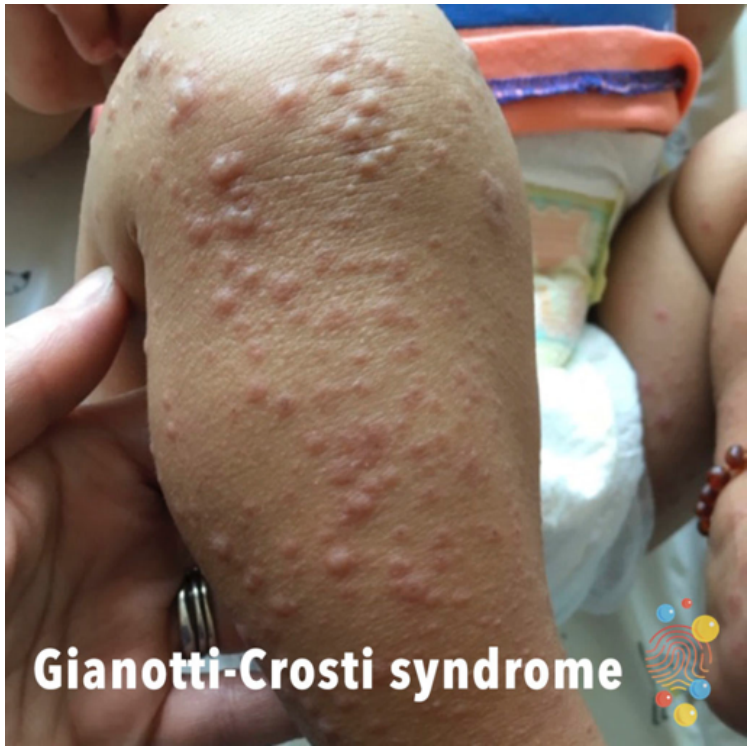
Skin reactions ass with infections

1. Toxic erythema



Toxic Erythema

- Widespread symmetrical Maculopapular erythema (morbilliform)
- starts on the trunk then spreads to the limbs
- Usually asymptomatic (itchy)
- Blanching
- Triggered by viruses, bacteria, drugs
- Classic presentation??
- Tx: No need, can use;
  - emollient and topical steroid if symptomatic
  - treat the underlying disease

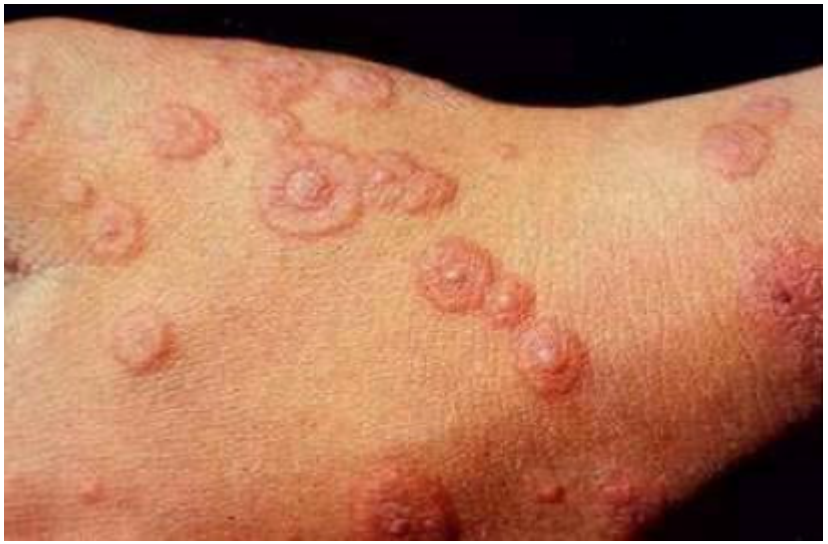

Gianotti-Crosti syndrome

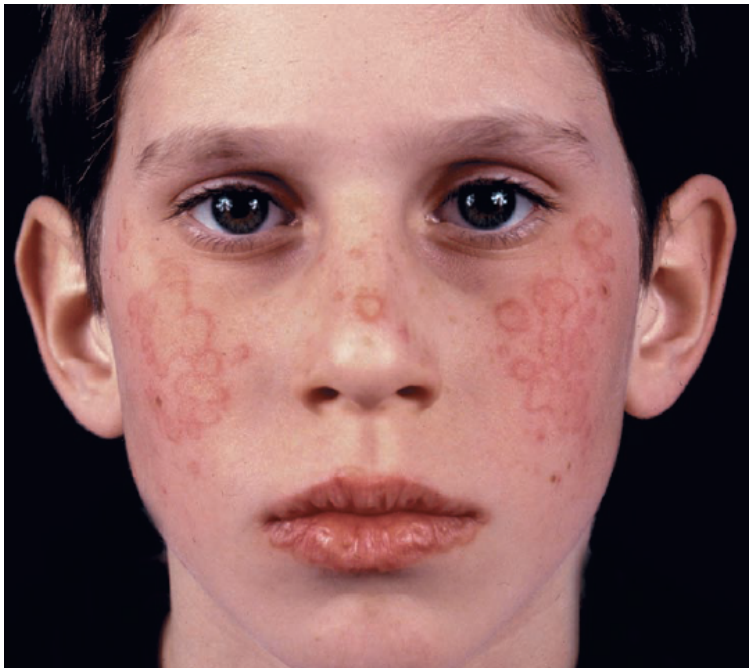
2. EM

- Epidemiology
- Presentation : target lesions
- Pathophysiology: Type IV HSR
- Classification : EM Minor vs Major
- Causes: according to classification, most common cause: HSV
- Dx : Clinical
- TX
- Recurrence ?
- Coarse
- Rare associations

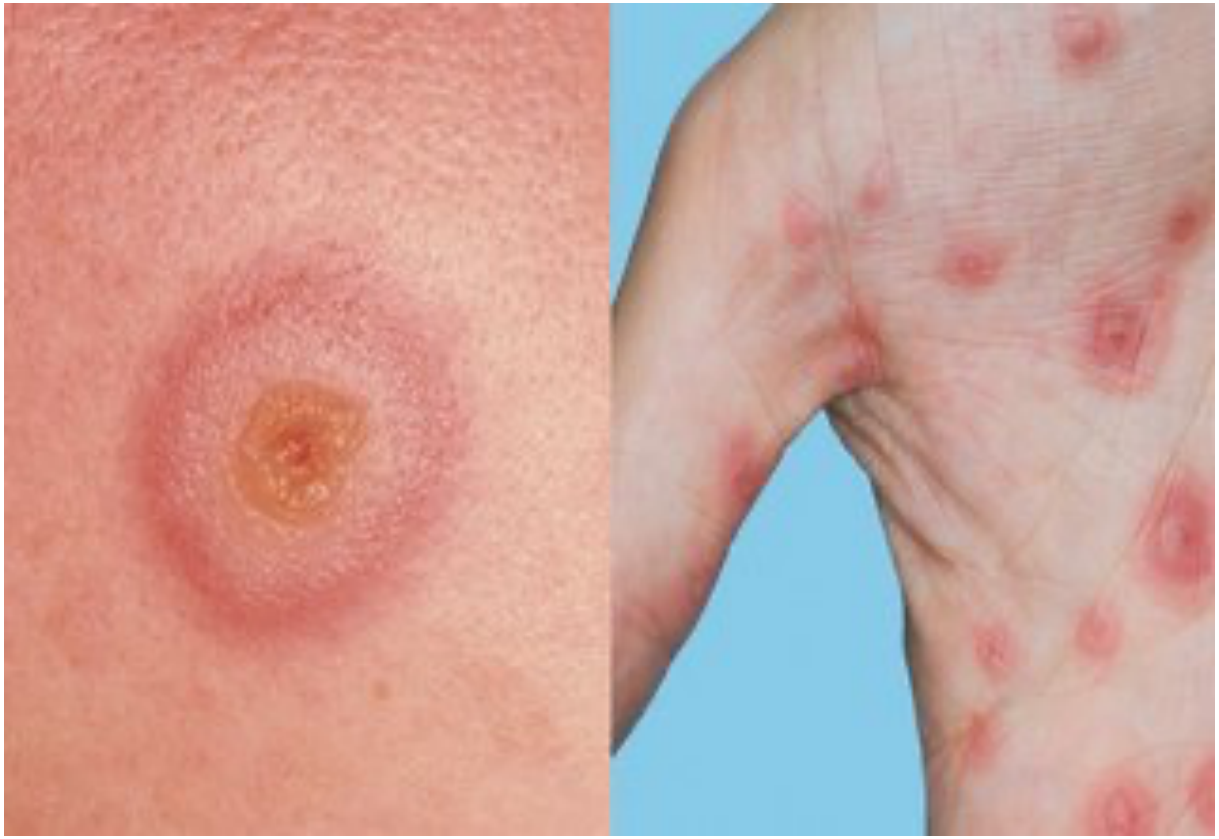
EM

- The most common infectious trigger HSV
- Systemic symptoms of the underlying infection usually precede the EM rash by 2–14 days.





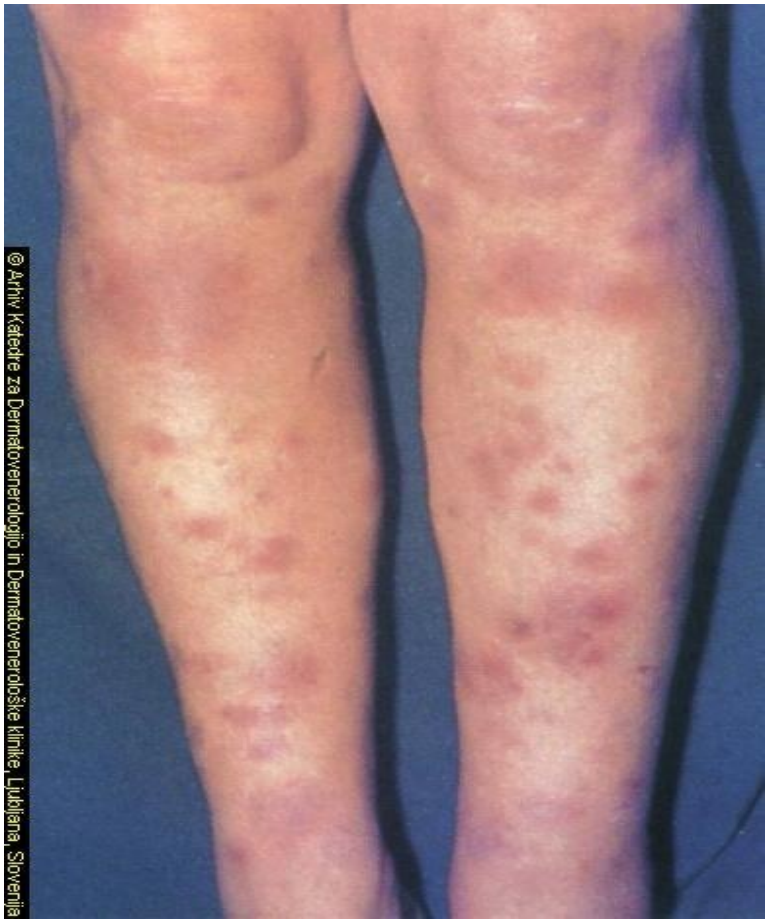
EM

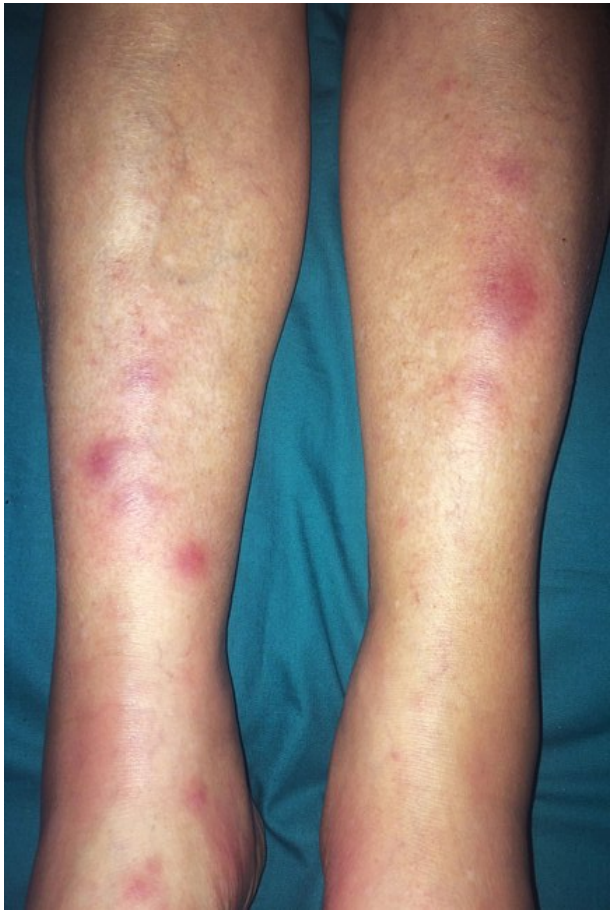


Erythema Nodosum

- Most common Panniculitis.
- Epidemiology: F >> M
- Presentation: acute, painful nodules (Shin), especially by palpation.
- Idiopathic (50%) vs Secondary
- Secondary causes: Multiple, shown in the table
- Most Common Sec : Strep
- Skin lesions: very tender nodules(3–20 cm), not sharply marginated
- Dx & management: Bacterial Culture, Imaging, Dermatopathology
- Course: Spontaneous resolution occurs in 6 weeks
- Tx: treat secondary; rest + NSAIDs (steroids ?)

3. Erythema nodosum



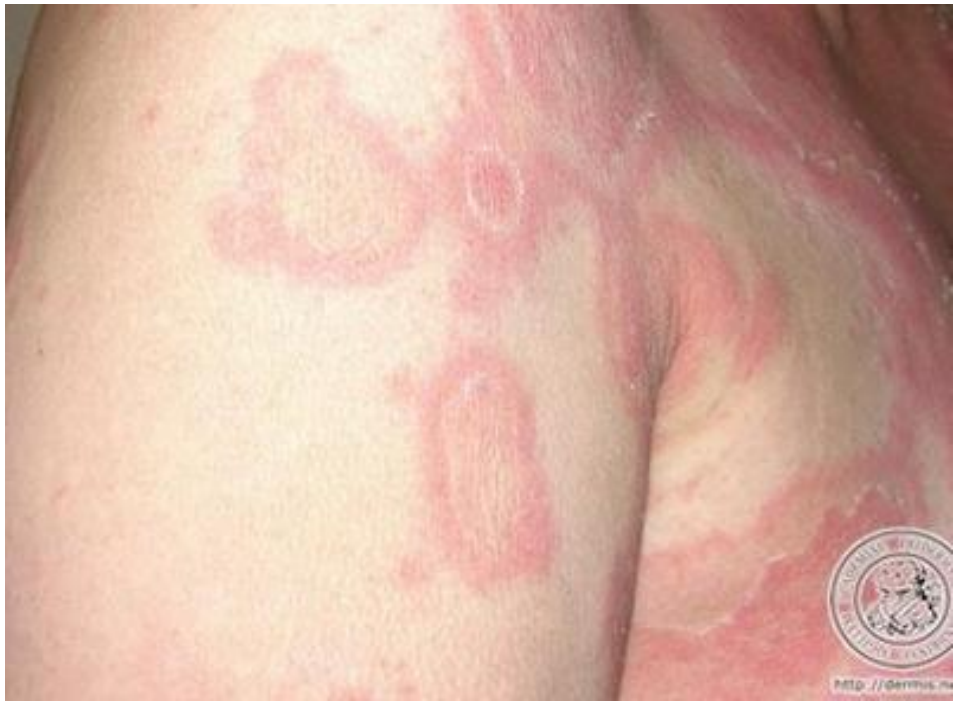


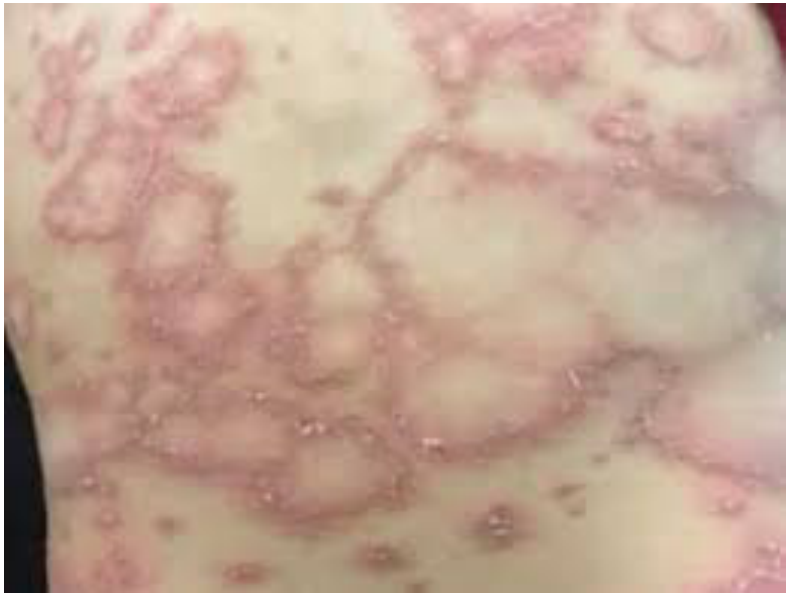
EN: Causes

TABLE 7-1 CAUSES OF ERYTHEMA NODOSUM[a]

Infections	Other
Bacterial	**Drugs**
Streptococcal infections, tuberculosis, yersiniosis Other: *Salmonella, Campylobacter, Shigella,* brucellosis, psittacosis, *Mycoplasma*	Sulfonamides; bromides and iodides Oral contraceptives Other: minocycline, gold salts, penicillin, salicylates
Fungal	**Malignancies**
Coccidioidomycosis, blastomycosis, histoplasmosis, sporotrichosis, dermatophytosis	Hodgkin and non-Hodgkin lymphoma, leukemia, renal cell carcinoma
Viral	**Other**
Infectious mononucleosis, hepatitis B, orf, herpes simplex	Sarcoidosis Inflammatory bowel disease: ulcerative colitis, Crohn disease Behçet disease
Other	
Amebiasis, giardiasis, ascariasis	

4. Erythema annulare centrifugum

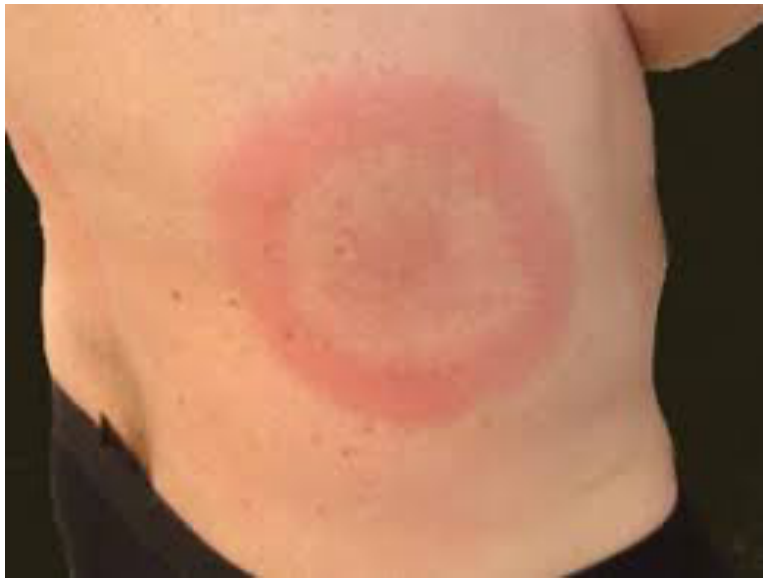




Vs Tinea Corporis

5. Erythema chronicum migrans

- Caused by Borrelia burgdorferi (lyme disease)
- Migrating erythema
- Cutaneous inflammatory response to Borriella.

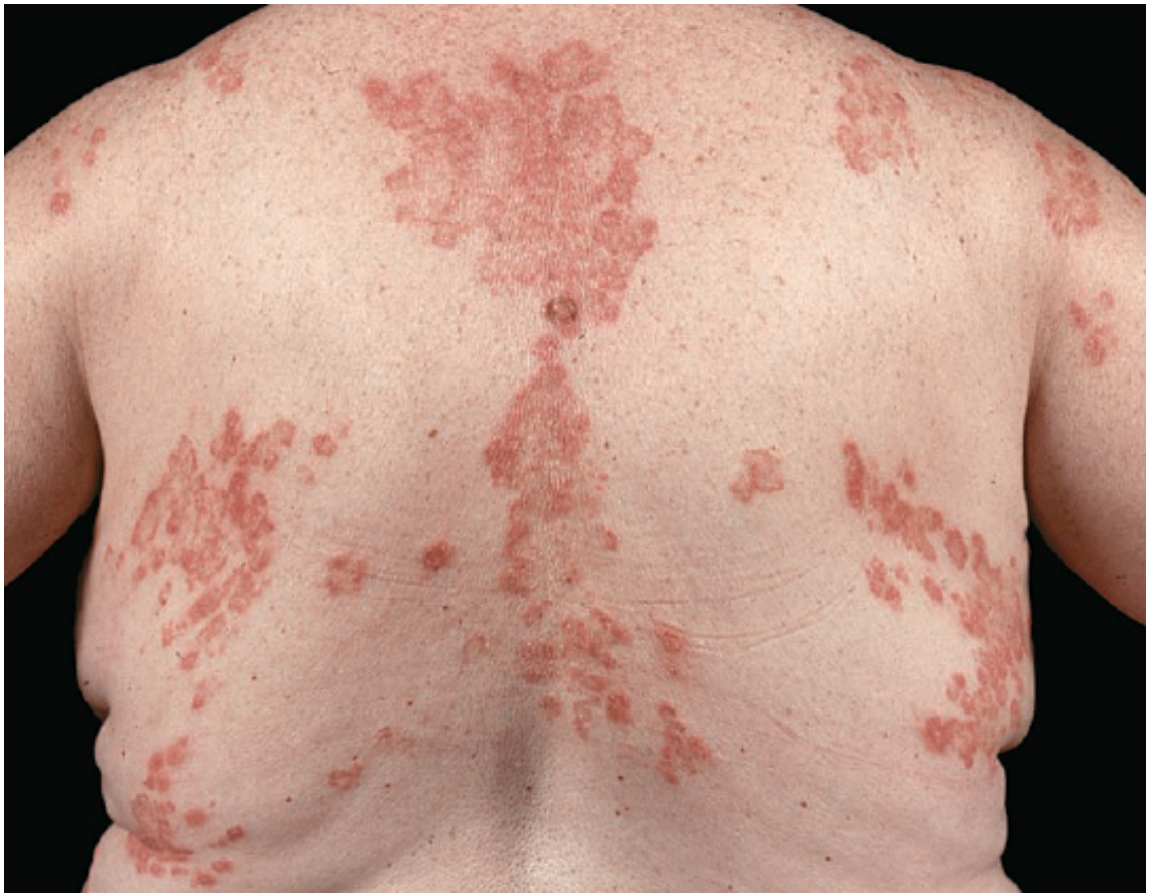


Sarcoidosis

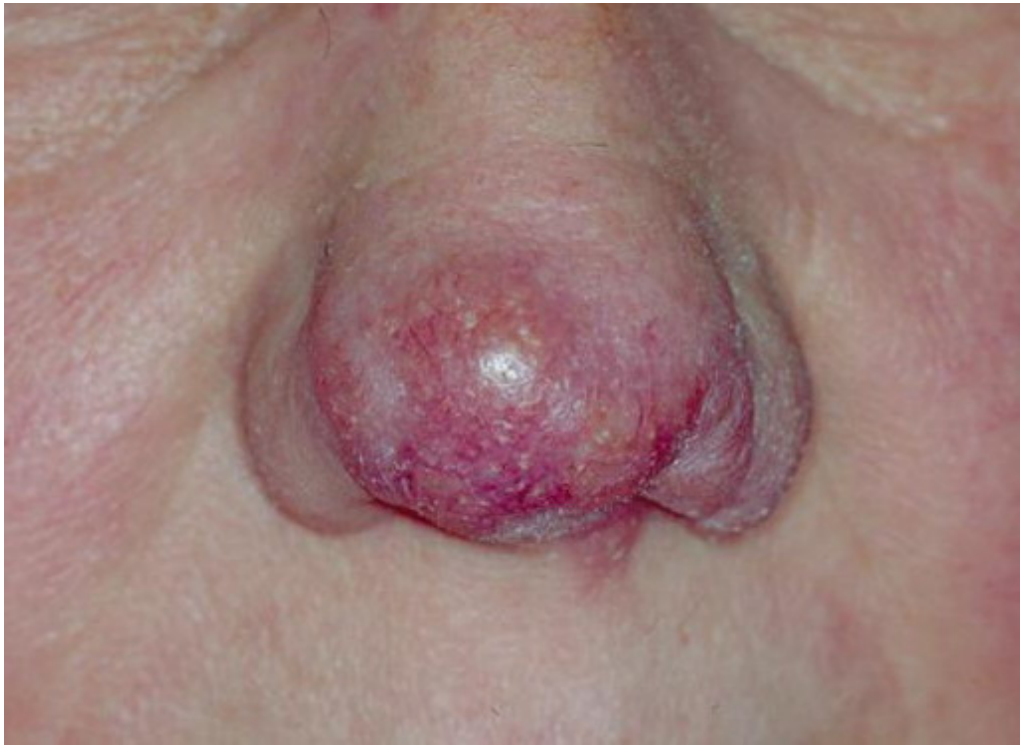
Sarcoidosis

- Unknown etiology, atypical mycobacterium may be the trigger
- Presentation:
- May occur with or without cutaneous disease
- Skin lesions : Specific vs Non-specific
- Earliest: skin-colored papules, on the face, heal without scarring.
- Then: Plaques; annular, extremities and Buttoks, SCARRING, Chronic disease
- Lupus Pernio: violaceous plaques on the nose and cheeks
- EN: m/c NS skin lesion, early sarciod.
- Scarring sarcoidosis.

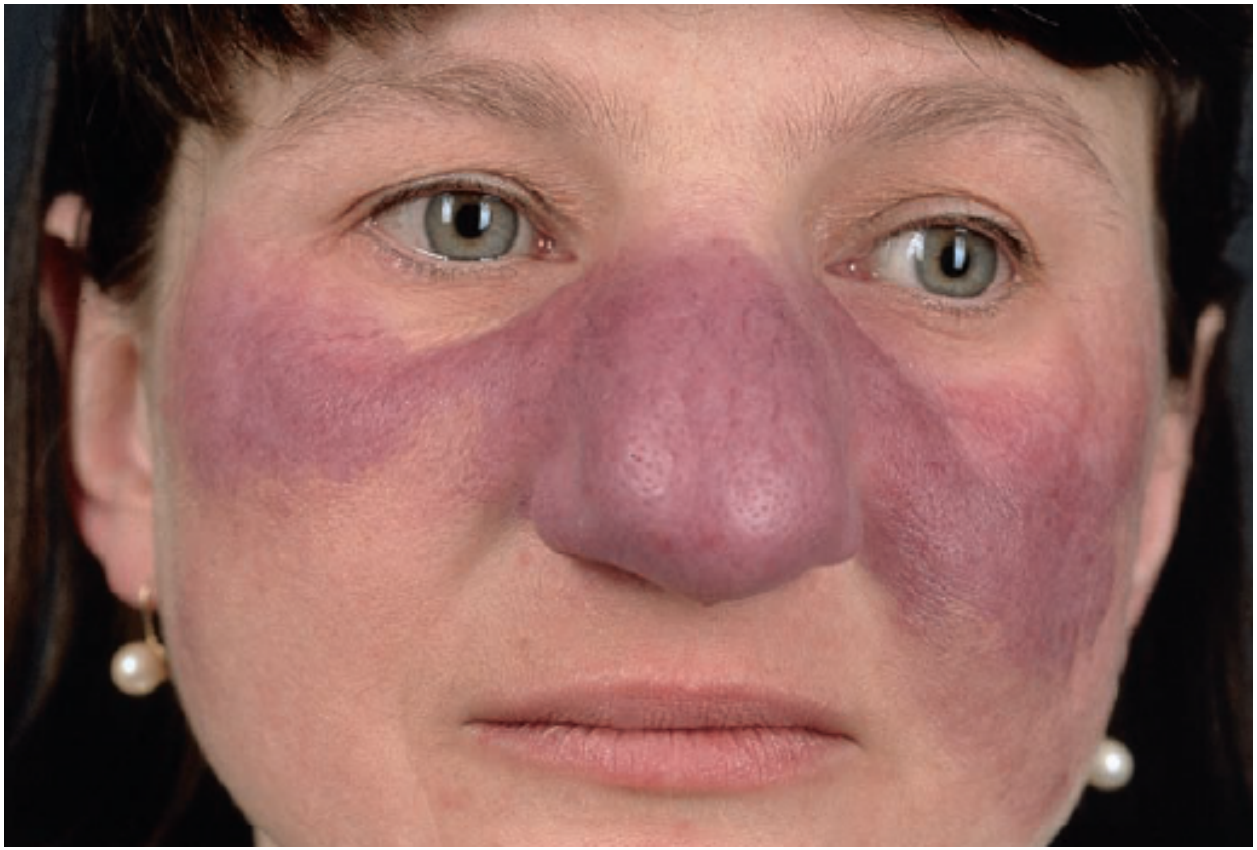
Sarcoidosis



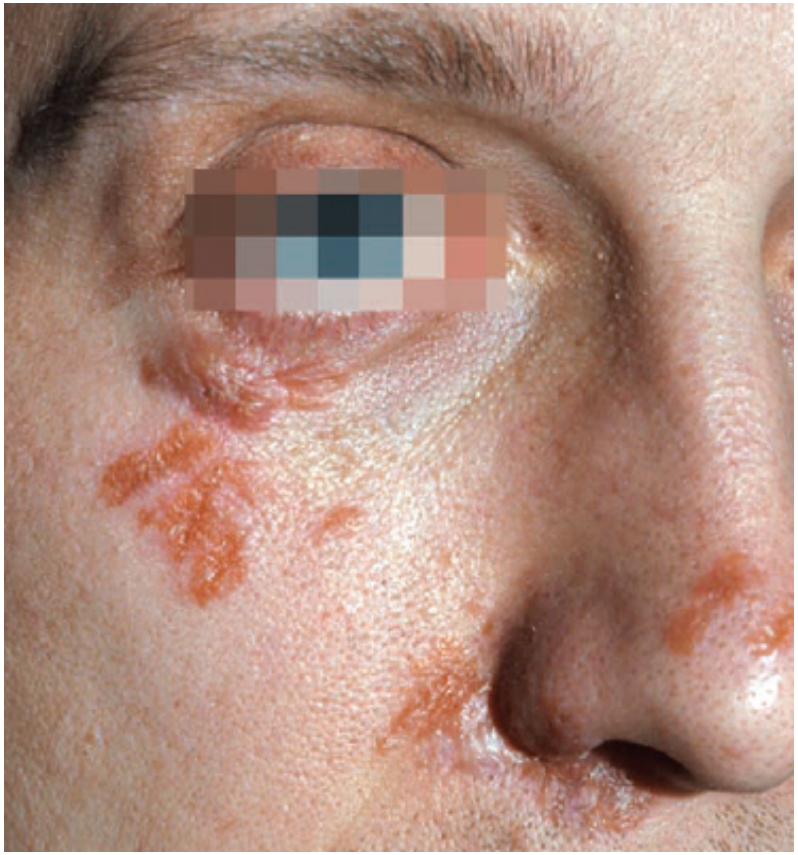
Dusky infiltrated lesions: Lupus Pernio



Lupus pernio



Scarring sarcoid



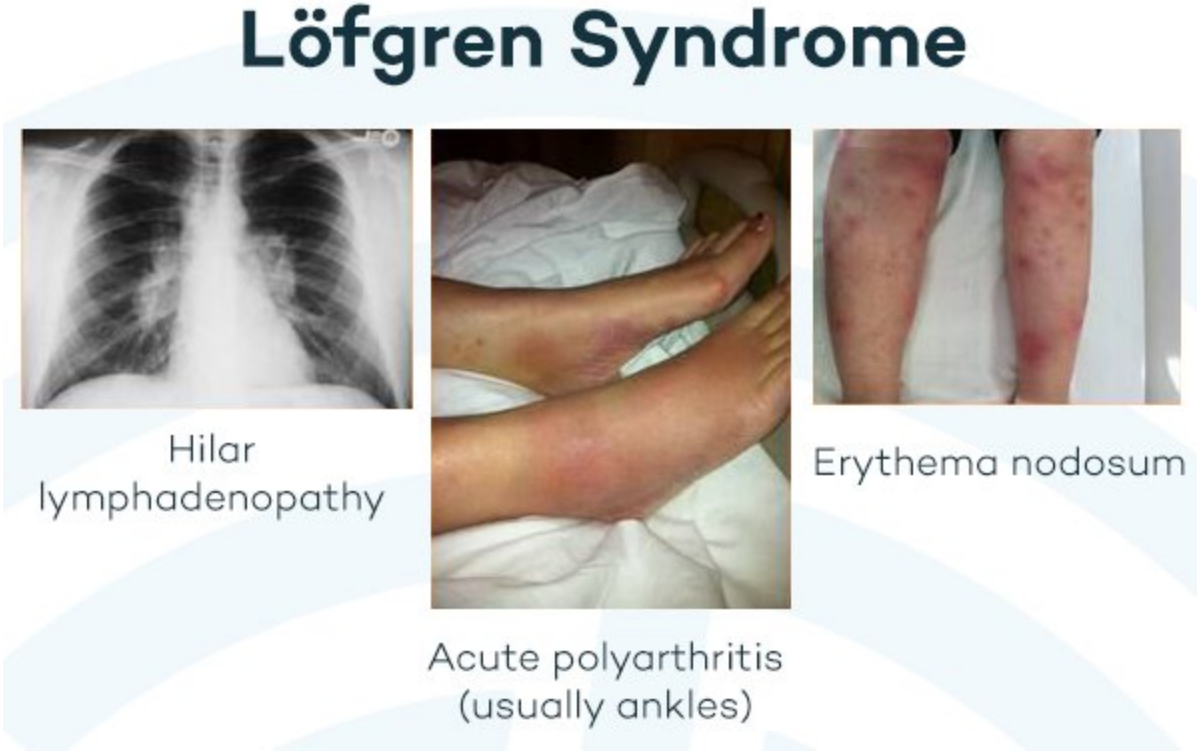
Löfgren syndrome

-Erythema nodosum

-Fever

-Arthritis

-Hilar adenopathy



Diagnosis and management

- Imaging
- Labs
- Lesional biopsy
- Tx:
- Systemic involvement: systemic steroids
- Limited cutaneous: topical steroids, if extensive: systemic steroids, mtx, hydroxychloroquine.

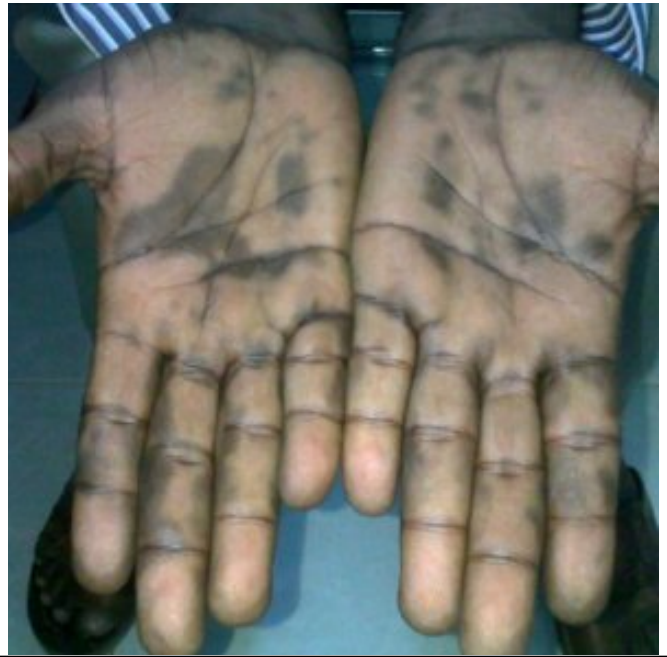
Skin changes ass with hormonal imbalance

Hyperpigmentation

- Increase in circulating hormones with melanocyte-stimulating activity
- Hyperthroidism, acromegaly, **Addison's disease**
- Pregnancy, OCPs -> melasma/chloasma (localized on the forehead and cheeks)
- It may fade slowly if ultraviolet light

is excluded from the affected

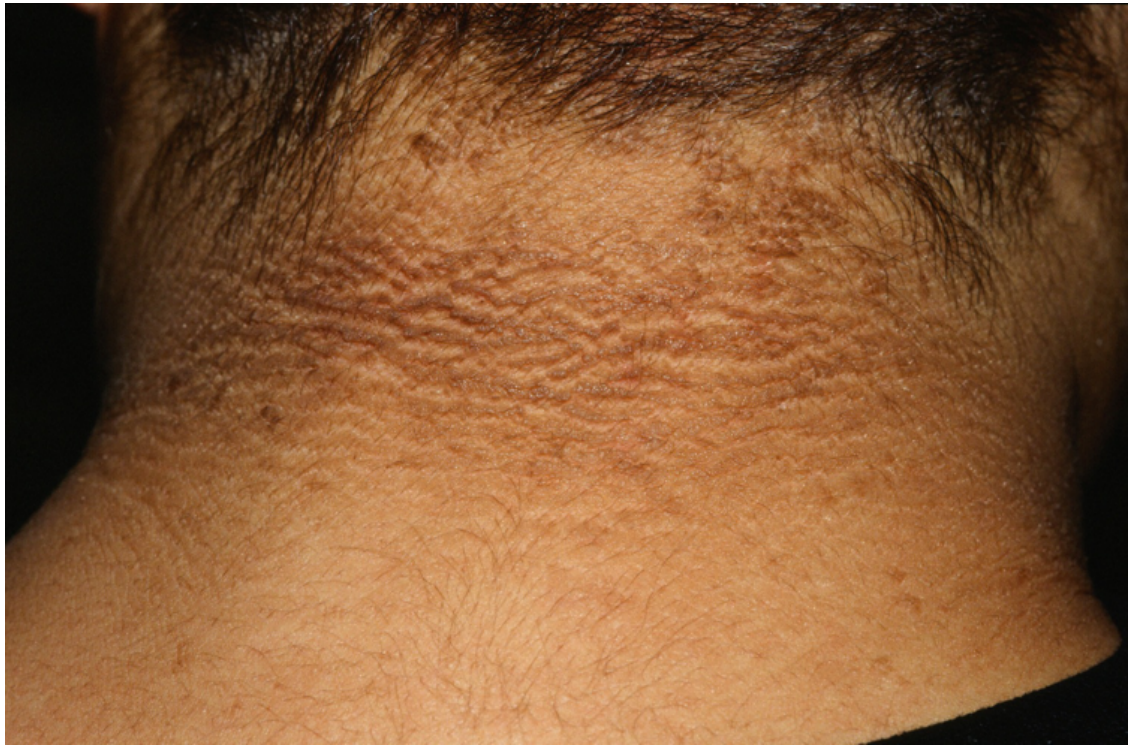
skin using daily sun block.



Hypopigmentation

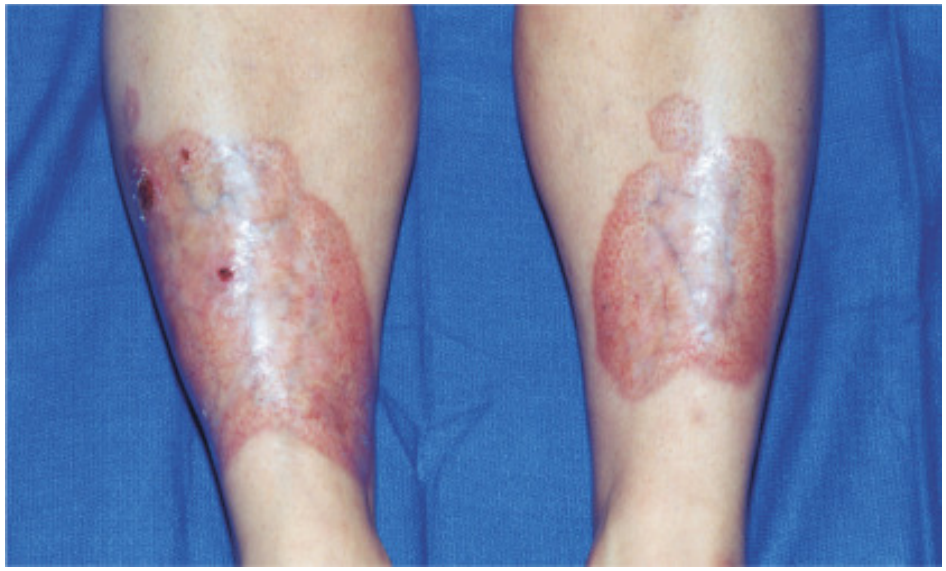
- Widespread partial loss of melanocyte function
- Hypopituitarism (absence if MSH)

Acanthosis nigricans



Necrobiosis lipoidica

- Associated with DM
- Not related to the severity of DM
- Coarse not affected by controlling blood suger
- Tx: intralesional steroids, surgery.



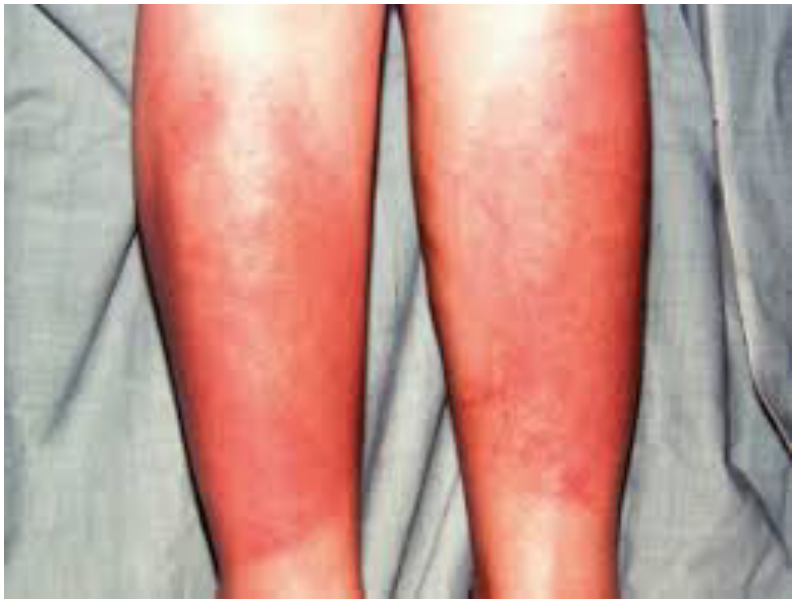
Thyroid disease

Table 10.1 Clinical signs of thyroid disease.

Hypothyroidism	Hyperthyroidism
Dry skin	Soft, thickened skin
Oedema of eyelids and hands	Pretibial myxoedema
Absence of sweating	Increased sweating (palms and soles)
Coarse, thin hair; loss of pubic, axillary and eyebrow hair	Thinning of scalp hair Diffuse pigmentation
Pale 'ivory' skin	Rapidly growing nails Palmar erythema
Brittle poorly growing nails	Facial flushing
Purpura, bruising and telangiectasia	

Graves disease

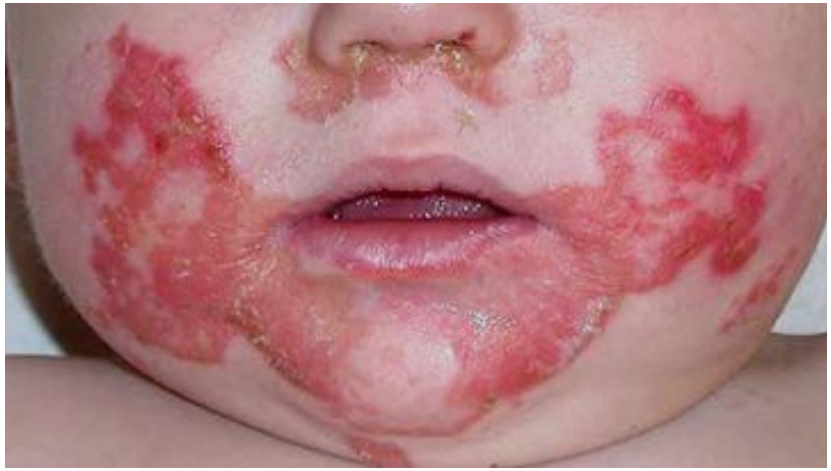
- Hyperthyroidism with diffuse goiter, Opthalmopathy and dermopathy.
- Dermopathy: *pretibial myxedema*
- *Tx: steroids*



Skin changes with GI and liver diseases

Zinc deficiency

- Acrodermatitis enteropathica : genetic disorder of Zinc absorption (seen in neonates)
- Acquired zinc deficiency (AZD) occurs in older individuals due to dietary deficiency or failureof intestinal absorption of zinc (malabsorption,alcoholism, prolonged parenteral nutrition)
- Skin changes usually appear within weeks of birth with erythematous inflamed scaly skin around the mouth, anus and eyes



Zinc def

- If the condition is not recognised and treated promptly then the skin can become crusted, eroded and secondarily infected.(candida, S.aureus)
- Other findings:

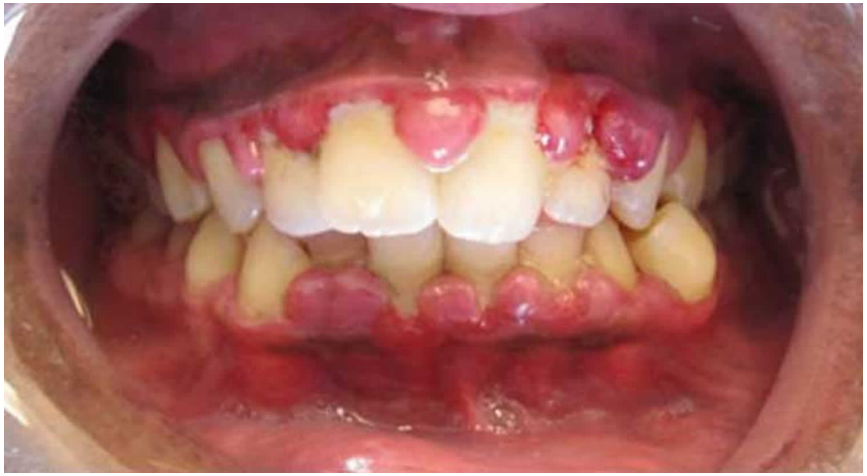
- Zinc supplementation (1mg/kg/day), should be continued until zinc levels normalise (or lifelong in inherited forms).

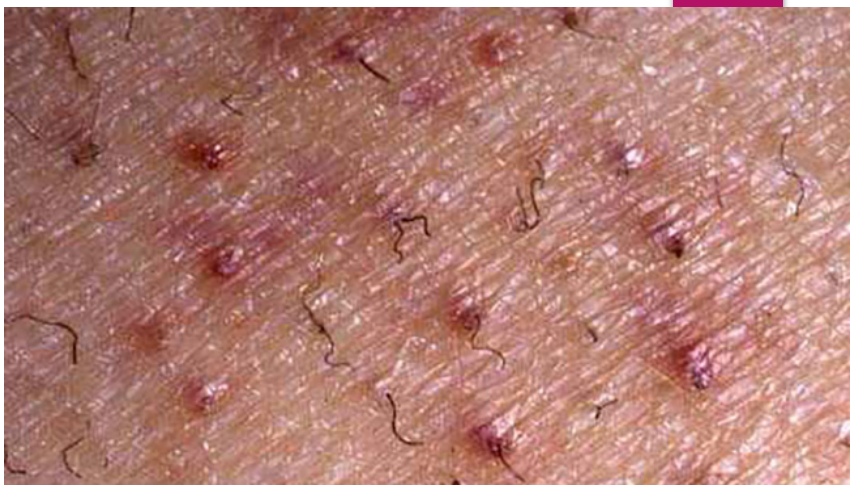
Vitamin C deficiency

- occurs in those with malabsorption problems, those on a poor diet, the elderly and alcoholics
- Vascular fragility
- *Skin lesions*: Petechiae, follicular hyperkeratosis with perifollicular hemorrhage, especially on the lower legs
- Other findings:
- Labs: Normocytic, normochromic anemia, Serum ascorbic acid

level zero. X-ray findings are diagnostic

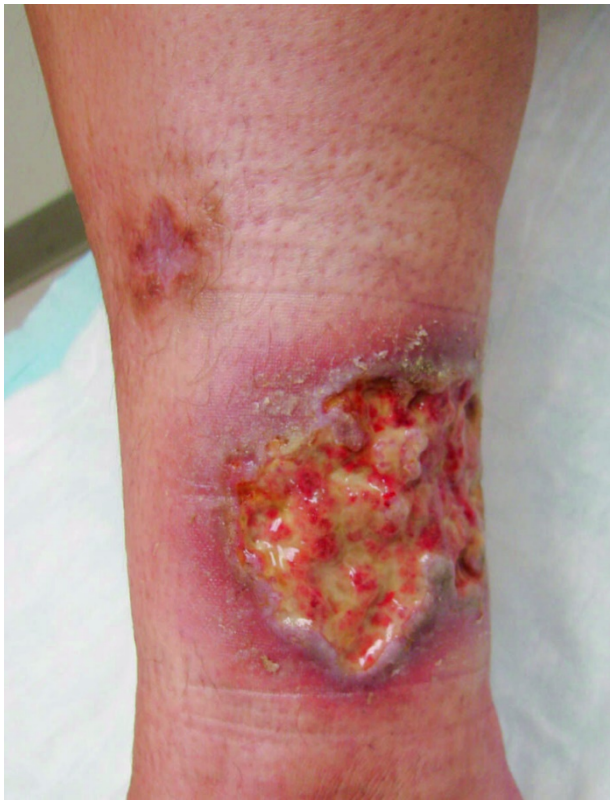
- Tx: Ascorbic acid



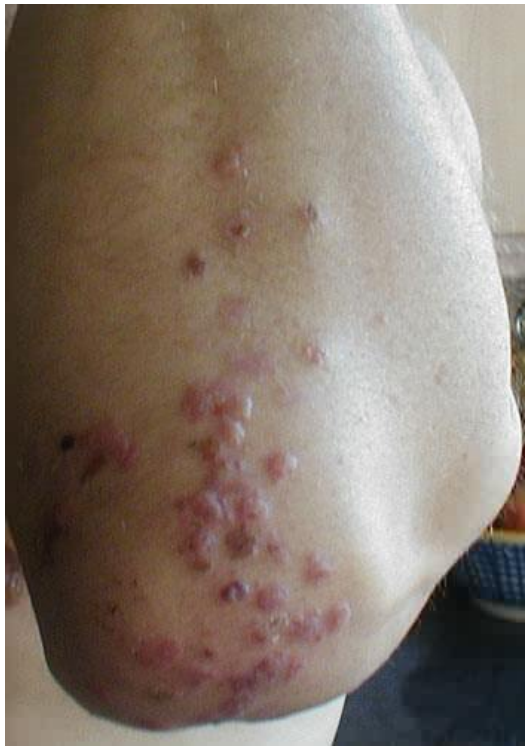


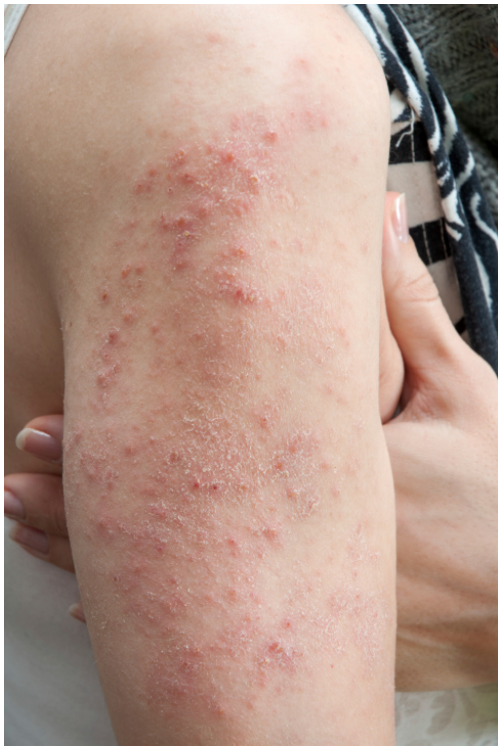
3. Pyoderma gangrenosum

- Rapid and painful ulcerated necrotic skin areas with hypertrophic undermined purplish margins.
- Ass with UC, Crohn's, RA, leukemia, monoclonal gammopathy.



4. Dermatitis herpetiformis





5. Liver disease

Box 10.4 **Liver disease and the skin**

Obstructive

Jaundice
Pruritus.

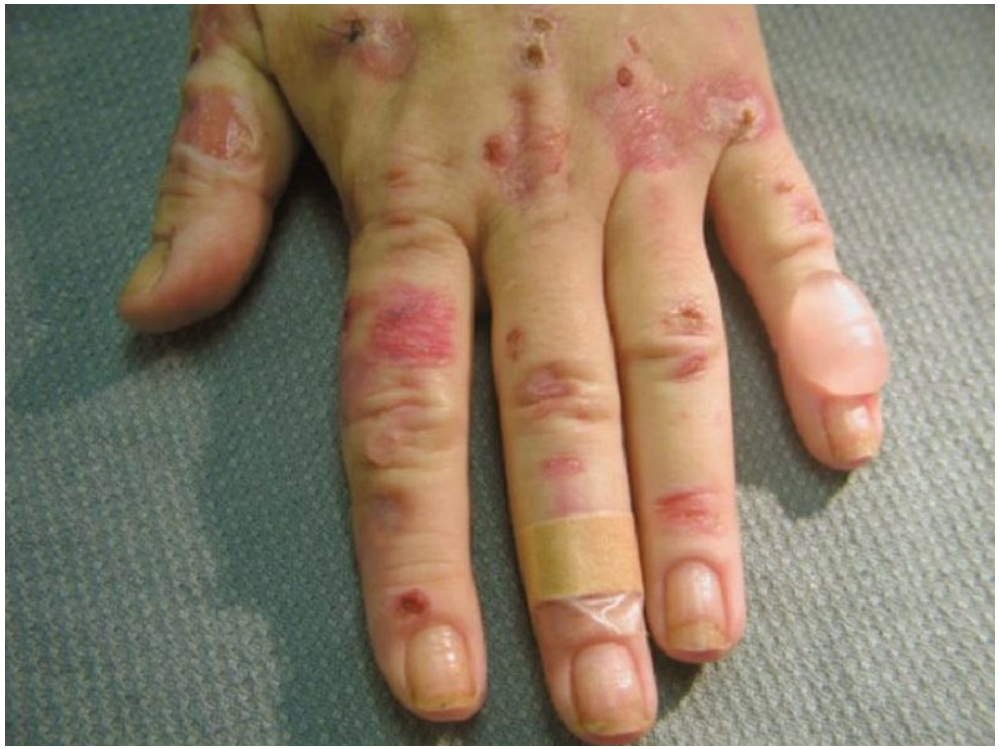
Liver failure

Multiple spider naevi
Palmar erythema
White nails: hypoalbuminaemia
Porphyria cutanea tarda.

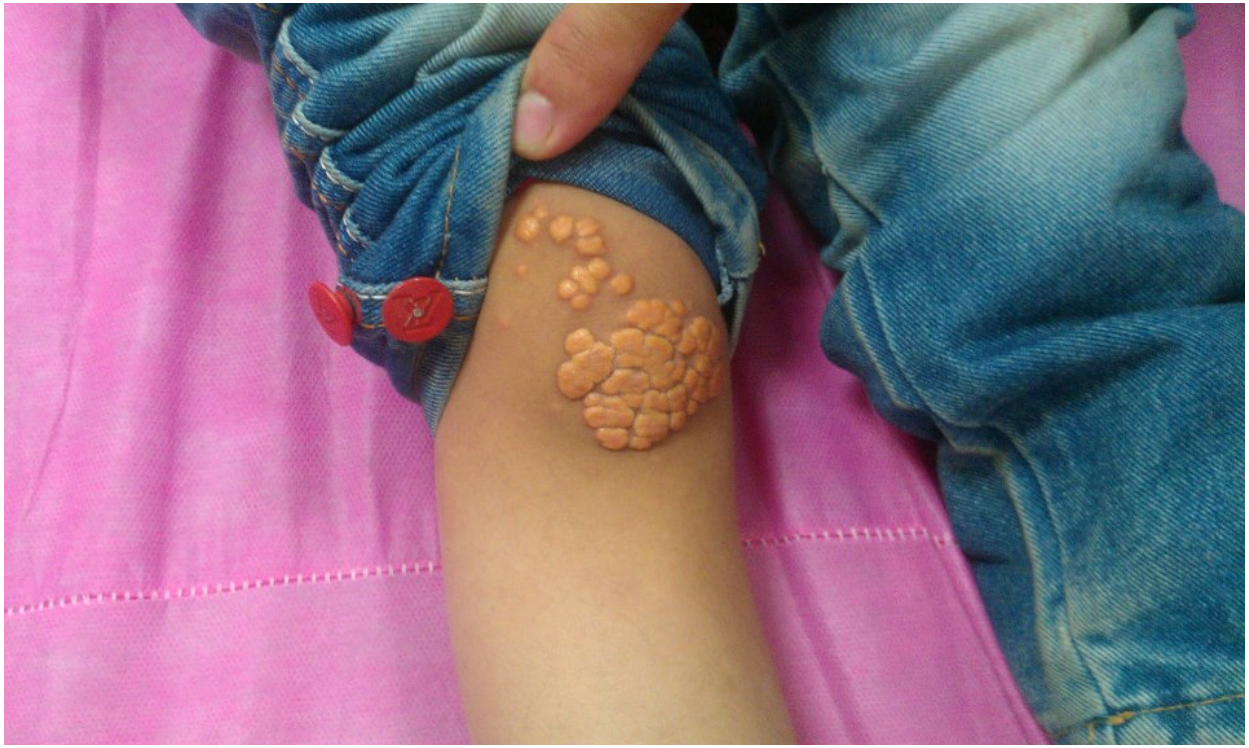
Cirrhosis

Xanthomas (primary biliary cirrhosis)
Asteatosis.

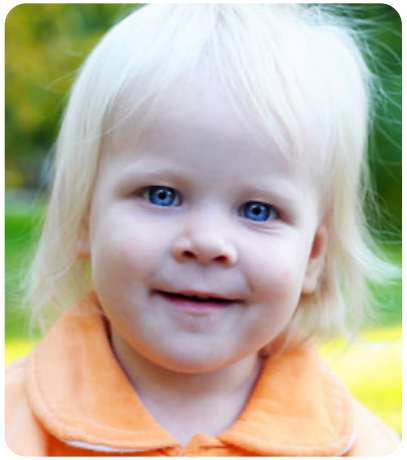
Porphyria cutanea tarda

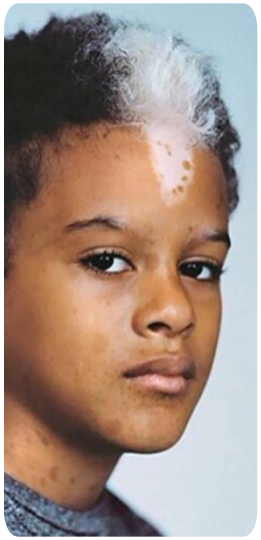


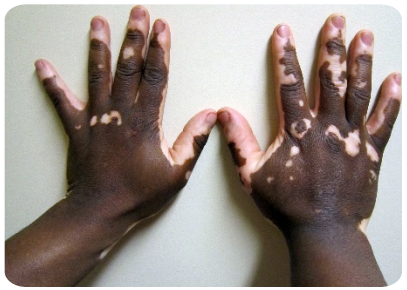
Xanthomas



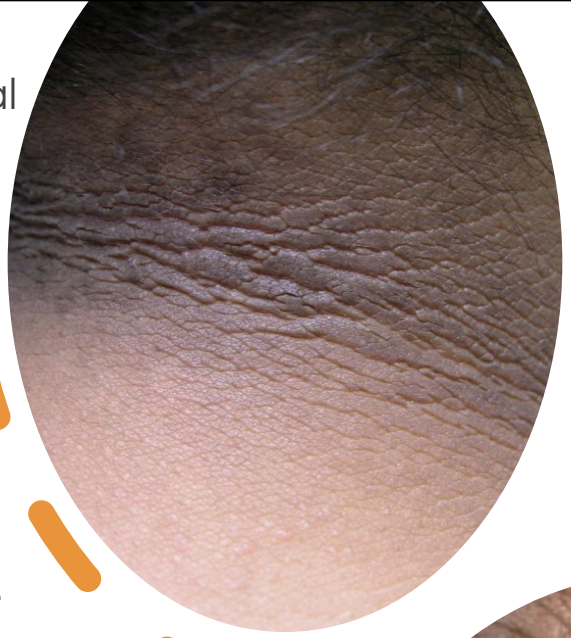
- Albinism , AR , loss of pigment of skin , eyes and hair , no pigment production
- Piebaldism , AD , triangular hypopigmented patches , disorder of melanocyte development
- Vitiligo localized depigmentation, sharply demarcated, symmetrical macular lesions, loss of melanocytes and melanin
- Post- Inflammatory such as psoriasis, eczema, lichen planus and lupus erythematosus; infections, chemicals, reactions to pigmented naevi, genetic diseases





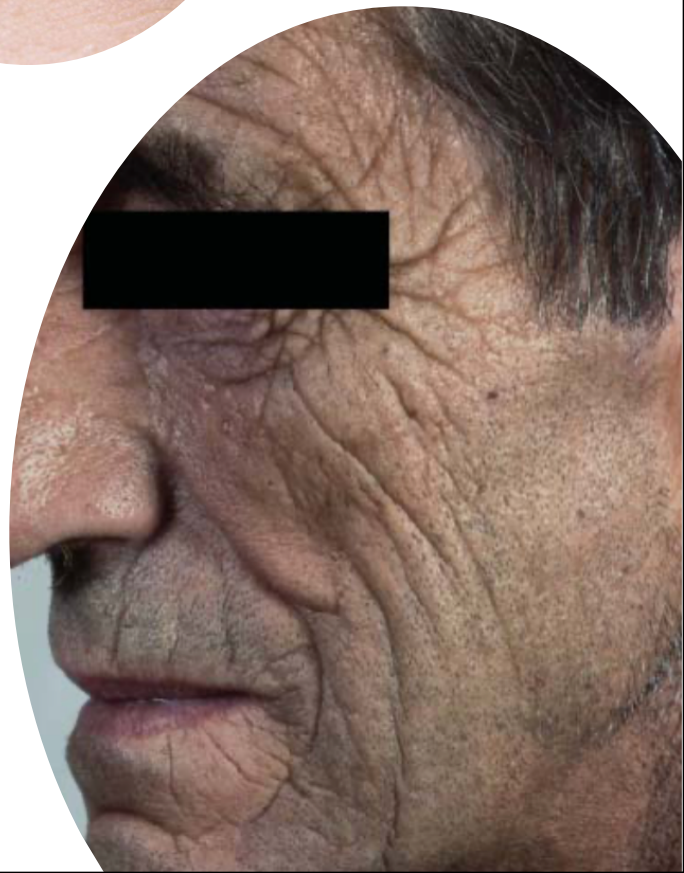


There is wide variation in the pattern of normal pigmentation as a result of hereditary factors and exposure to the sun.



Darkening of the skin may be due:

- 1. An increase in the normal pigment melanin
- 2. Deposition of bile salts from liver disease
- 3. Iron salts (haemochromatosis)
- 4. Drugs or metallic salts from ingestion
- 5. AN is characterised by darkening and thickening of the skin of the axillae, neck, nipples and umbilicus
- 6. Post-inflammatory pigmentation is common, often after acute eczema, fixed drug eruptions and lichen planus.
- 7. In malabsorption syndromes such as pellagra and scurvy, there is commonly increased skin pigmentation.

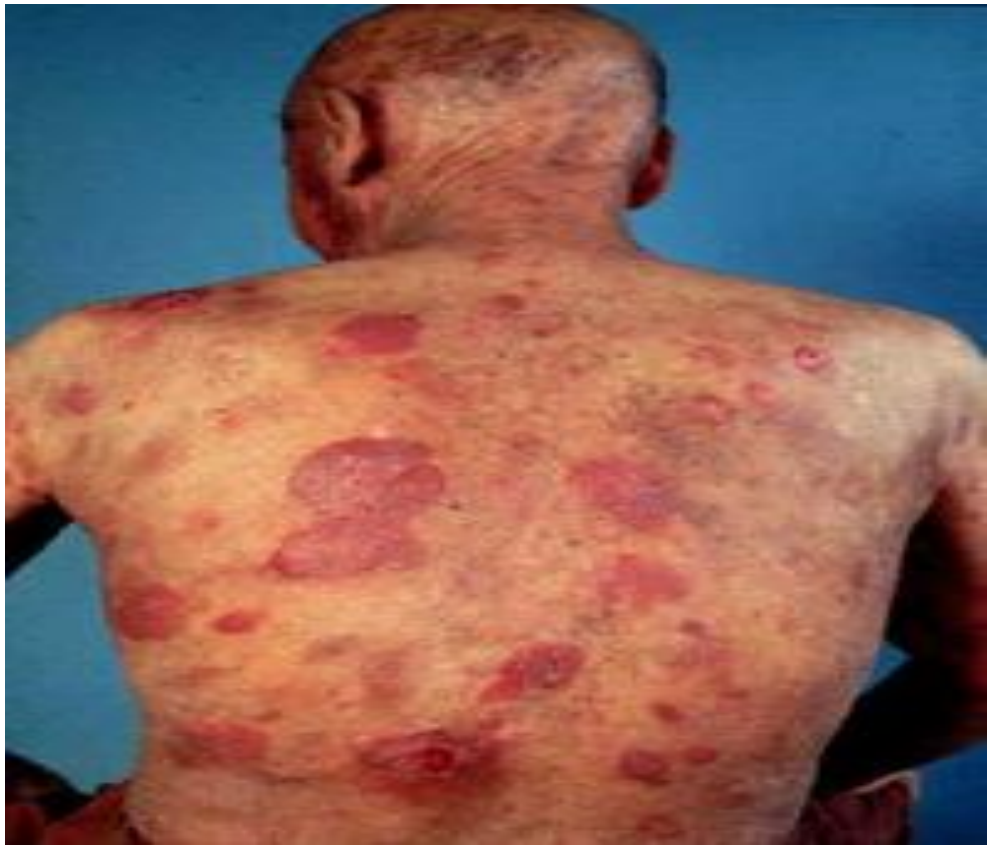


Skin changes of underlying malignancy

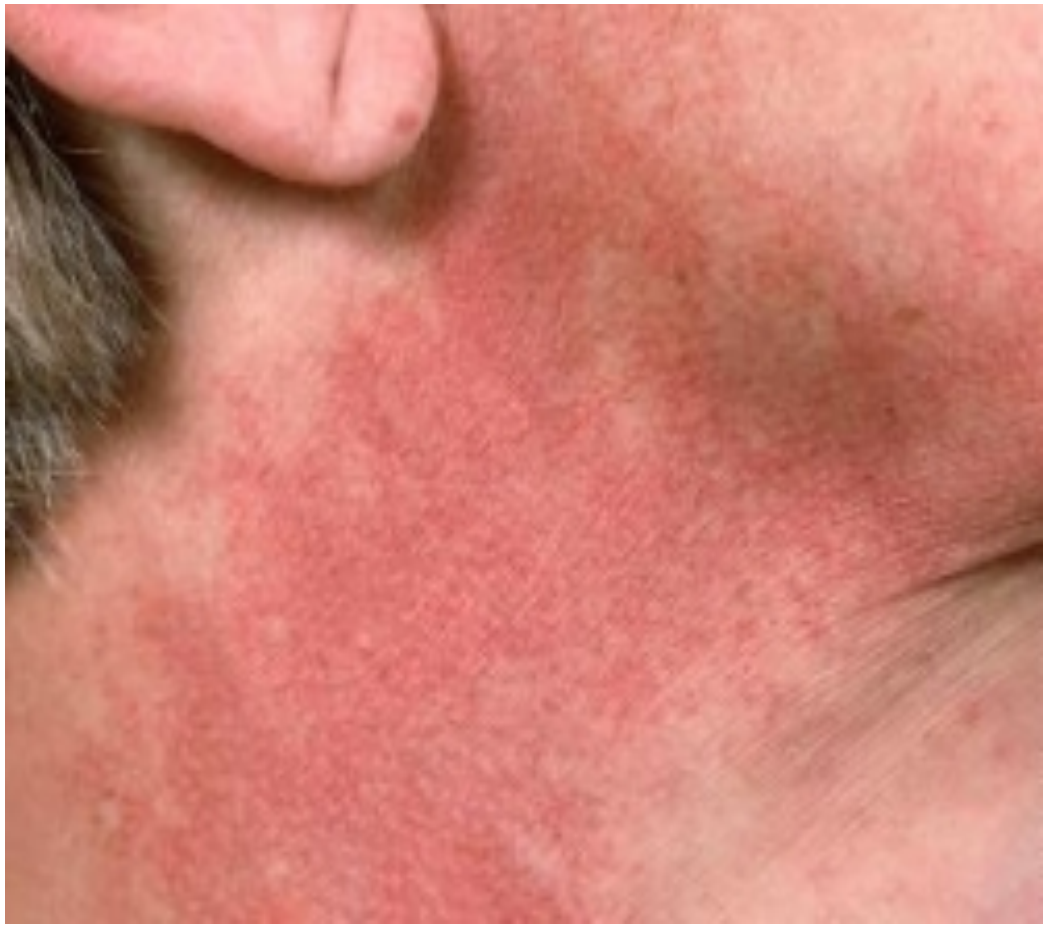
Skin disorders associated with malignancy:

Skin disorder	Associated malignancies
Acanthosis nigricans	Gastric cancer
Acquired ichthyosis	Lymphoma
Erythroderma	Lymphoma
Acquired hypertrichosis lanuginosa	Gastrointestinal and lung cancer
Erythema gyratum repens	Lung cancer
Dermatomyositis	Bronchial and breast cancer
Migratory thrombophlebitis	Pancreatic cancer
Necrolytic migratory erythema	Glucagonoma
Pyoderma gangrenosum	Myeloproliferative disorders
Sweet's syndrome	Hematological Ca e.g. Myelodysplasia - tender, purple plaques
Tylosis	Oesophageal cancer

Mycosis fungoides

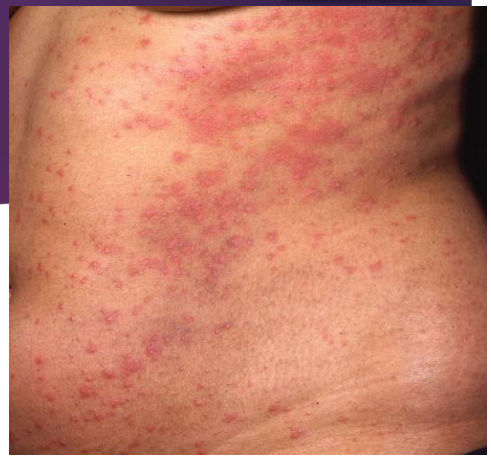


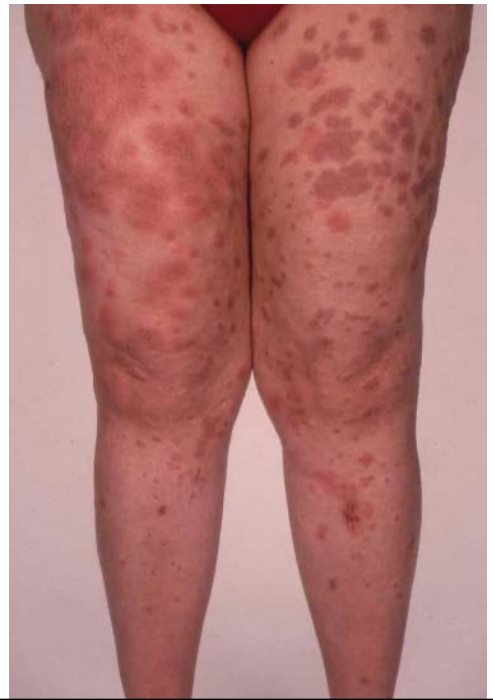
Poikeloderma (telangiectasia , reticulate pigmentation)

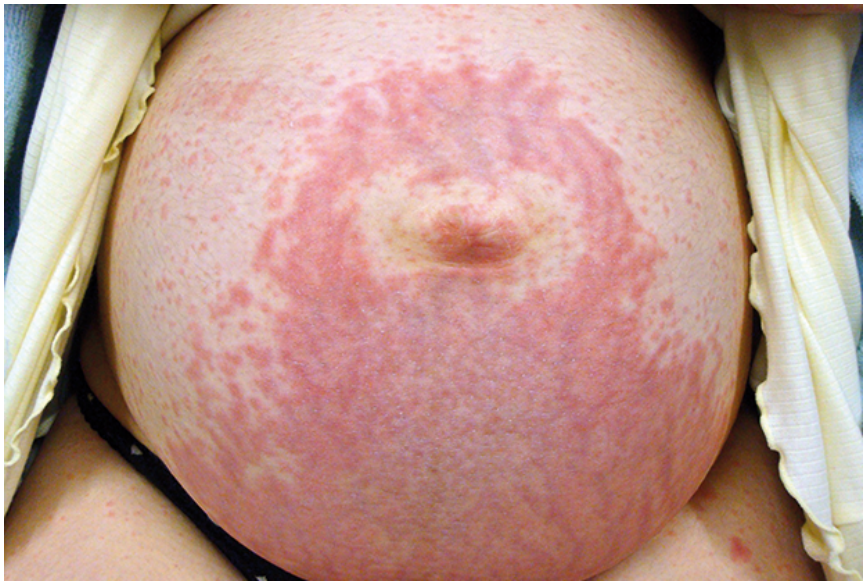


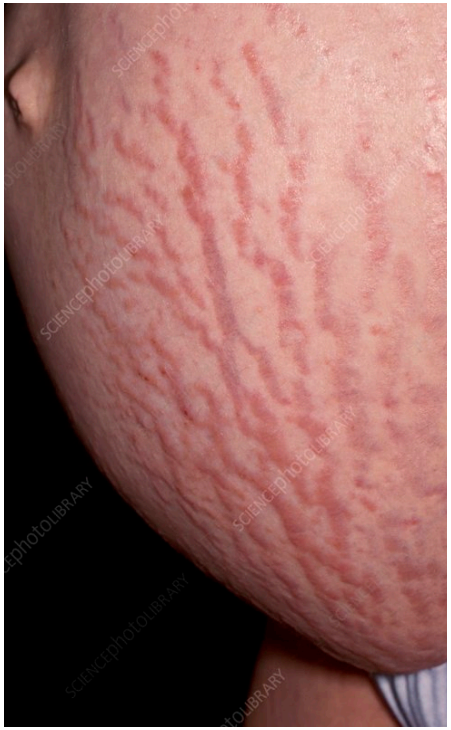
Skin and Pregnancy

- Prurigo gestationis- is a benign non-specific pruritic (itchy) papular rash that arises during pregnancy and is generally more severe in the first trimester.
- *Polymorphous eruption of pregnancy (PEP)* is a pruritic erythematous rash that usually starts in the striae of the abdomen during the third trimester and can become widespread. No effect on aby
- *Pemphigoid gestationis* (PG) is a rare disorder that may initially resemble PEP but develops pemphigoid-like vesicles, spreading over the abdomen and thighs (Figure 10.23). PG is an autoimmune disorder, (Small baby and higher mortality).



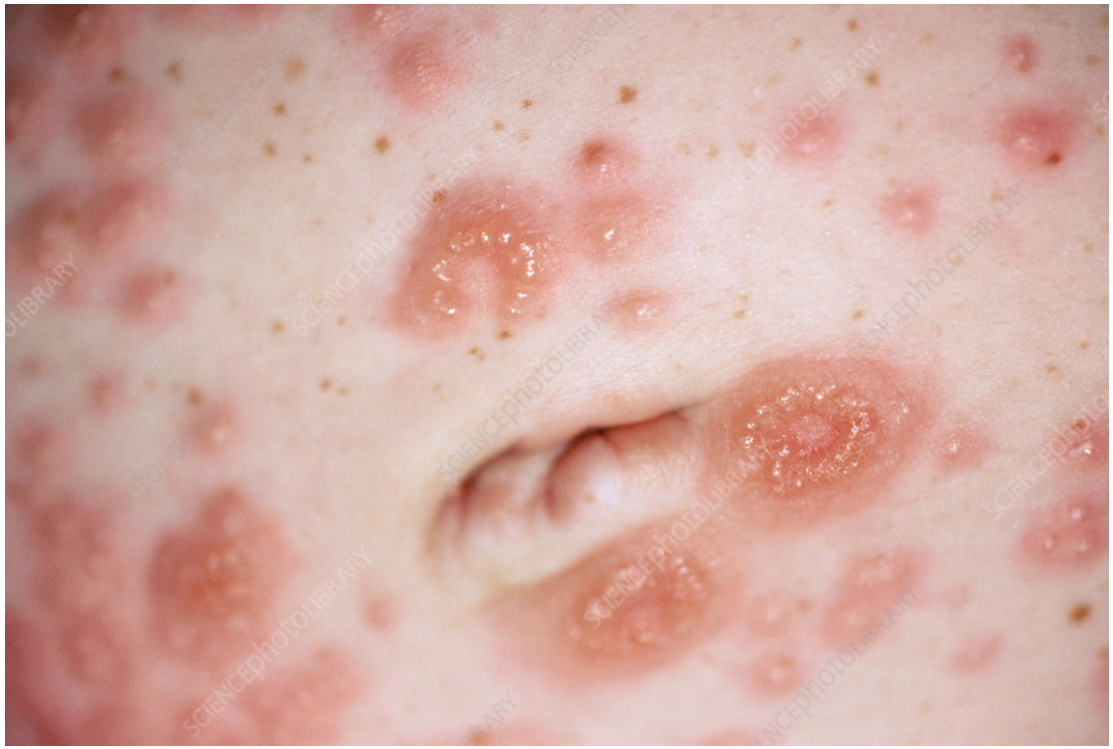






PEP

Pemphigoid gestations



GOOD LUCK