The skin and systemic disease

Clues to possible systemic disease:

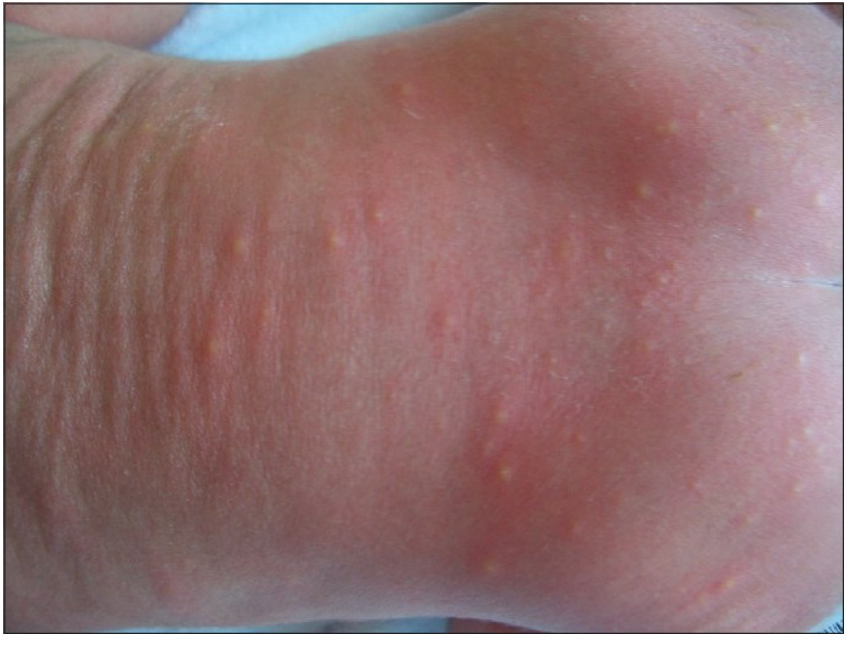
- Rash ass. with joint pain, fever, weight loss, weakness, SOB, altered bowel function
- Rash not responding to topical tx
- Erythema of the skin (inflammation around blood vessels)
- Non blanching palpable purplish fixed lesion , painful and blistering >> vasculitis
- Unusual changes in pigmentation 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

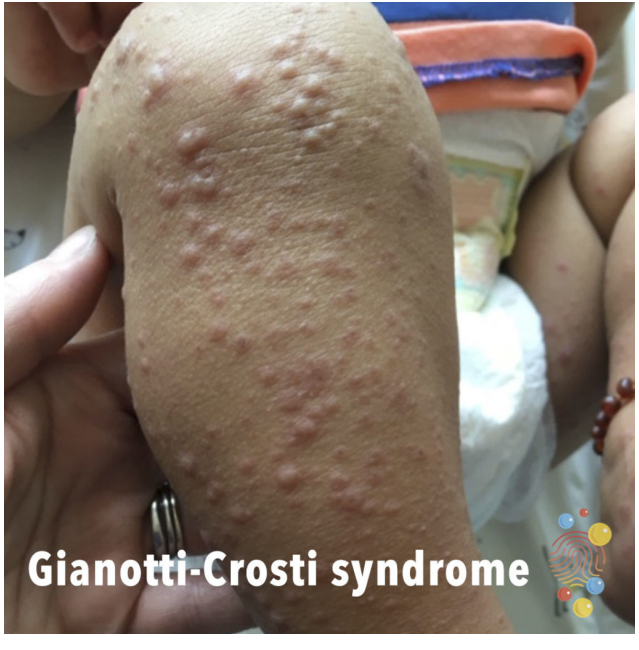
Skin reactions ass with infections

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

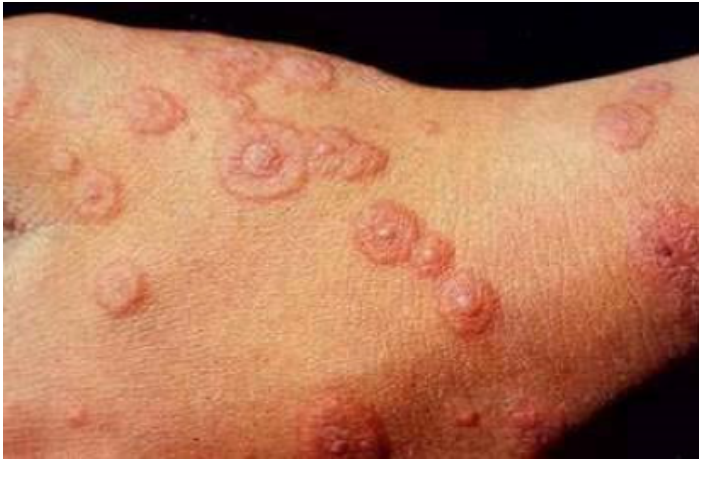

Gianotti-Crosti syndrome

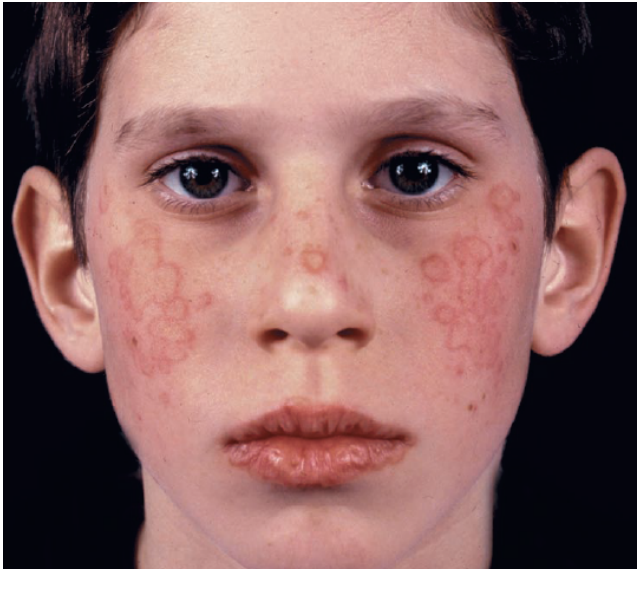
2. EM

- 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

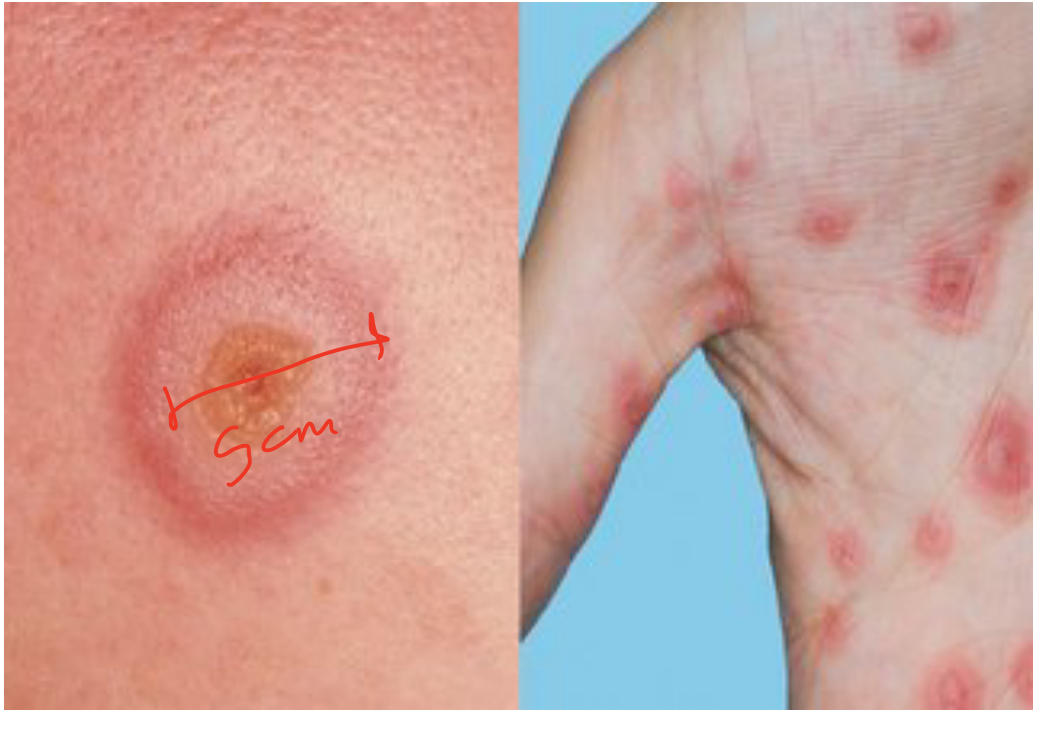
Acrally ← face, hands, feet.

Target

3 shades of colors

Doll's eye

Dusky red (vesicle/necrosis sometimes).
Pinkish
Red again



HSV

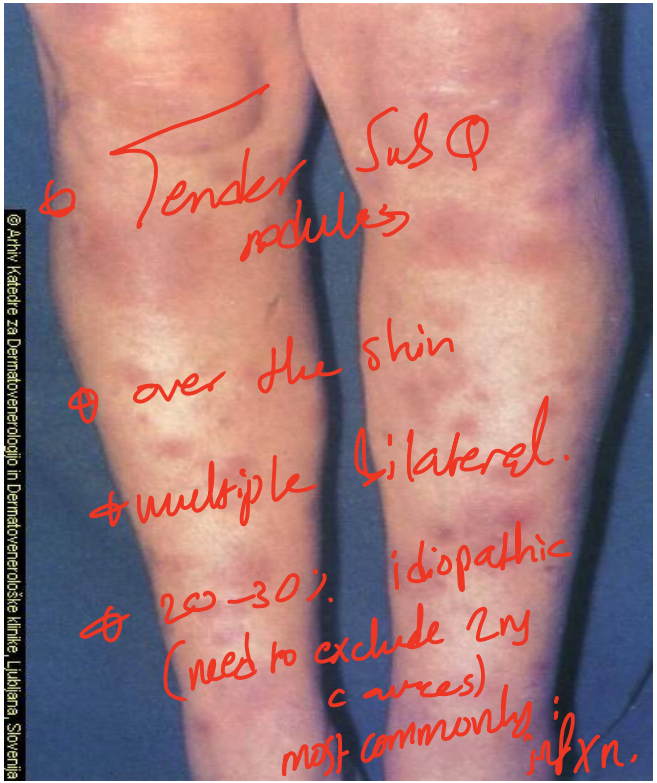
5-14 days.

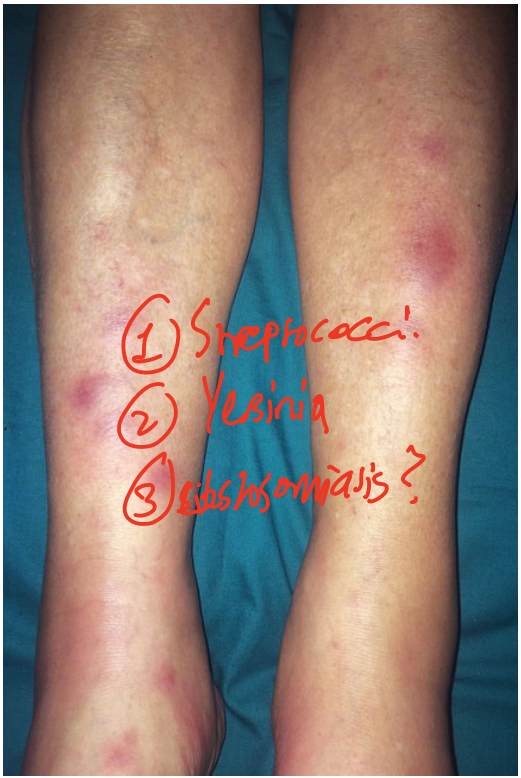
Erythema Nodosum

Panniculitis (adipose tissue inflammation)

- 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



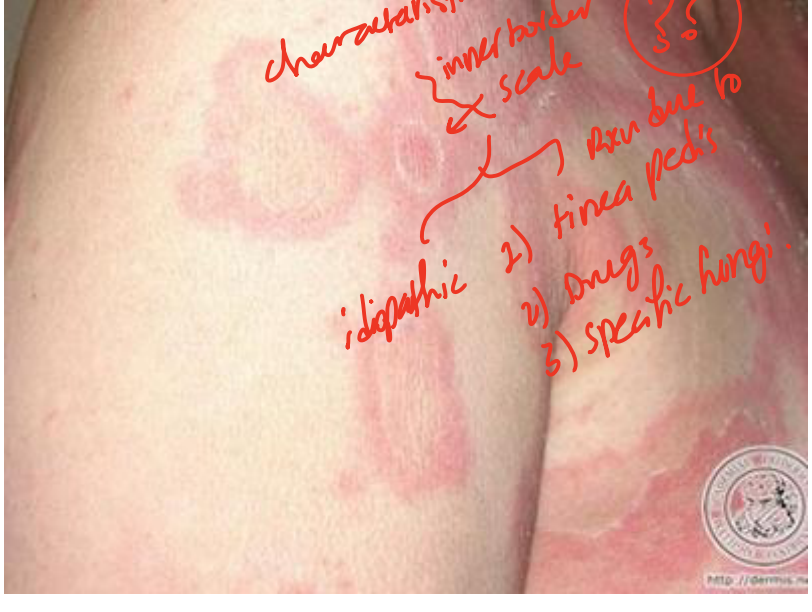


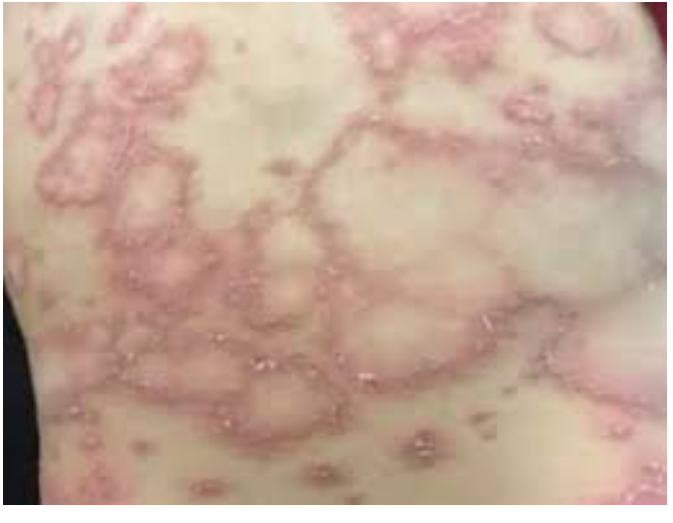
EN: Causes

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

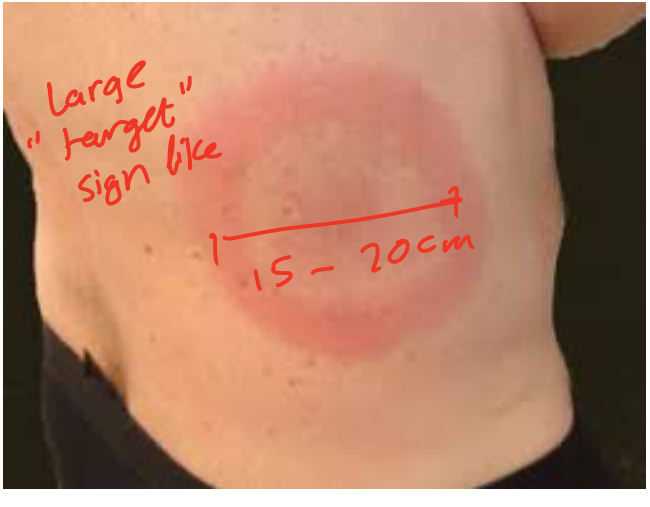




Vs Tinea Corporis

5. Erythema chronicum migrans

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



like syphilis

Bacteria ← spirochete.

Ticks transmitted

hematogenous spread
CVS
CNS
flu like symptoms.

Sarcoidosis

Sarcoidosis

- CXR: Bilateral hilar lymphadenopathy
- Non caseating (unlike TB)
- Multi systemic
- 20% cutaneous

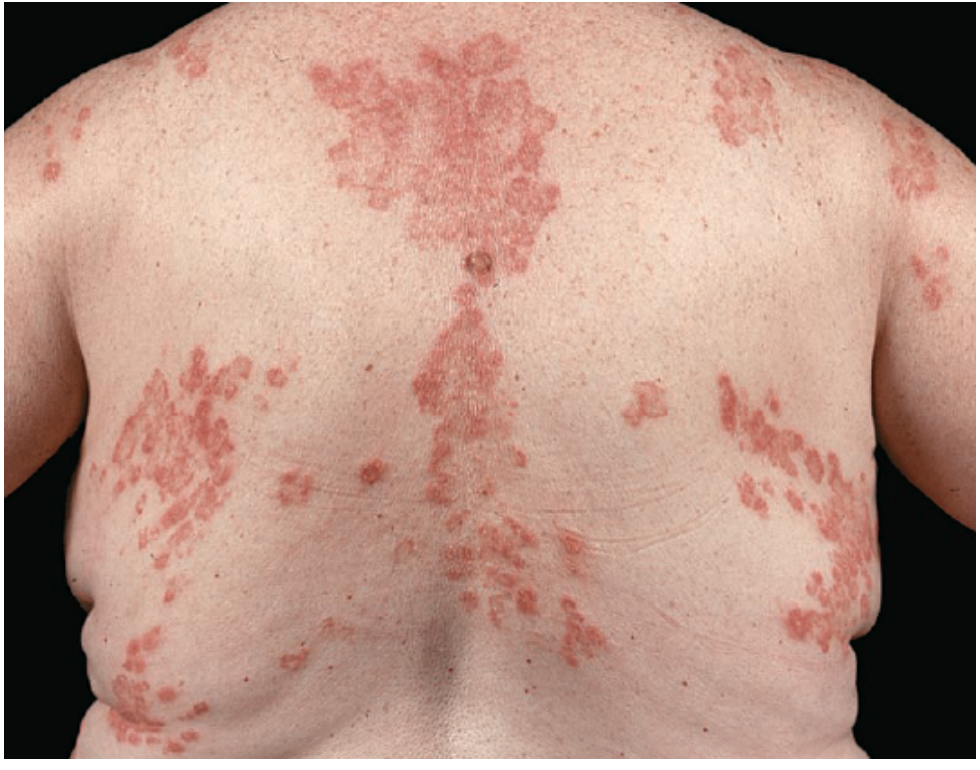
Big mimic.

- 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

Psoriasiform eczematous

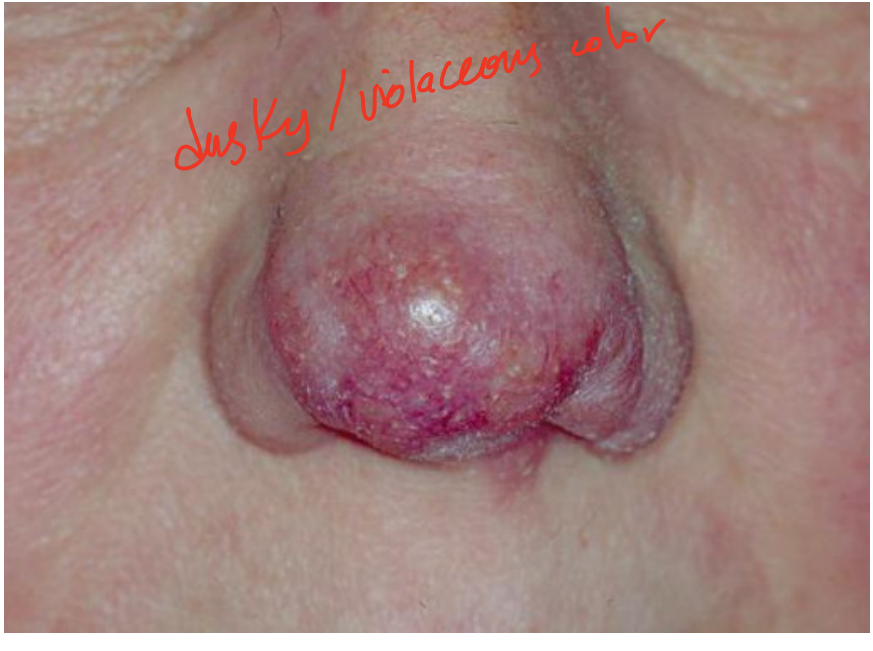
Scaly plaques



Dusky infiltrated lesions: Lupus Pernio

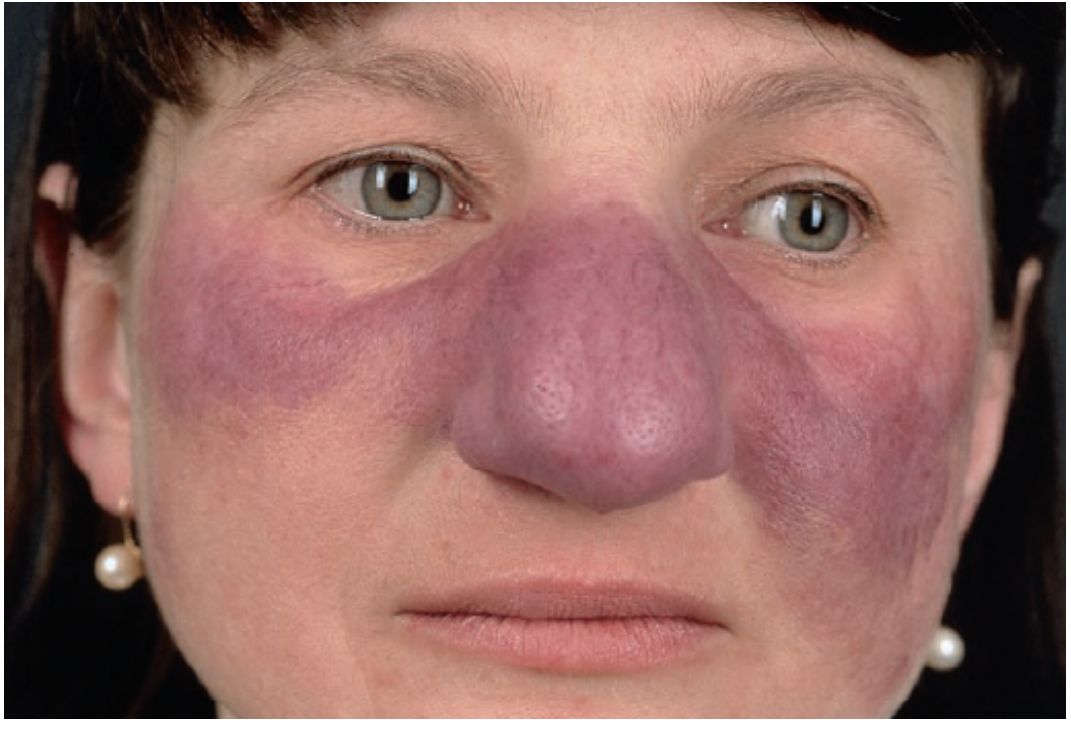
Acrally ↑ nose

Bad prognostic sign (URI, LRI, osteolytic lesions . . . ?)



Lupus pernio vs. Rosacea (midfacial erythema).

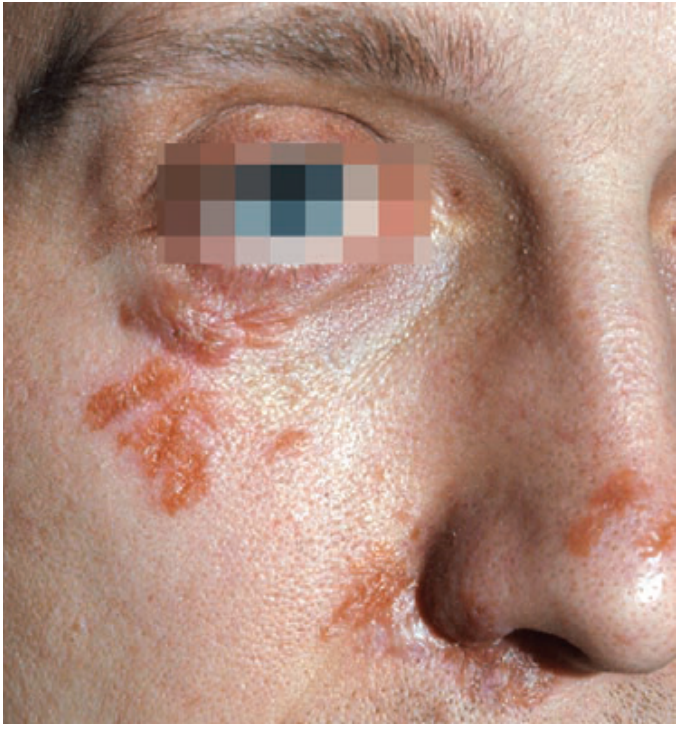
Sharp demarcation & violaceous hue



Scarring sarcoid

peridrifical

DDx:
hypertrophic pre-existing scar → sarcoid



Löfgren syndrome

Acute syndrome
multisystemic
Benign / resolves spontaneously

-Erythema nodosum

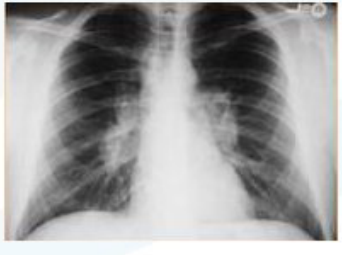
-Fever

-Arthritis

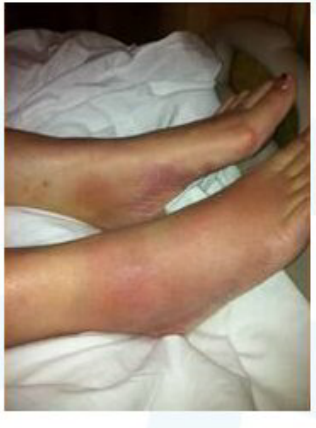
-Hilar adenopathy

- Iritis

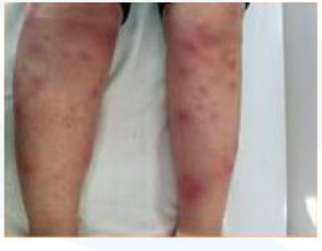
Löfgren Syndrome



Hilar lymphadenopathy



Acute polyarthritis (usually ankles)



Erythema nodosum

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

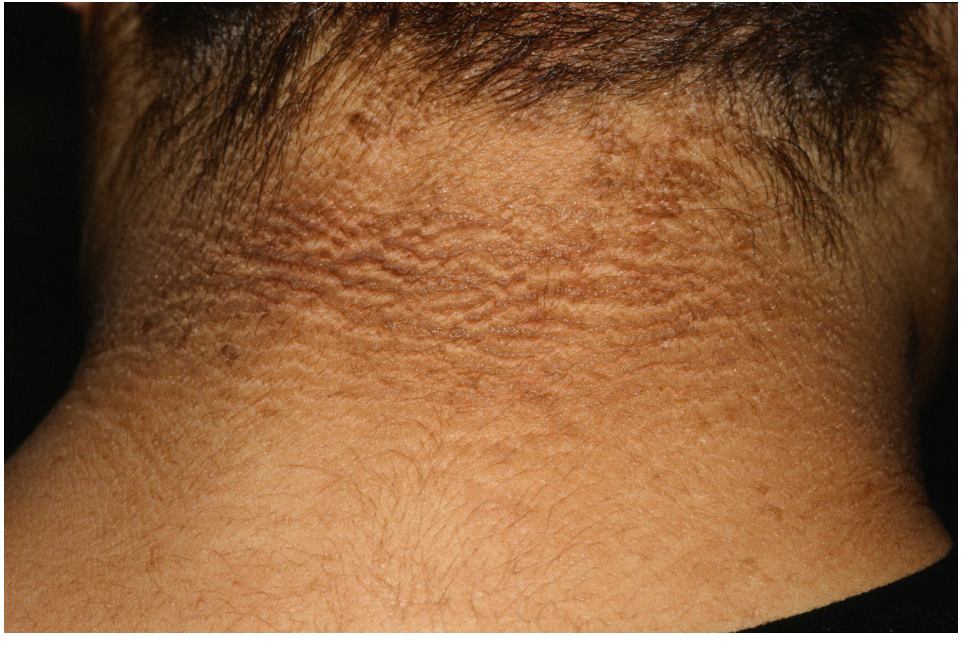
- Widespread partial loss of melanocyte function
- Hypopituitarism (absence if MSH)

Acanthosis nigricans

→ Black

- Insulin resistance.
- axilla, inguinal, neck areas
- obese

↳ Increased thickness of epidermis



extensive involvement:

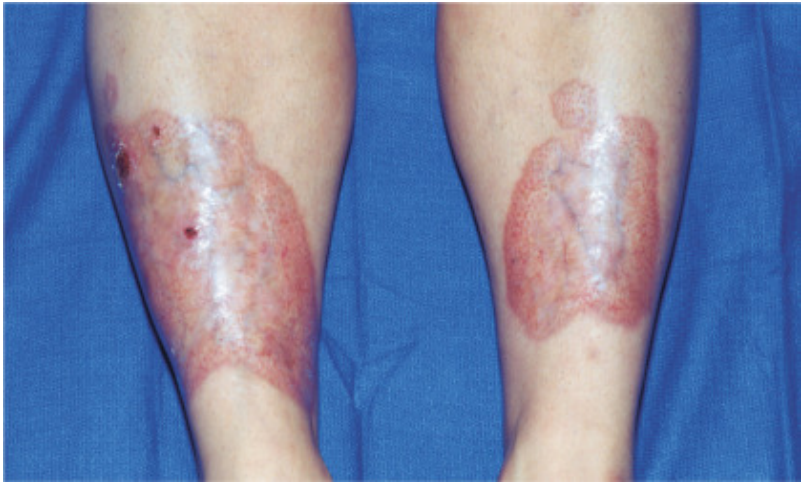
Gastric adenocarcinoma

Necrobiosis lipoidica

- destruction of collagen (in dermis)
- Atrophy + translucent BVs.
- Yellowish hue (deposition of lipids)

- Associated with DM1 (65% of ppl with)
- Not related to the severity of DM
- Coarse not affected by controlling blood suger
- Tx: intralesional steroids, surgery.

Check HgbA1C



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
Pale 'ivory' skin	Diffuse pigmentation
Brittle poorly growing nails	Rapidly growing nails
Purpura, bruising and telangiectasia	Palmar erythema
	Facial flushing

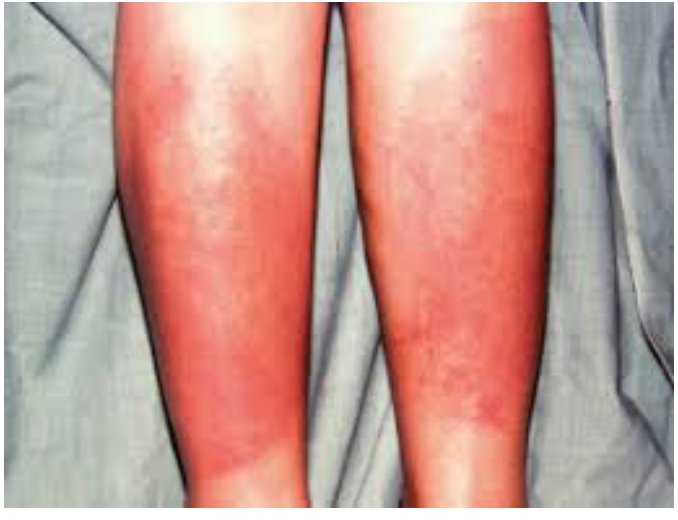
• edema → pitting (fluid shift)
• GAGs accumulation (non pitting).

Generalized myxedema

Grave's disease

Graves disease

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



Skin changes with GI and liver diseases

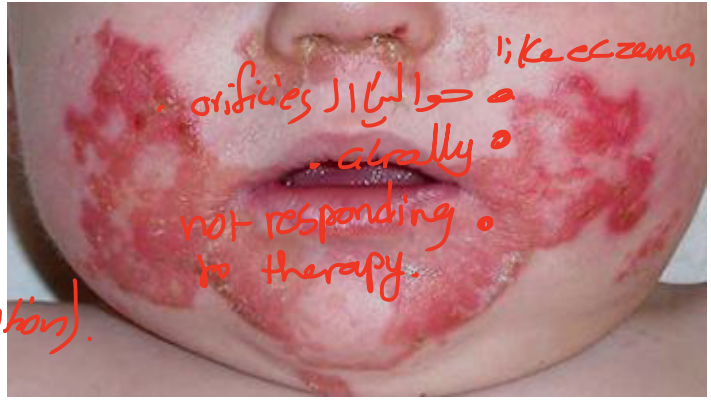
Zinc deficiency

- Bottle fed → no zinc
- Breast fed → full of zinc.

- Acrodermatitis enteropathica : genetic disorder of Zinc absorption (seen in neonates)

in the transport of zinc.

- 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



genetic
acquired (malabsorption).

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

imp ↓ collagen synthesis

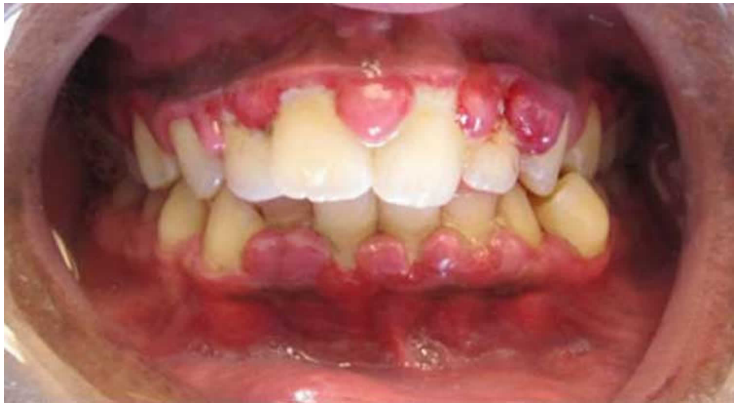
Scurby

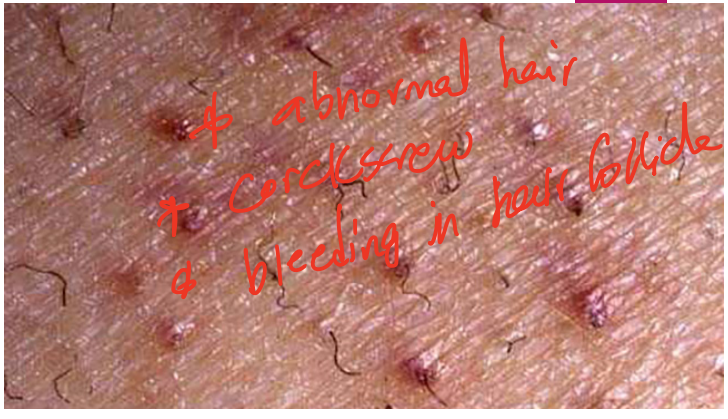
- occurs in those with malabsorption problems, those on a poor diet, the elderly and alcoholics
- Vascular fragility
- *Skin lesions*: Petechiae, follicular hyperkeratosis with perifollicular hemorrhage, especially on the lower legs
- Other findings:
- Labs: Normocytic, normochromic anemia, Serum ascorbic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

level zero. X-ray findings are diagnostic

- Tx: Ascorbic acid

- Hyperplastic.
- easy bleeding after teeth brushing.





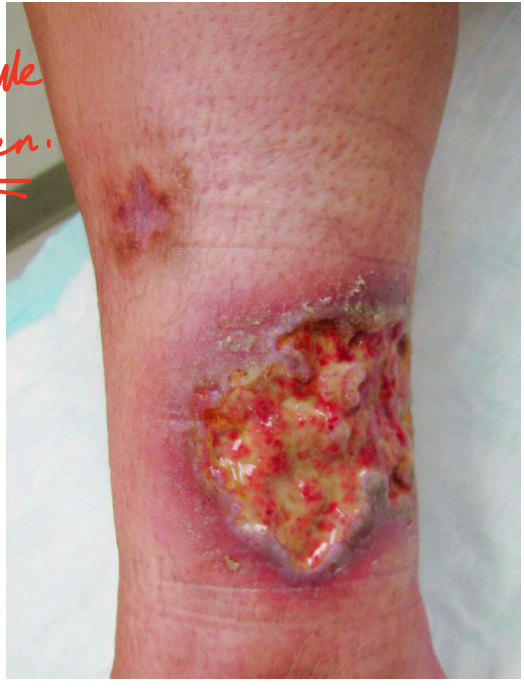
3. Pyoderma gangrenosum

look for 2ry cause

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

Tribial trauma
papule → pustule
rapid and sudden.

PG.

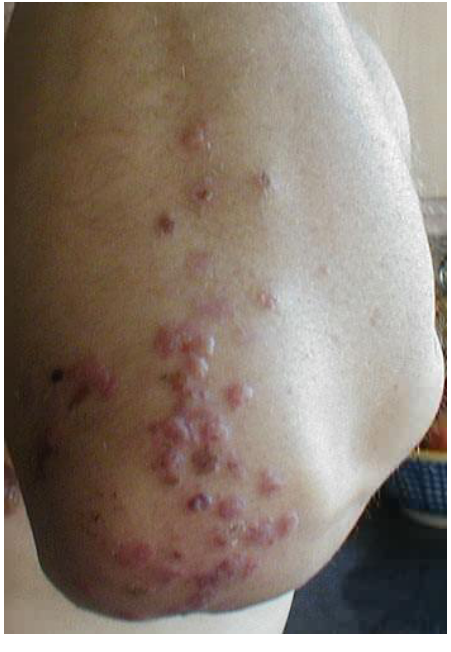


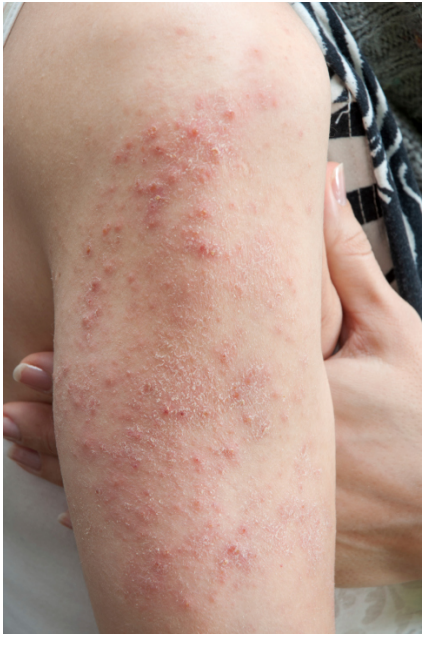
Bullous disease

4. Dermatitis herpetiformis

Celiac disease.

+ extensor surfaces
+ highly pruritic





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.

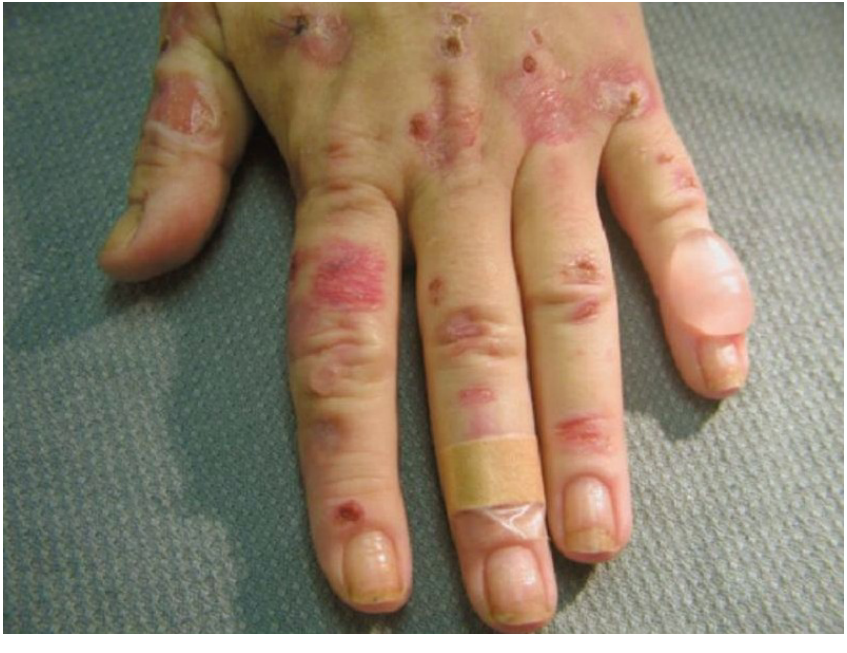
Cirrhosis

Xanthomas (primary biliary cirrhosis)
Asteatosis.

Porphyria cutanea tarda

heme synthesis defect

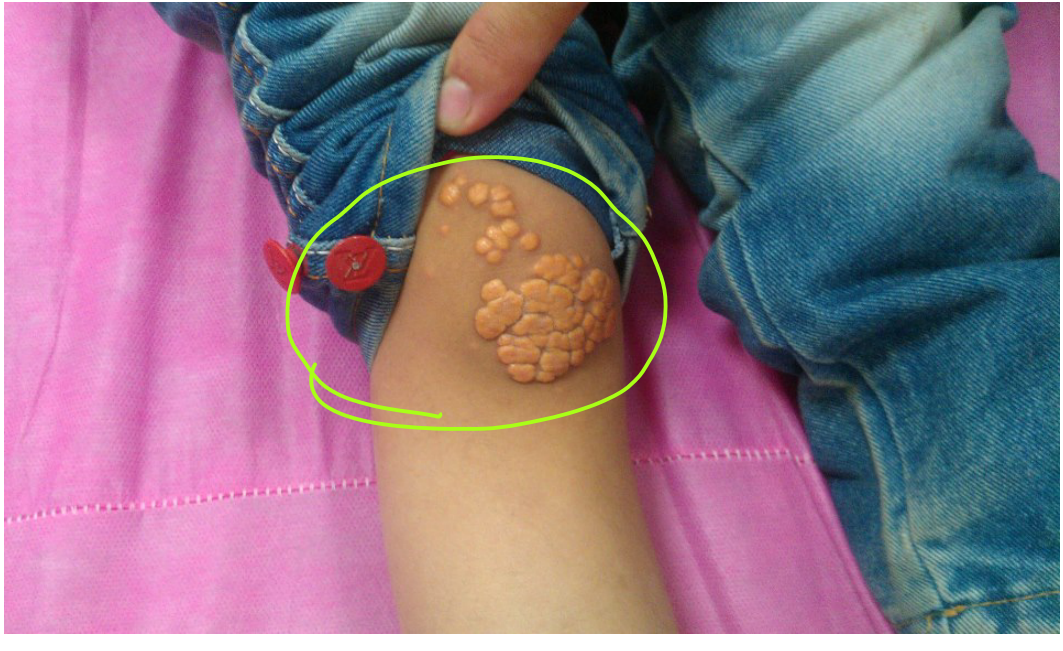
* according of which enzyme of heme metabolisme is affected
* not all porphyrias have cutaneous manifestations



porphyrins accumulate
↑sensitivity to sunlight.
+
+ recurrent inflammation
cause scarring (milia).

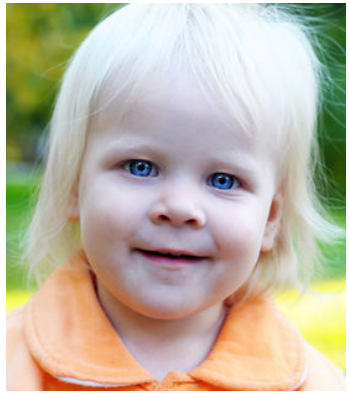
Xanthomas

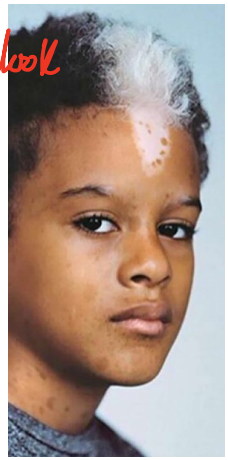
- Mφ full of lipids due to genetic disease
- Yellowish = lipid

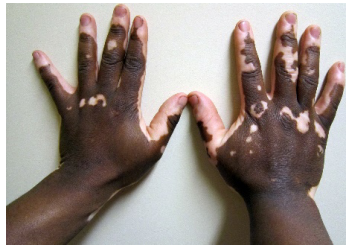


البَرَص Congenital

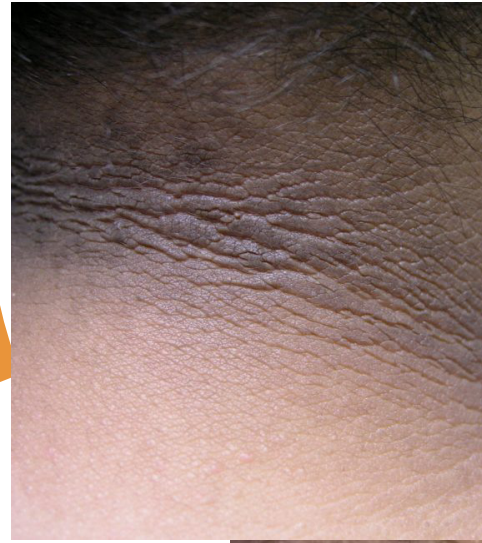
- Albinism , AR , loss of pigment of skin , eyes and hair , no pigment production → there are melanocytes defective tyrosinase enzyme. (eye problems, nystagmus)
- Piebaldism , AD , triangular hypopigmented patches , disorder of melanocyte development forehead, forelock
- Vitiligo localized depigmentation, sharply demarcated, symmetrical macular lesions, loss of melanocytes and melanin Destruction of melanocytes البَهَاق Acquired
- Post- Inflammatory such as psoriasis, eczema, lichen planus and lupus erythematosus; infections, chemicals, reactions to pigmented naevi, genetic diseases





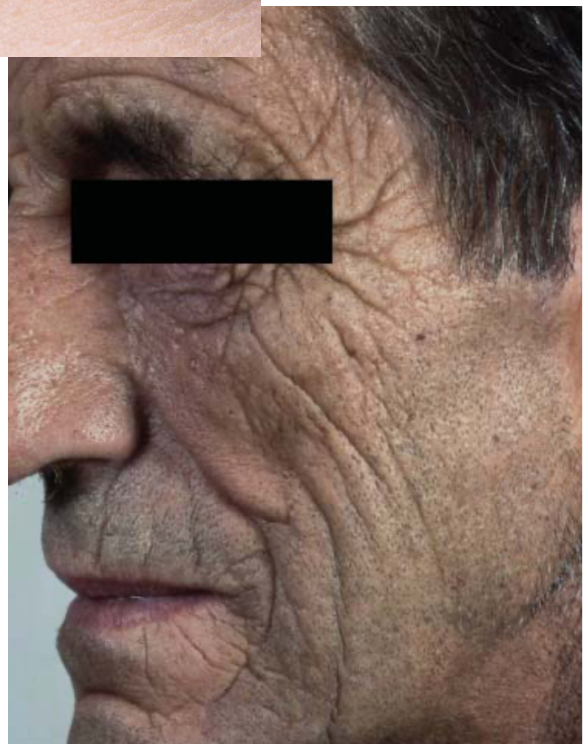


There is wide variation in the pattern of normal pigmentation as a result of hereditary factors and exposure to the sun.



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.



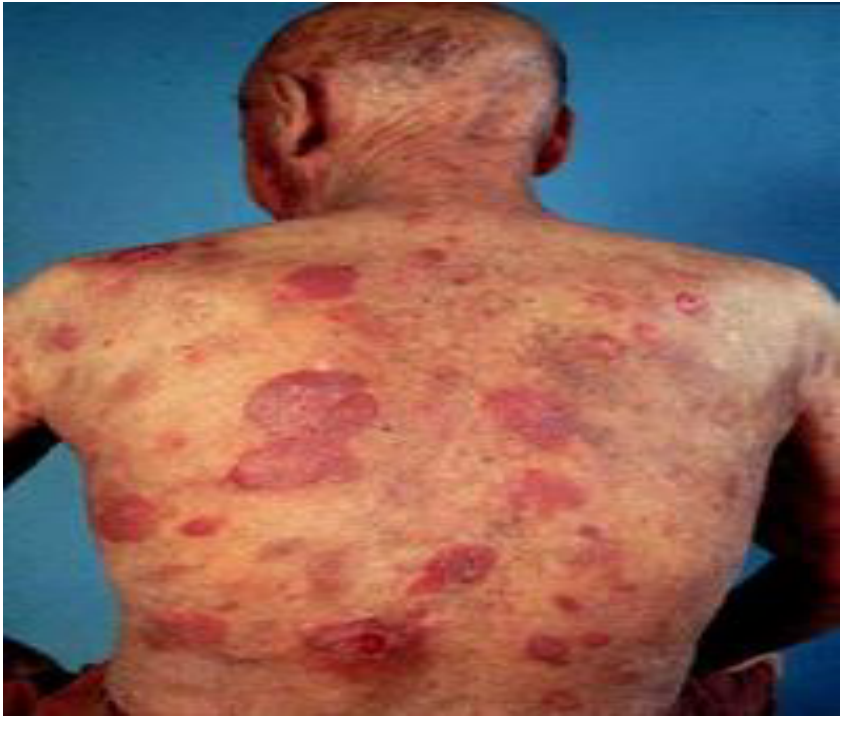
Skin changes of underlying malignancy

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

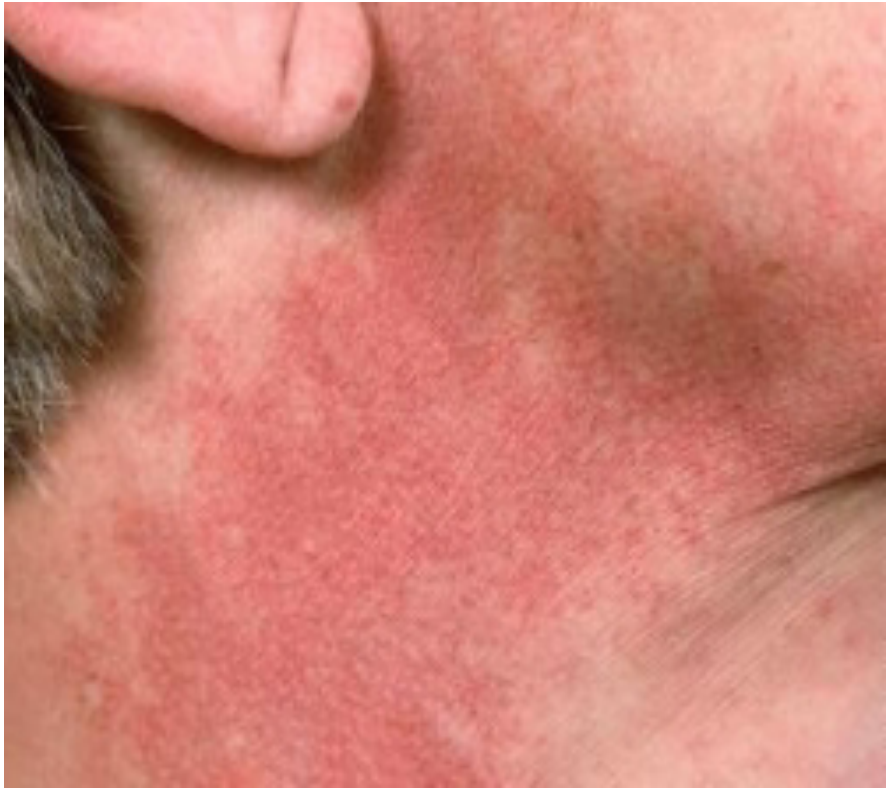
* 1ry cutaneous T cell lymphoma
  > different clinical presentation.



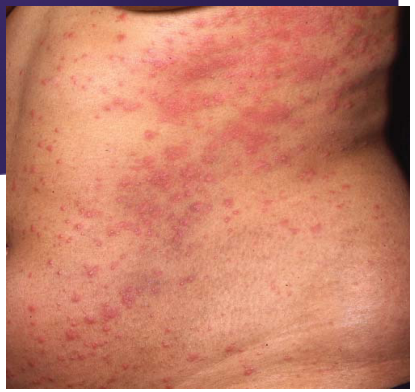
Poikeloderma (telangiectasia , reticulate pigmentation)

Hyper + Hypo pigm
+ telangectasea.
→ atrophy.

radiotherapy, ?, T cell, idiopathic

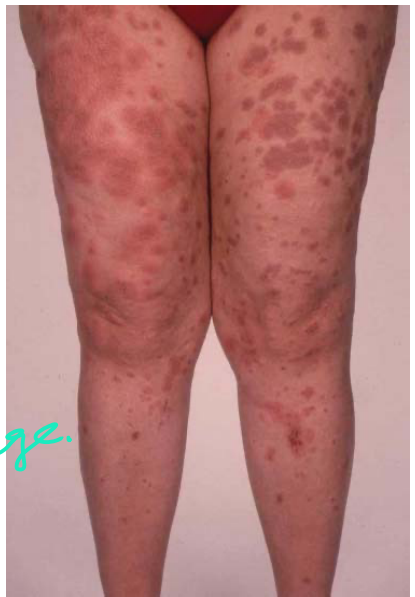


Skin and Pregnancy



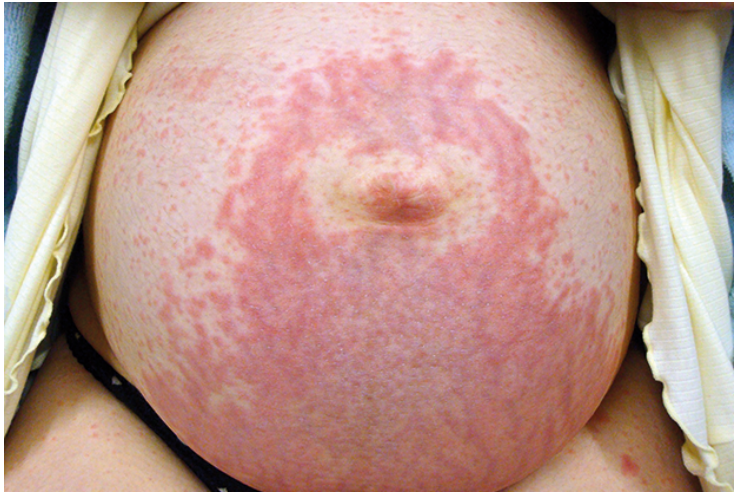
- Prurigo gestationis- is a benign non-specific pruritic (itchy) papular rash that arises during pregnancy and is generally more severe in the first trimester.
- *Polymorphous eruption of pregnancy* (*PEP*) is a pruritic erythematous rash that usually starts in the striae of the abdomen during the third trimester and can become widespread. No effect on aby

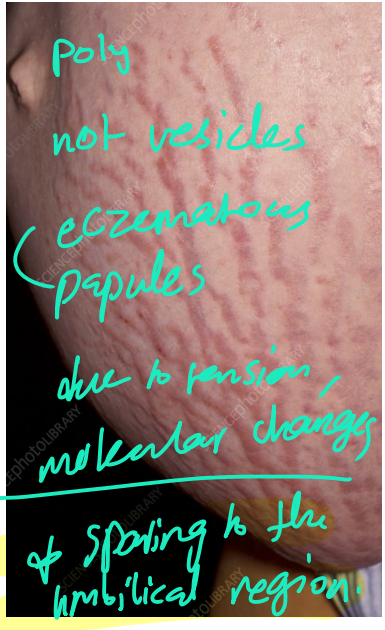
Benign / Doesn't affect baby



- *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).

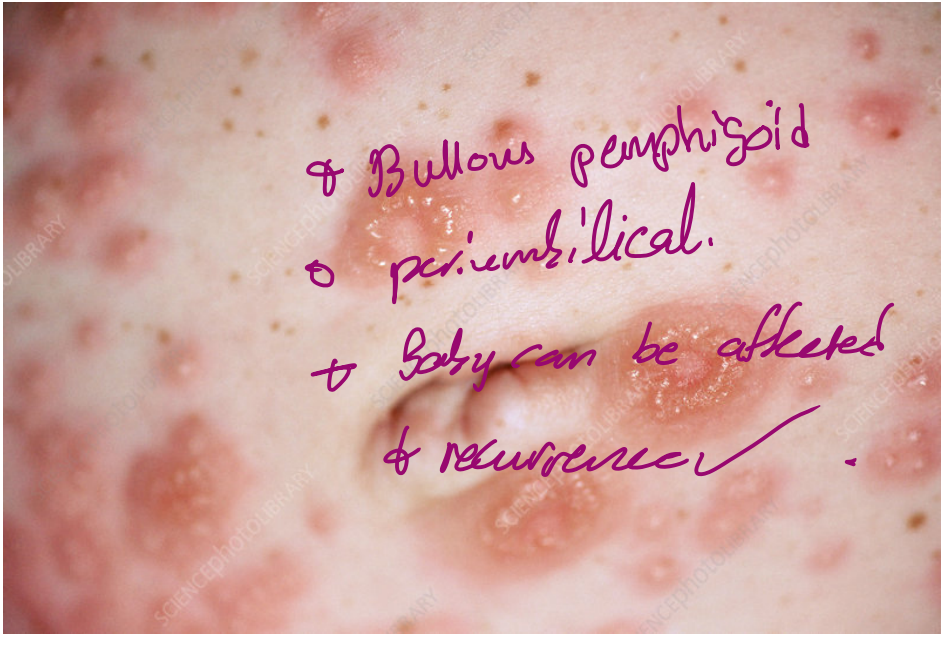
low weight
low gestation age.




poly
not vesicles
eczematous
papules
due to tension,
molecular changes
of spring to the
umbilical region.
& no recurrence.

PEP

Pemphigoid gestations



GOOD LUCK