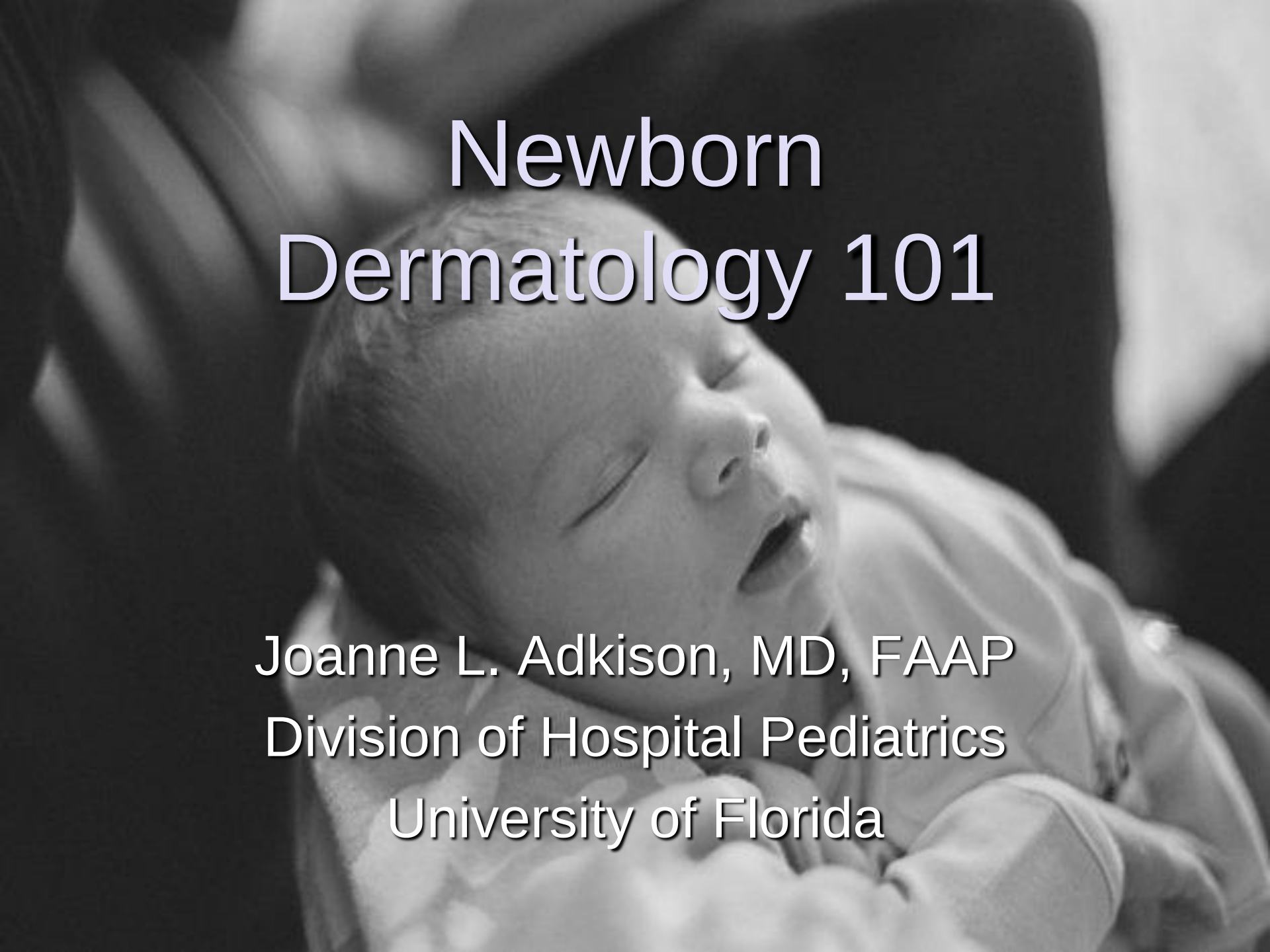
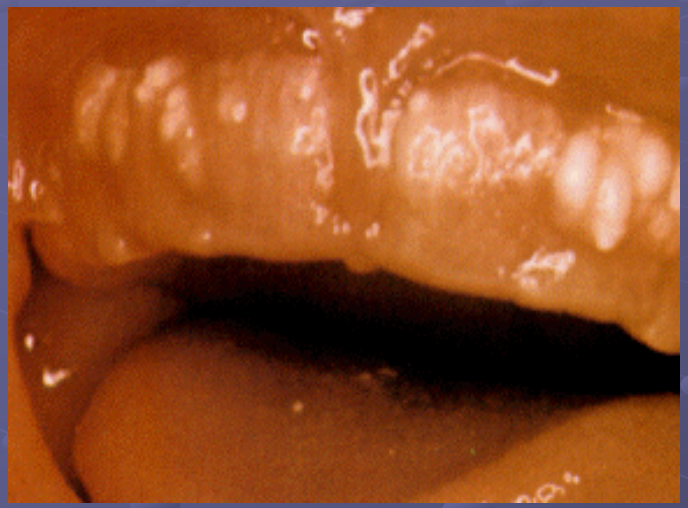


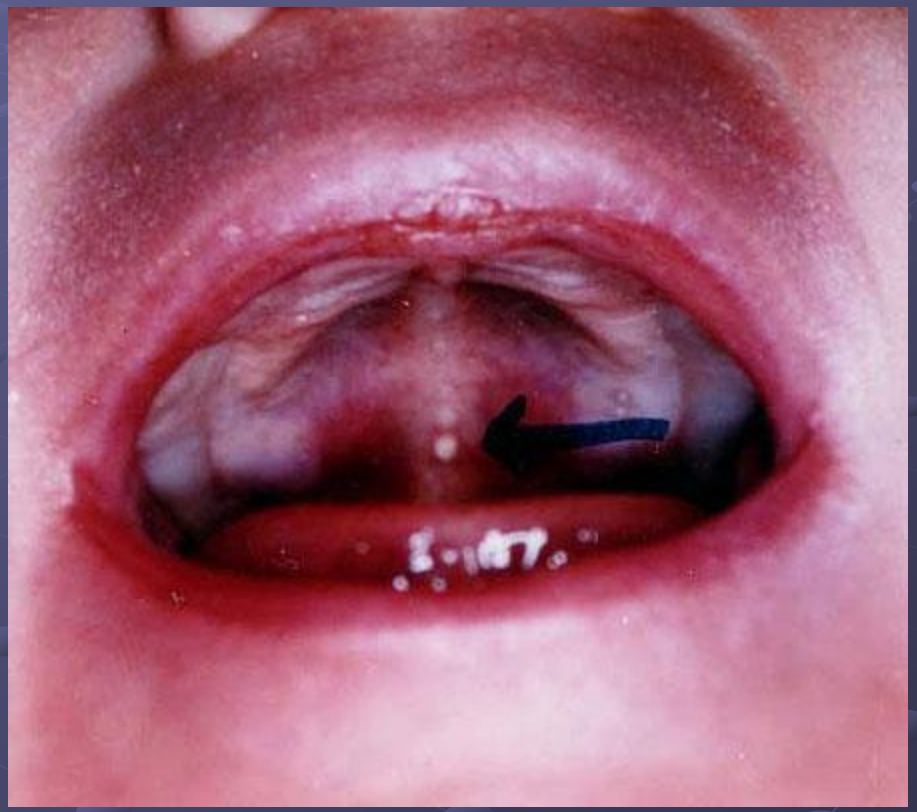
Newborn Dermatology 101

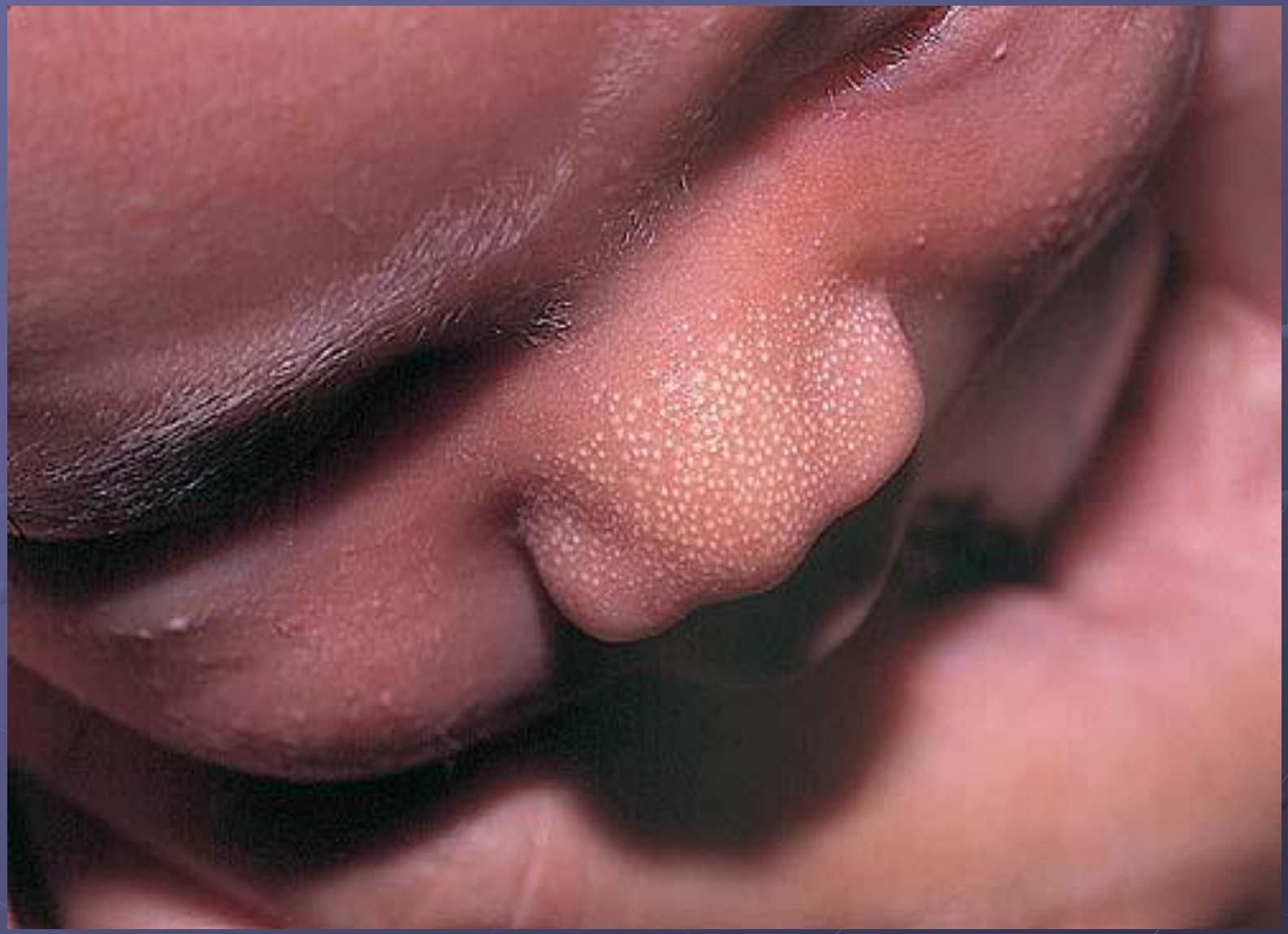
Joanne L. Adkison, MD, FAAP
Division of Hospital Pediatrics
University of Florida

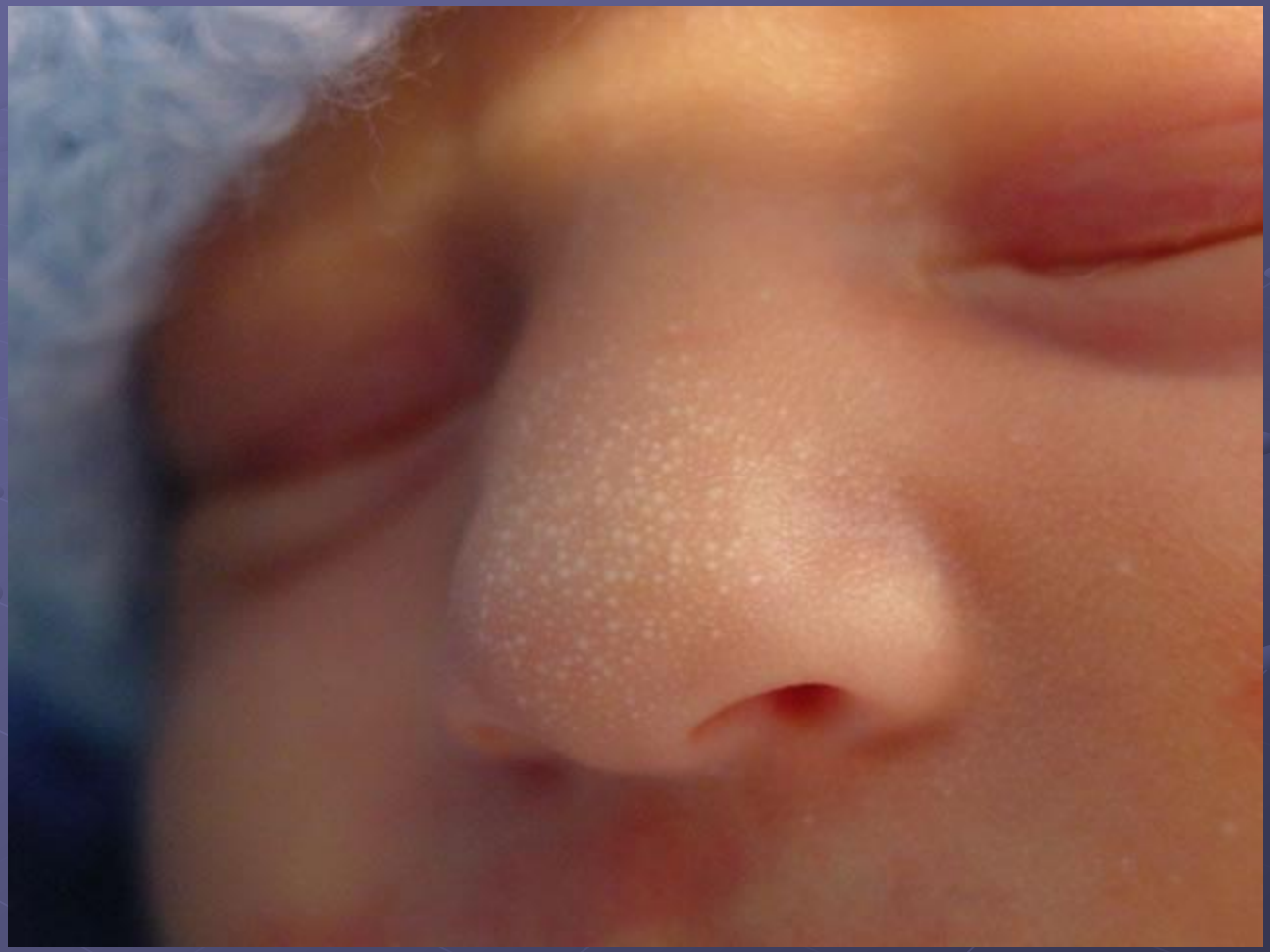
Newborn Dermatology

- Importance of H&P
- Complications during pregnancy?
- FH of skin disorders?
- Delivery method, length of time for ROM?
- Gestational age?
- GBS+, CBC, blood culture?
- Home with mom in 48-72 h?





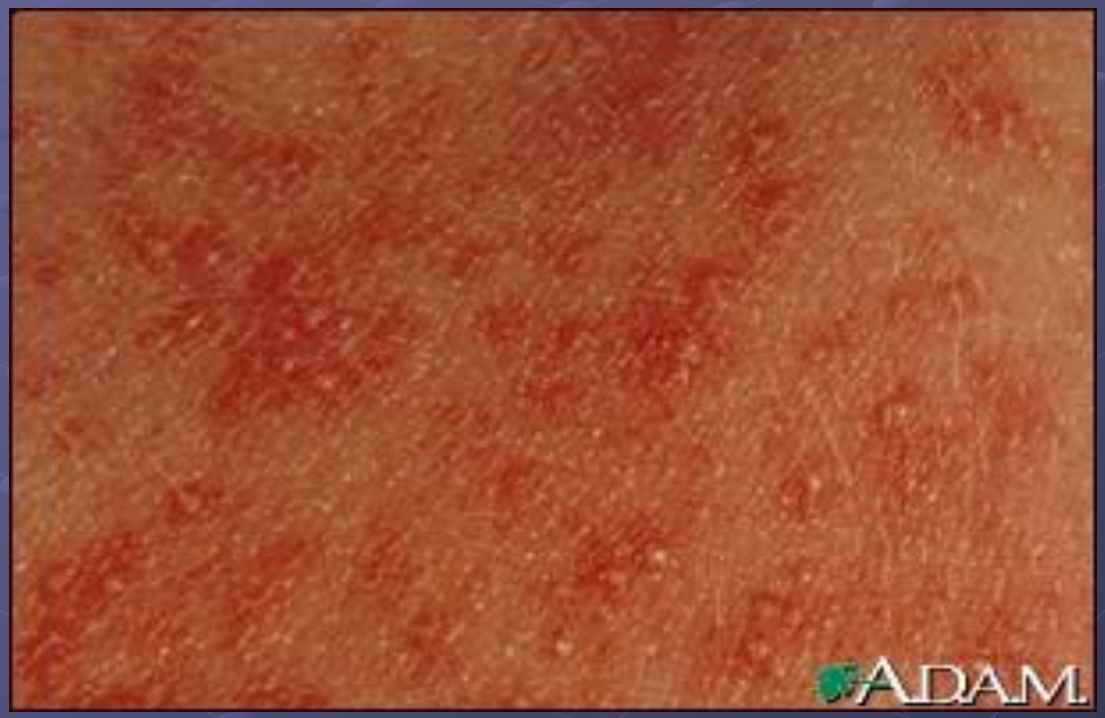


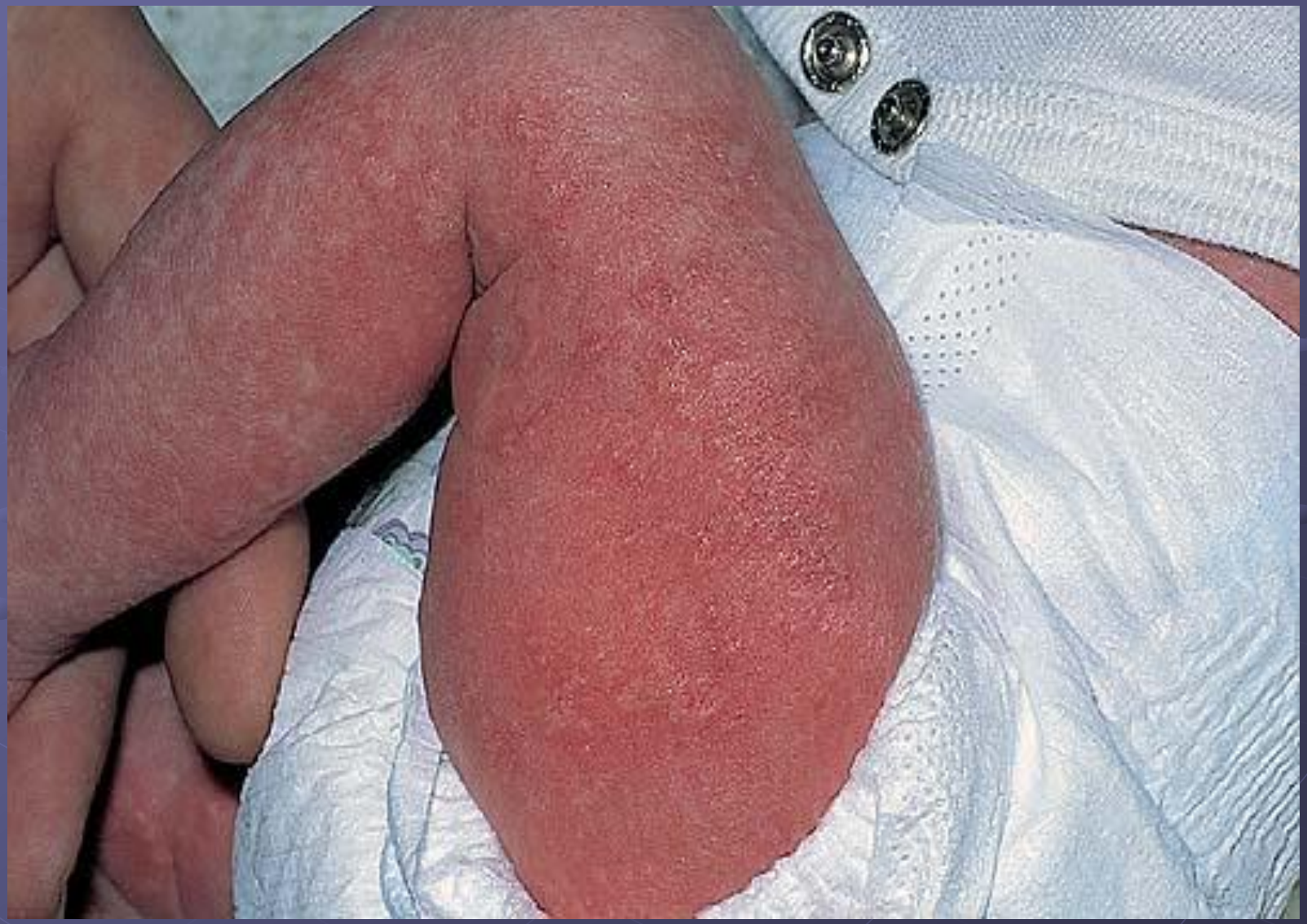


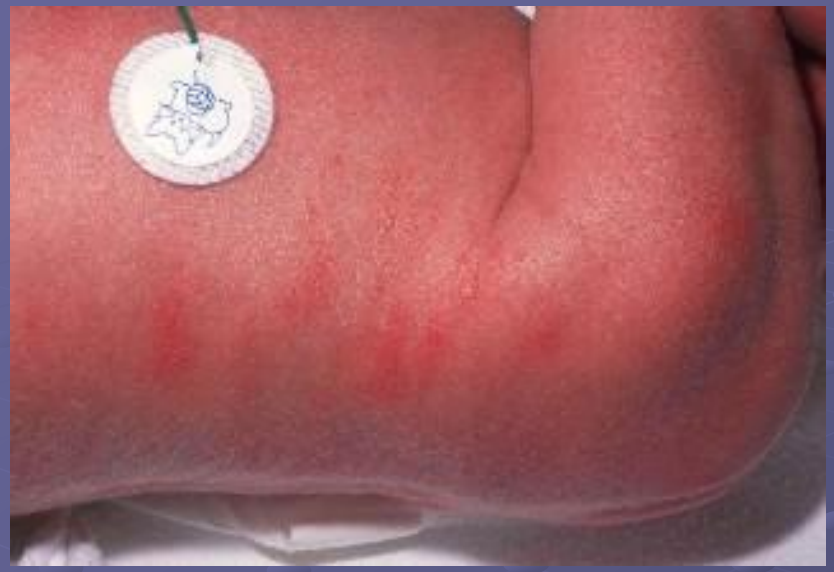
Milia

- 1-2mm “pearly papules” found on nose, chin and forehead
- Benign, seen in ~40% of term infants
- Superficial inclusion cysts containing keratin
- No Rx. Spontaneously resolve in a few weeks
- When these occur in a baby's mouth and gums, they are called Epstein pearls

Pale papules surrounded by erythema, “flea bite” appearance








A.D.A.M.

Erythema Toxicum

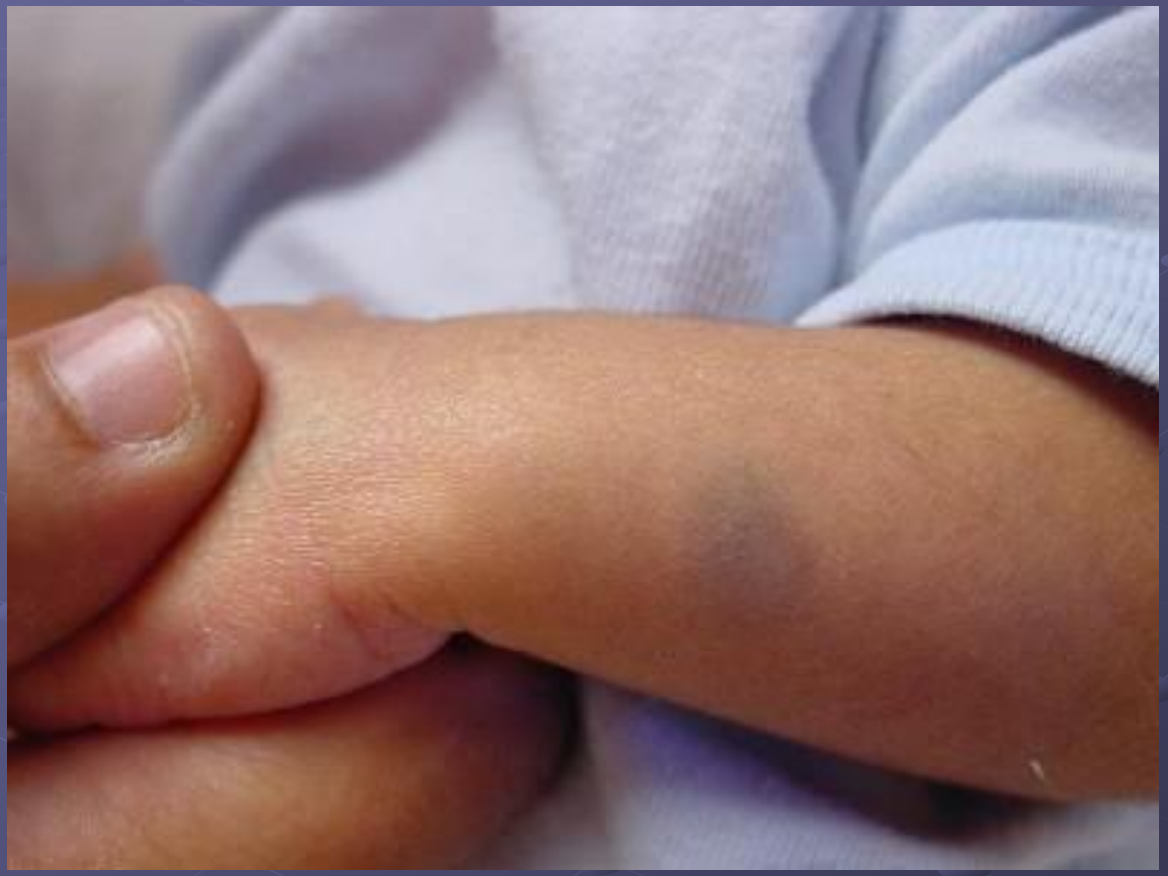
- 1st described by Bartholomaeus Melinger in 1472
- Named Erythema Neonatorium by Leiner in 1912
- Benign, transient, self-limiting rash

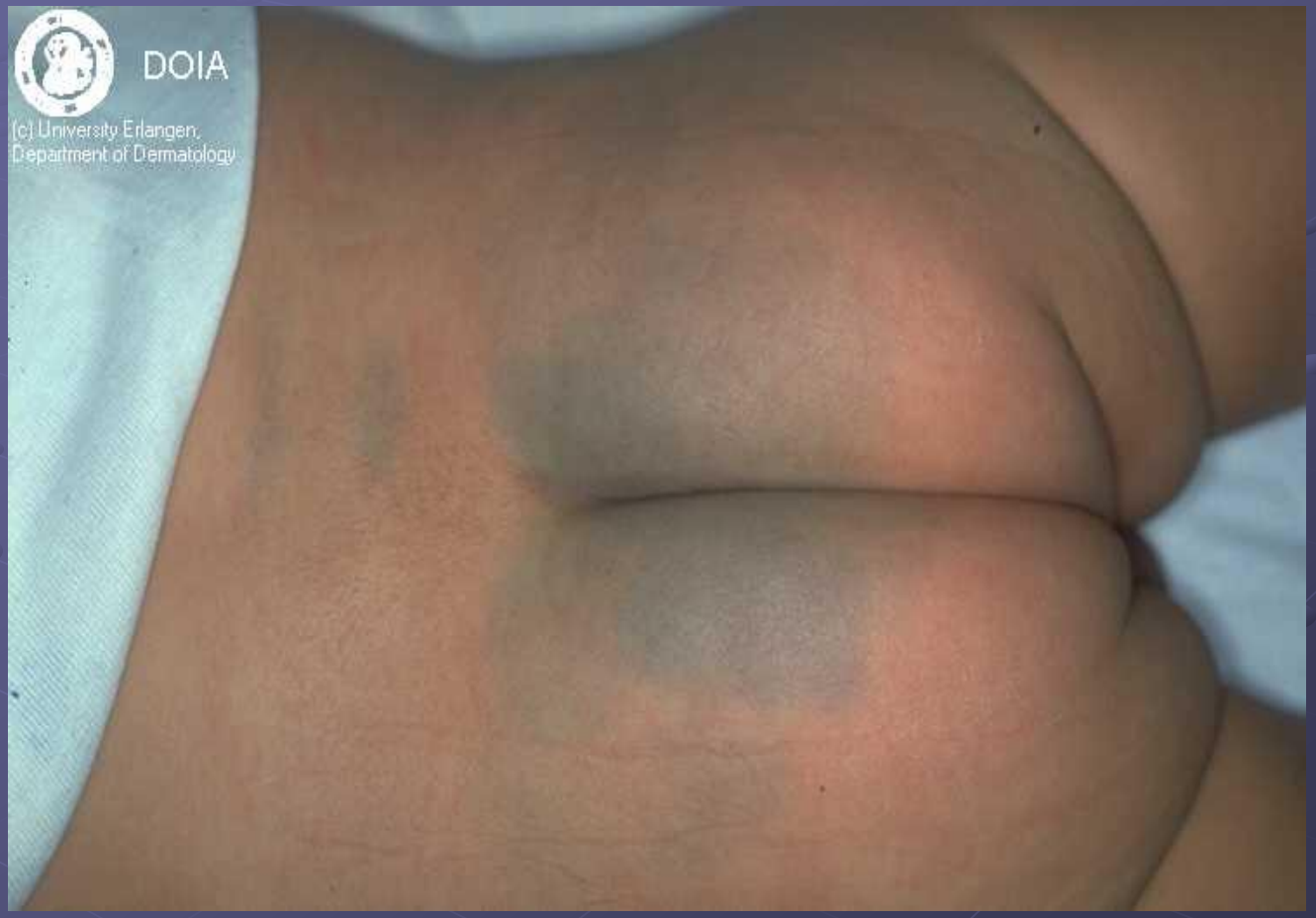
Erythema Toxicum

- Etiology: unknown, ?allergic response, may see peripheral eosinophilia
- Epidemiology: seen in ~40% of full-term newborns
- Lesions are primarily aggregates of eosinophils

Erythema Toxicum

- Description: “flea bite appearance”, pale papules surrounded by erythema, wheals, may become confluent
- Onset: between 24-72 hours of life
- Distribution: everywhere except palms and soles
- Duration: wax and wane, may last 2-3 weeks



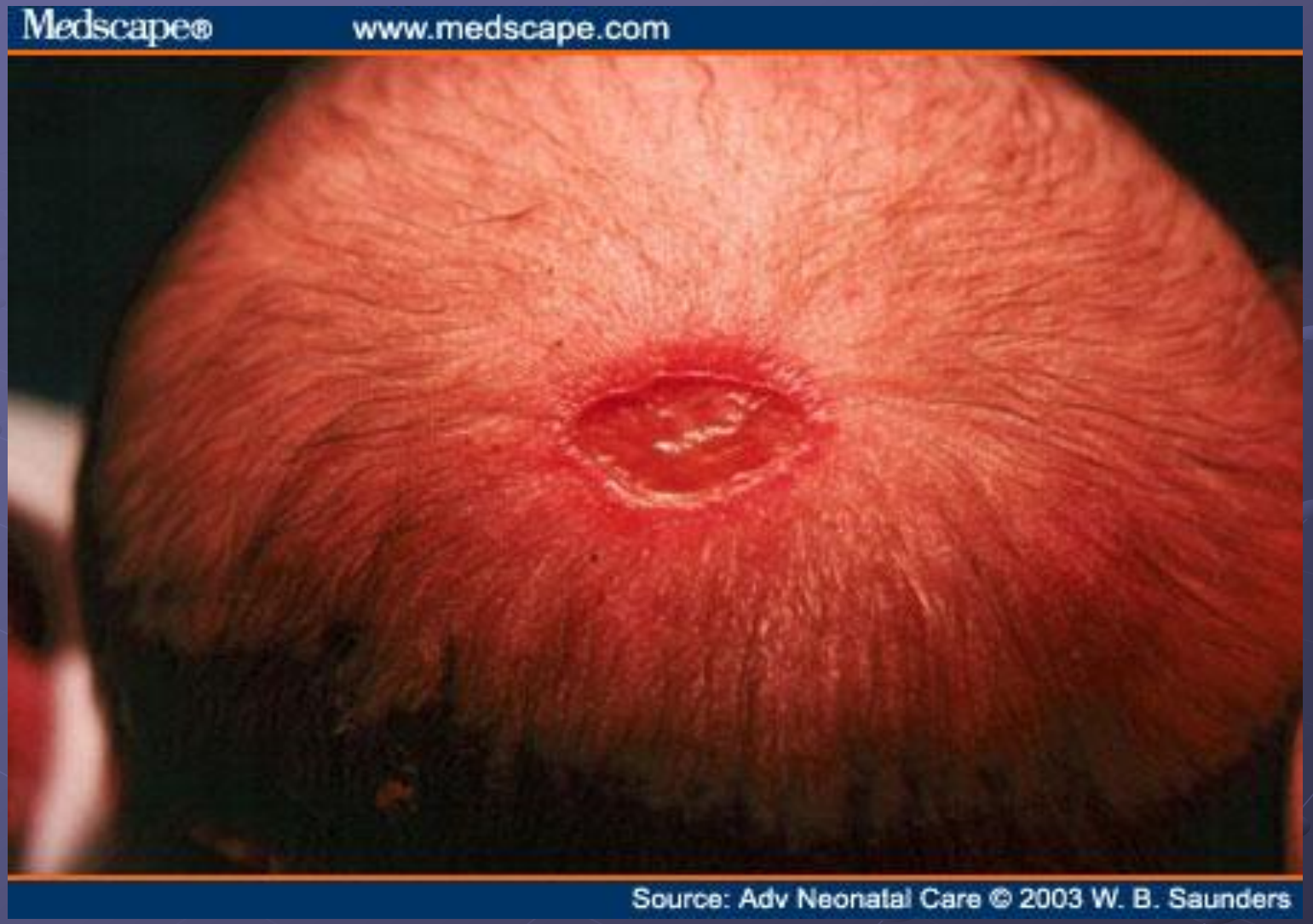

DOIA
(c) University Erlangen,
Department of Dermatology

Mongolian Spot

- Benign transient birthmark
- During embryogenesis, melanocytes move from neural crest to epidermis. Some become arrested in the dermis
- When the melanocytes are close to the surface, they are skin-colored. The deeper they are in the skin, the more bluish they look
- Resolve spontaneously in 5-6 years

Mongolian Spot

- Seen in:
  - 95% of African-American newborns
  - 70% of Asian and Hispanic newborns
  - 10% of Caucasian newborns
- Area:
  - 90% sacrogluteal area
  - 10% other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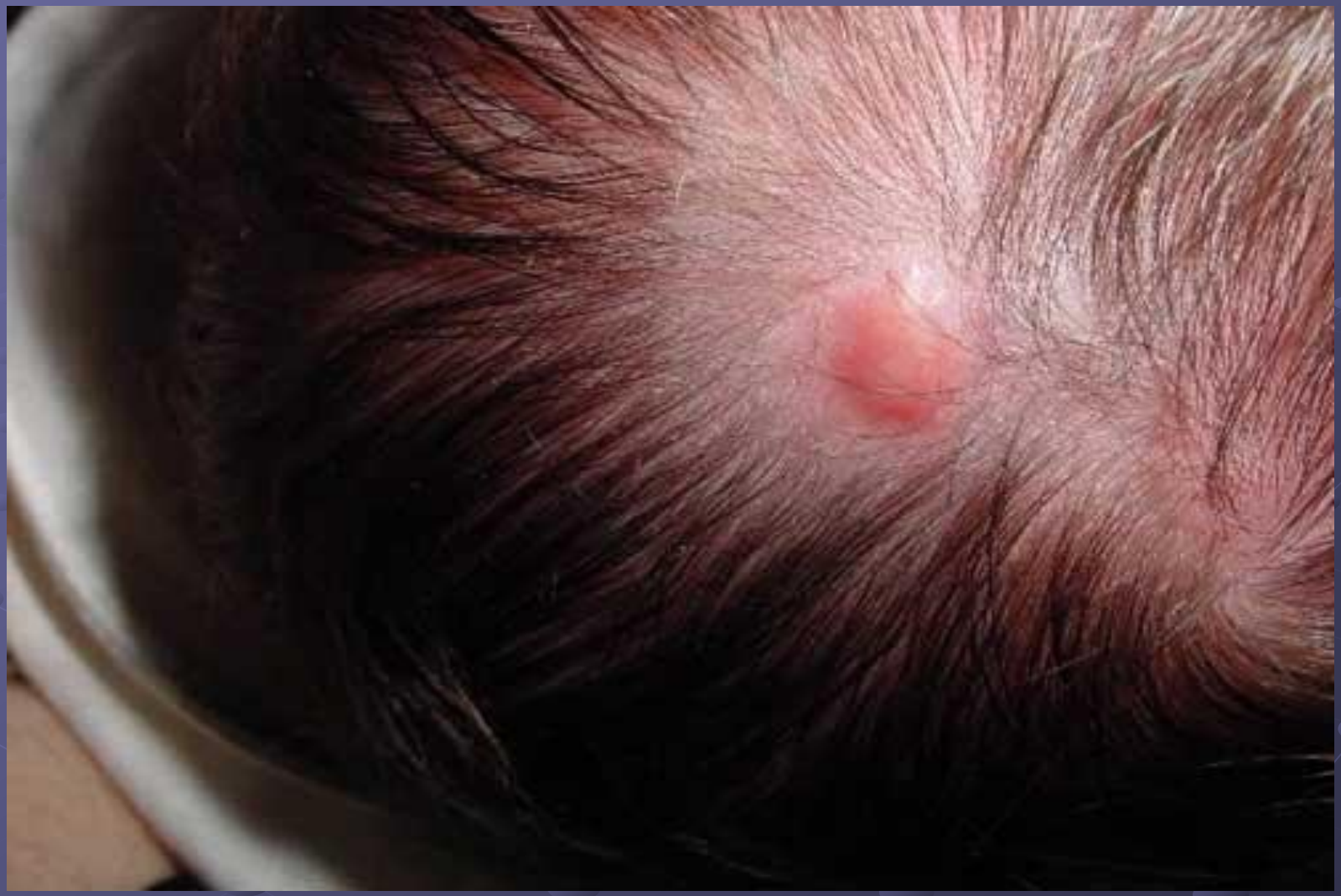

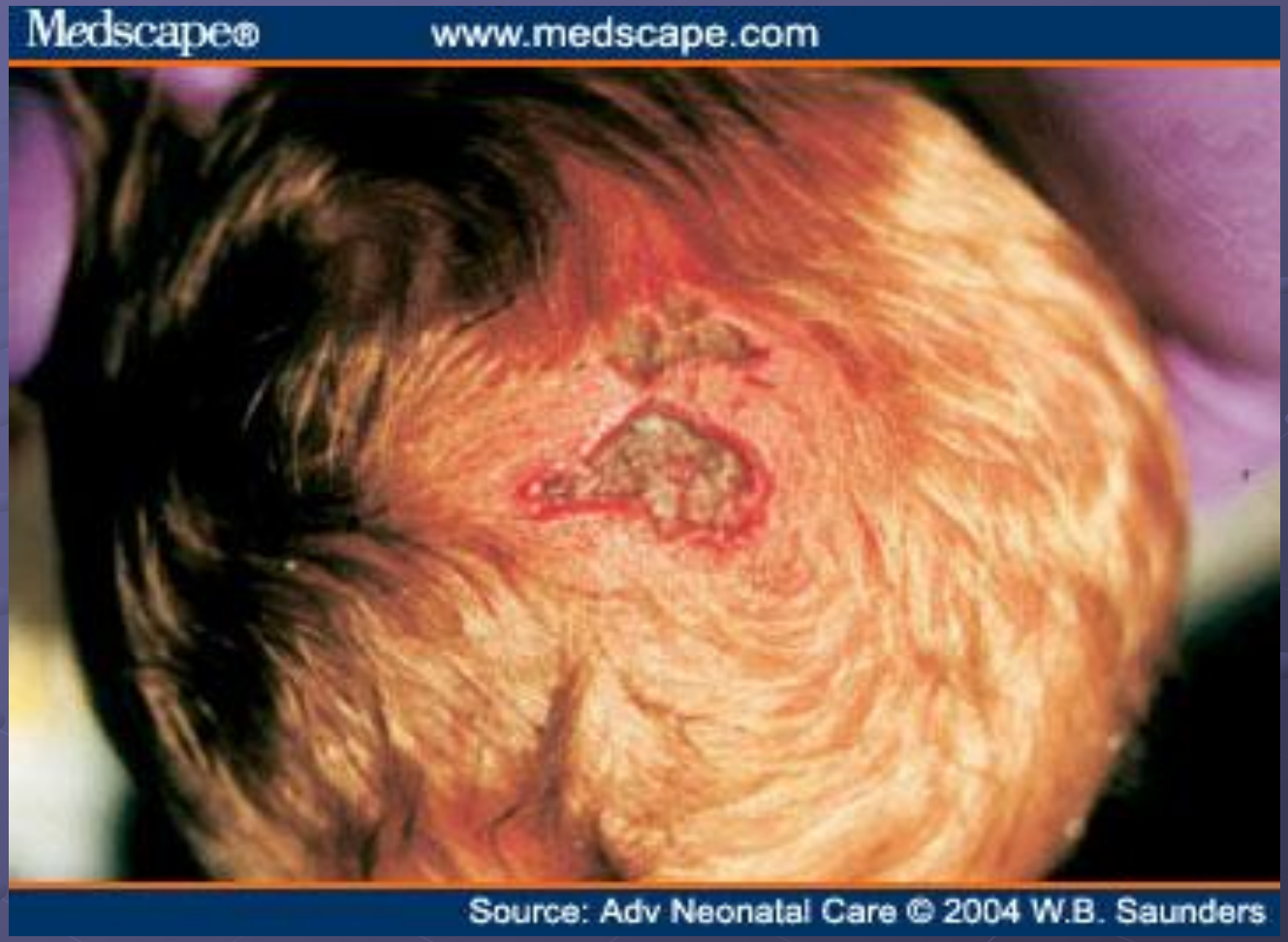
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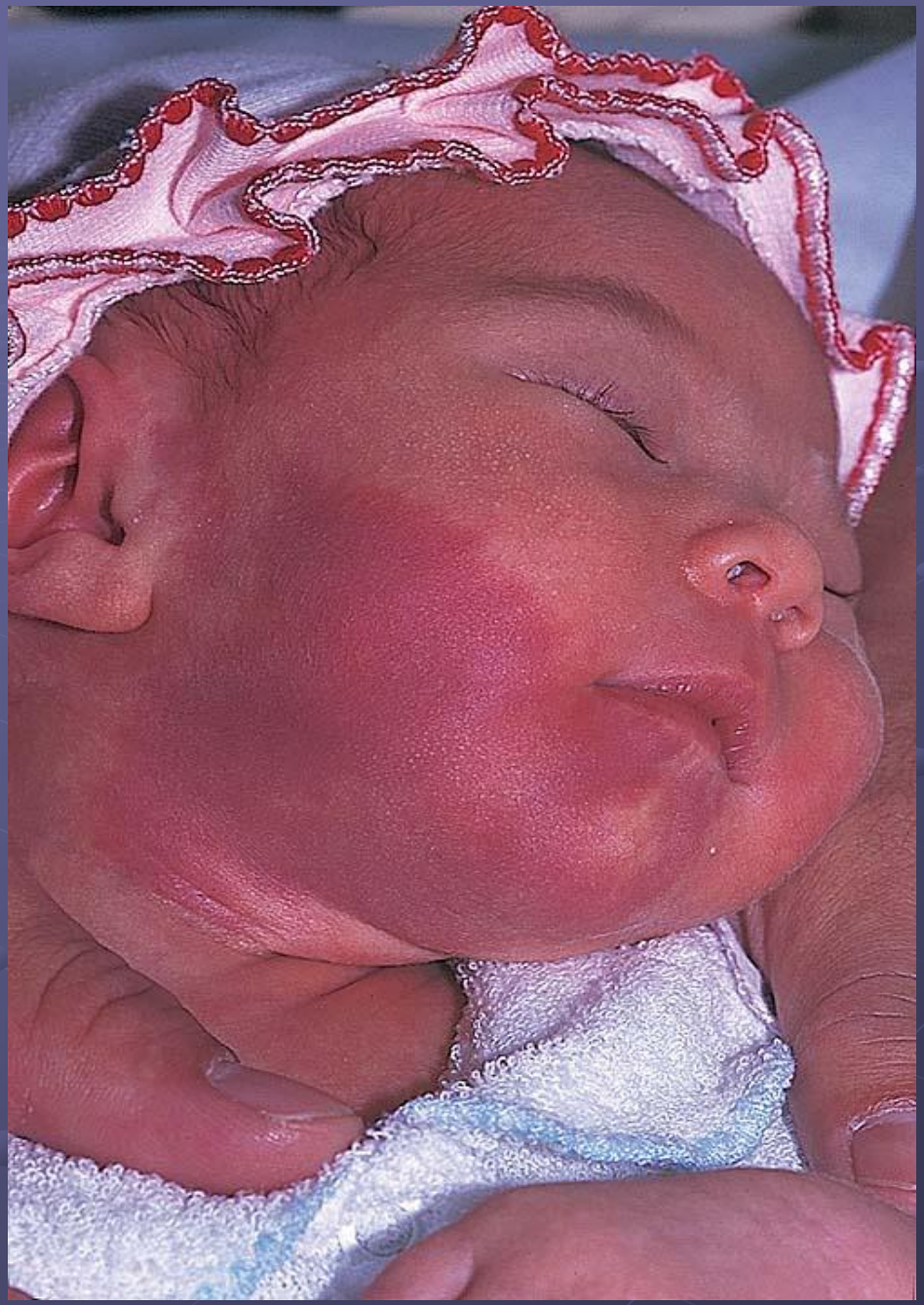
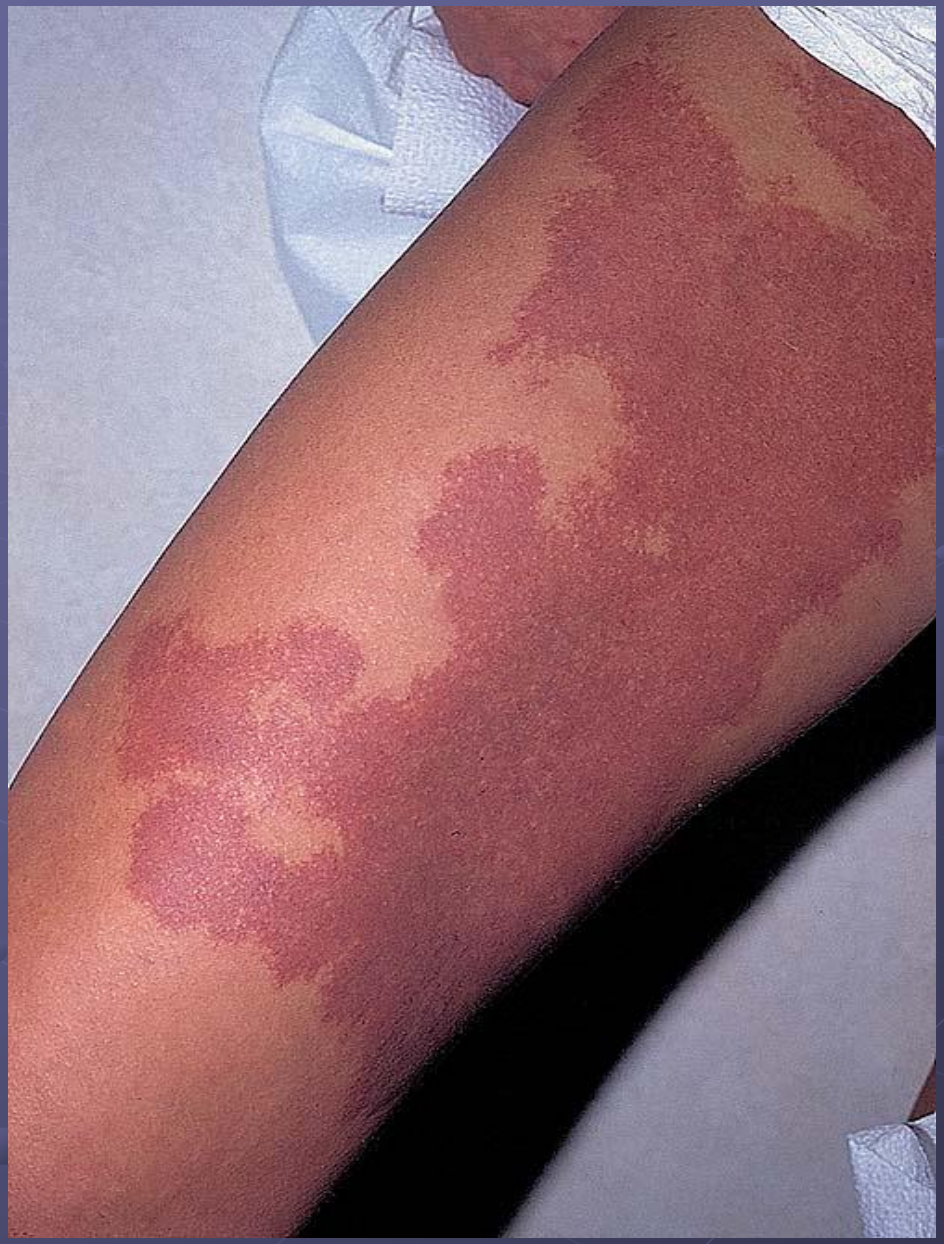
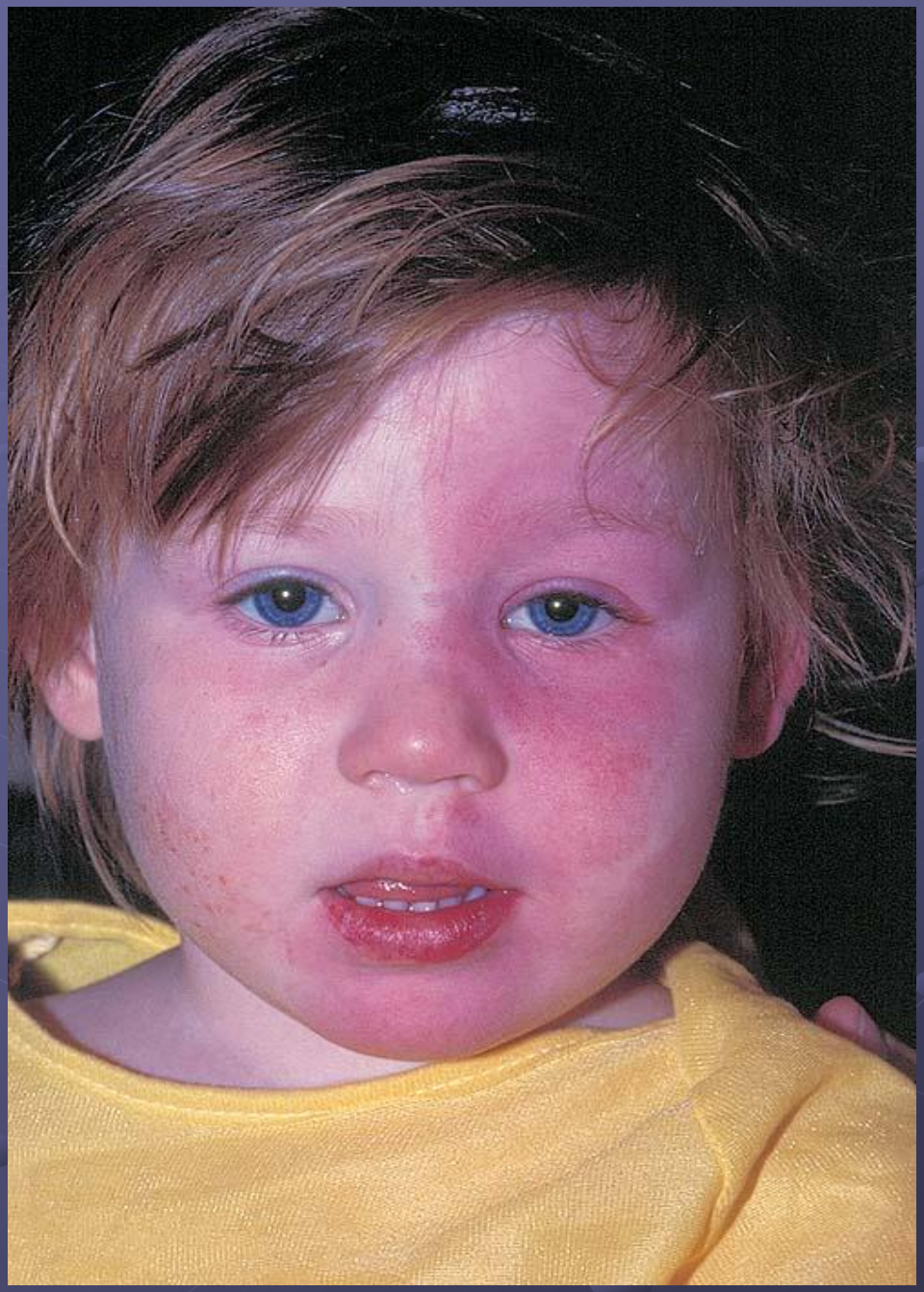
Aplasia Cutis Congenita

- Congenital localized absence of skin
- Ddx placement of scalp electrode
- Types 1-9
- Type 1 (localized to the scalp) is most common type; child who has it is otherwise normal
- If irregular, plain film of skull to rule out underlying skull defect or intracranial communication



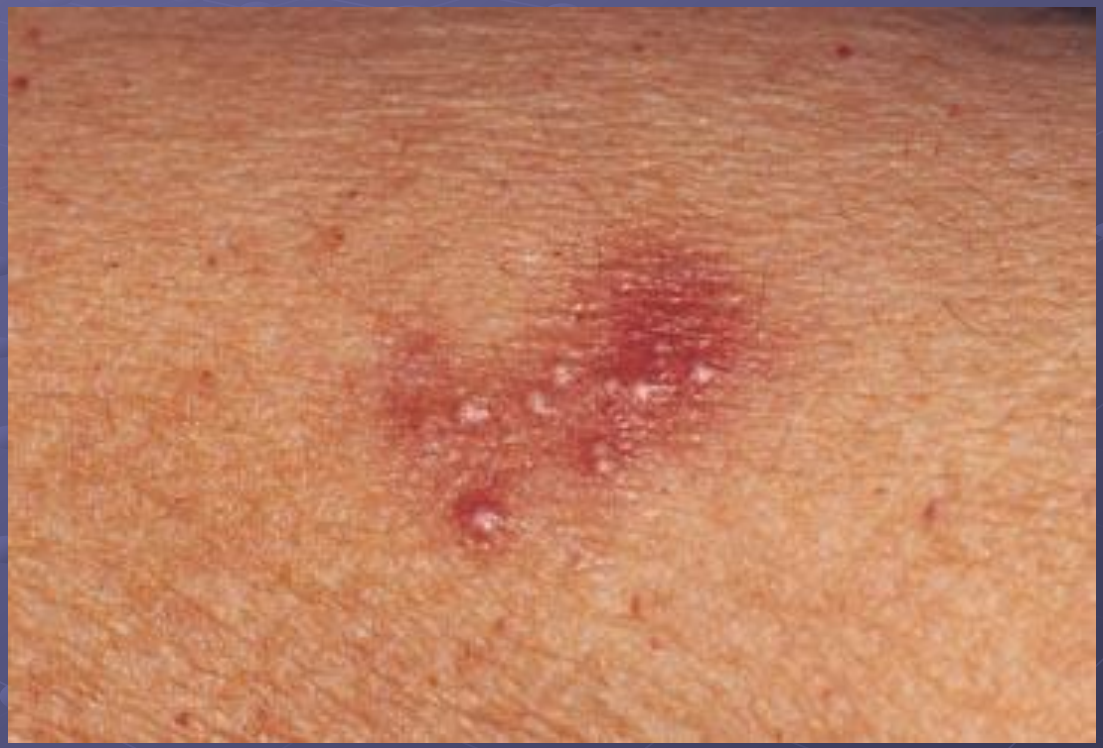


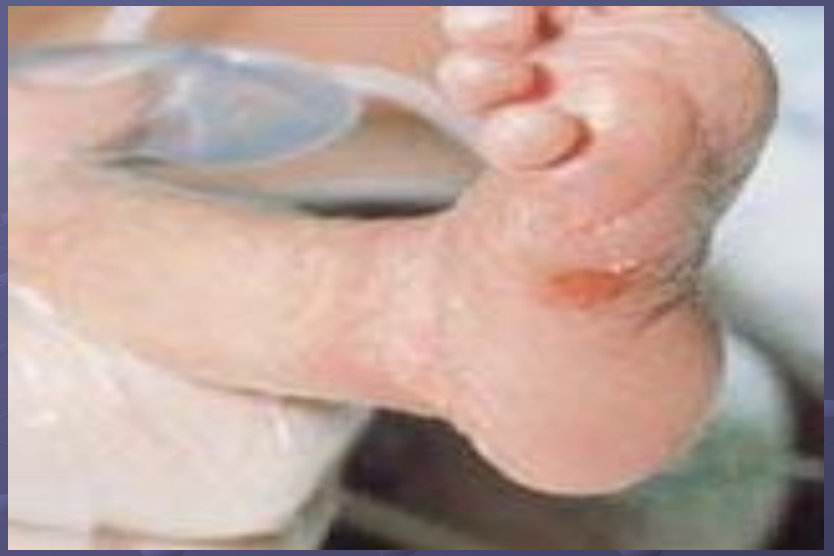


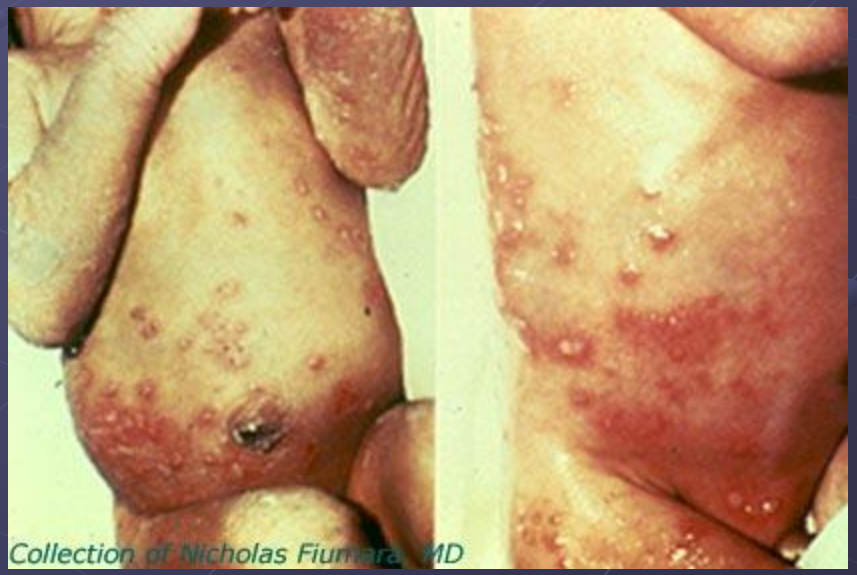
Port Wine Stain

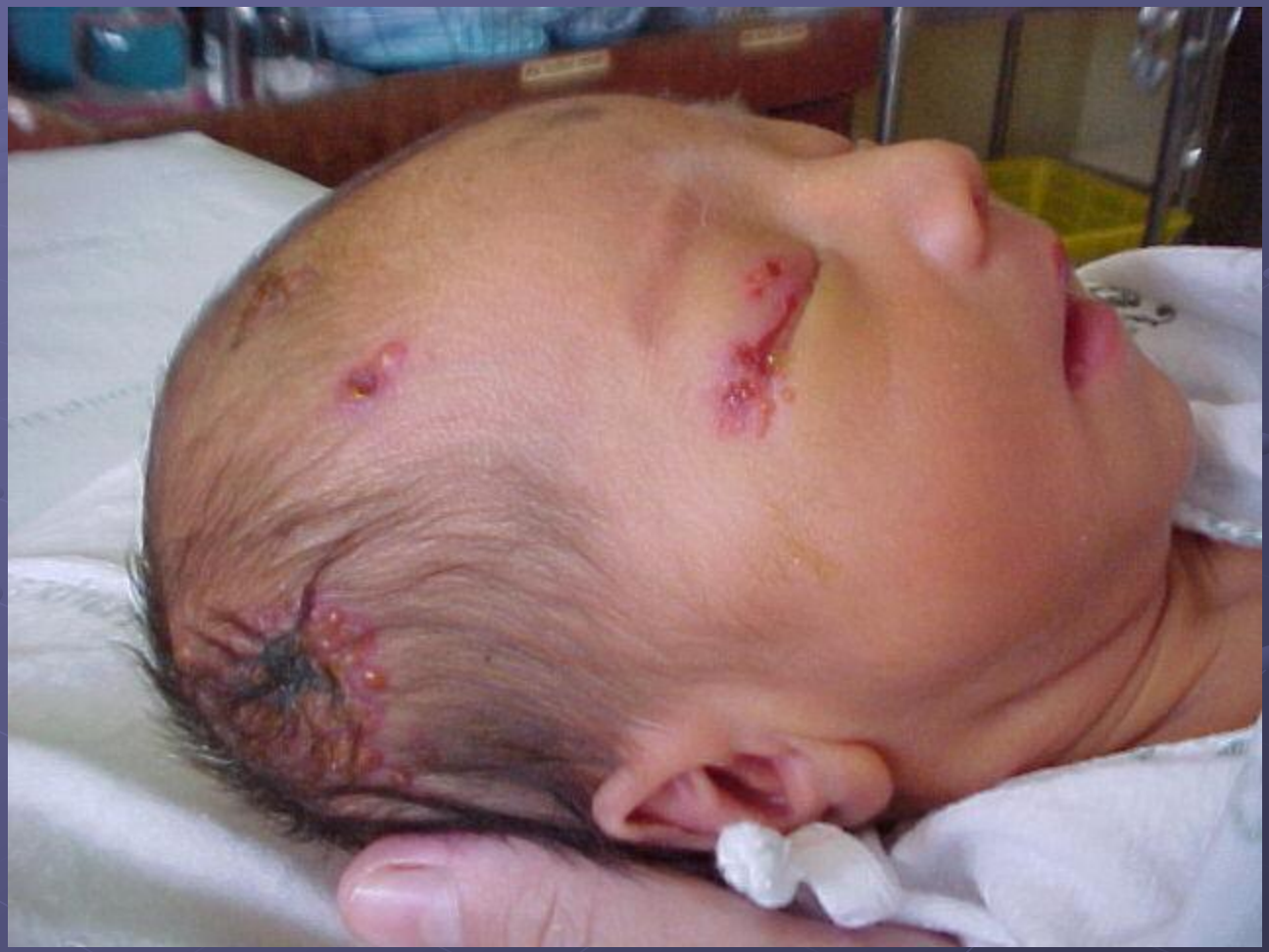
- Congenital vascular malformation
- Does not resolve spontaneously
- Usually confined to skin; but if in V1 distribution (trigeminal nerve) may be associated with vascular malformation in eye and leptomeninges
- What is that syndrome?

Sturge-Weber Syndrome






Collection of Nicholas Fiumara, MD



Neonatal Herpes

- Epidemiology:
  - 50% of infants born to mothers with primary HSV-2 infection develop neonatal HSV infection
  - Only ~5% of infants born to mothers with recurrent HSV-2 develop the disease

Neonatal Herpes

- Note that primary and recurrent infections may be asymptomatic or associated with nonspecific findings
- >75% of infants who contract HSV were born to women with no clinical findings of infection during pregnancy

Neonatal Herpes

- HSV may be acquired:
  - Transplacentally
  - By viremia during gestation
  - Intranatally by passage through an infected birth canal
  - Postnatally by direct contact with infected individuals

Neonatal Herpes

- Clinical Features: “1/3, 1/3, 1/3”
  - 1/3 are localized skin, mouth, eye infection (can be seen at birth, usually DOL 3-6)
  - 1/3 are disseminated infection (liver, lung)
  - 1/3 are localized CNS infection (encephalitis, seizures)

Neonatal Herpes

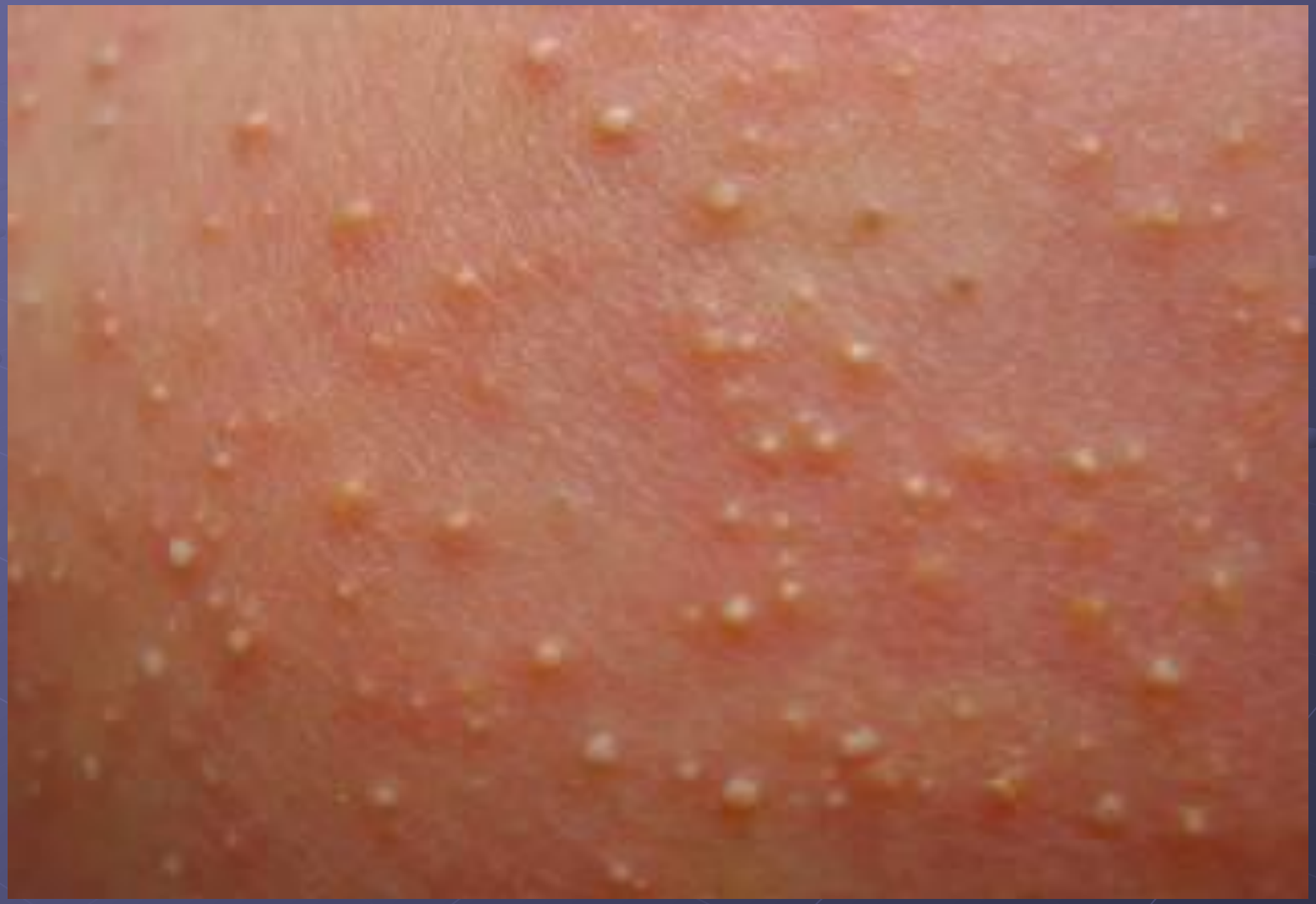
- With disseminated disease or CNS disease, skin lesions are often absent making dx difficult
- Consider HSV in neonates with sepsis syndrome, negative bacterial culture, elevated LFTs, abn'l CSF, seizures
- Infection may occur between birth and 4 weeks of age

Neonatal Herpes

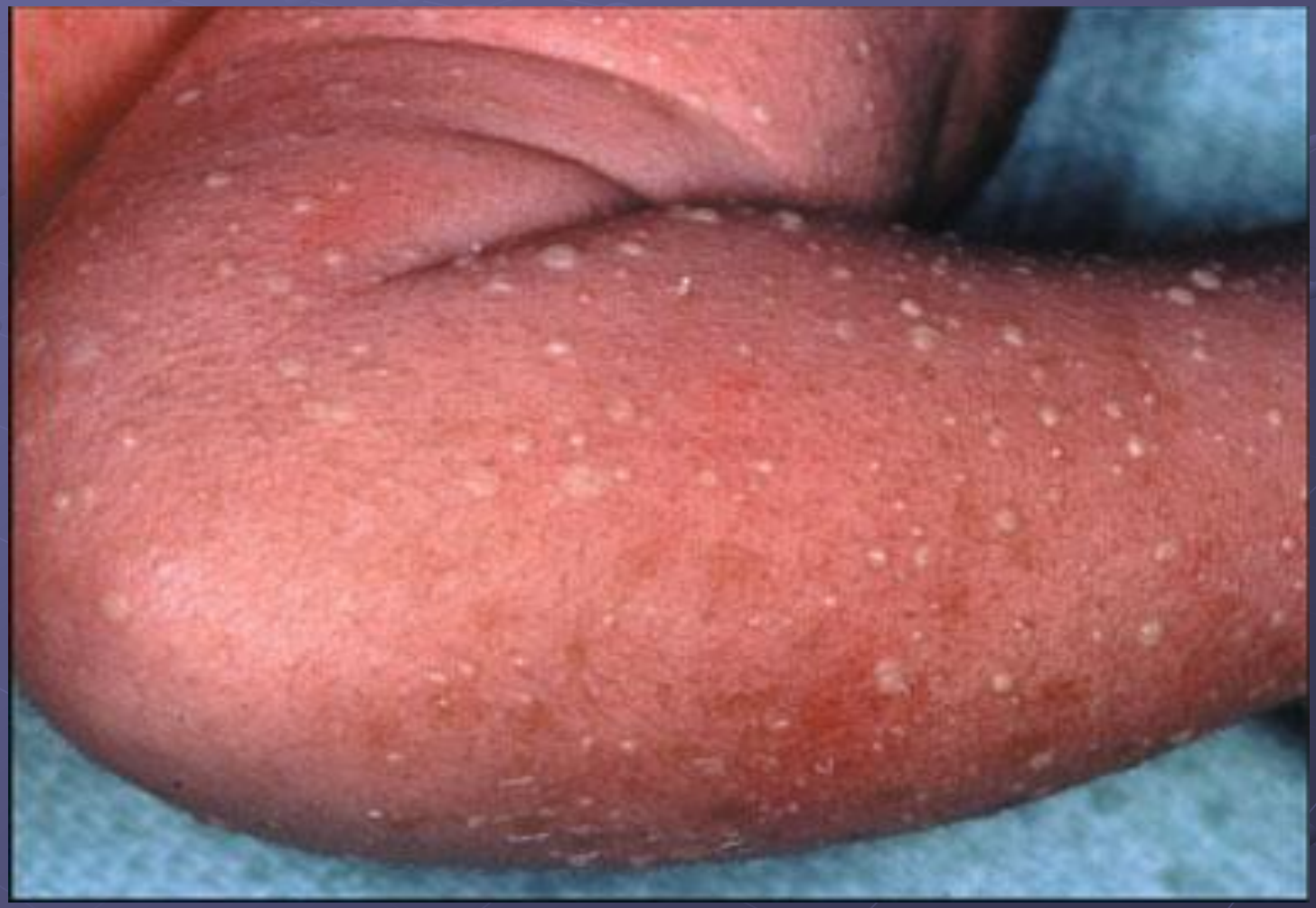
- Labs/studies:
  - Viral culture (swab mouth, nasopharynx, conjunctivae, rectum, skin lesions)
  - LP (HSV PCR), LFTs, CXR, CBC and blood culture
- Treatment:
  - Acyclovir 60mg/kg/day IV divided q 8h

  x 14-21 days
  - Ophthalmologic consult

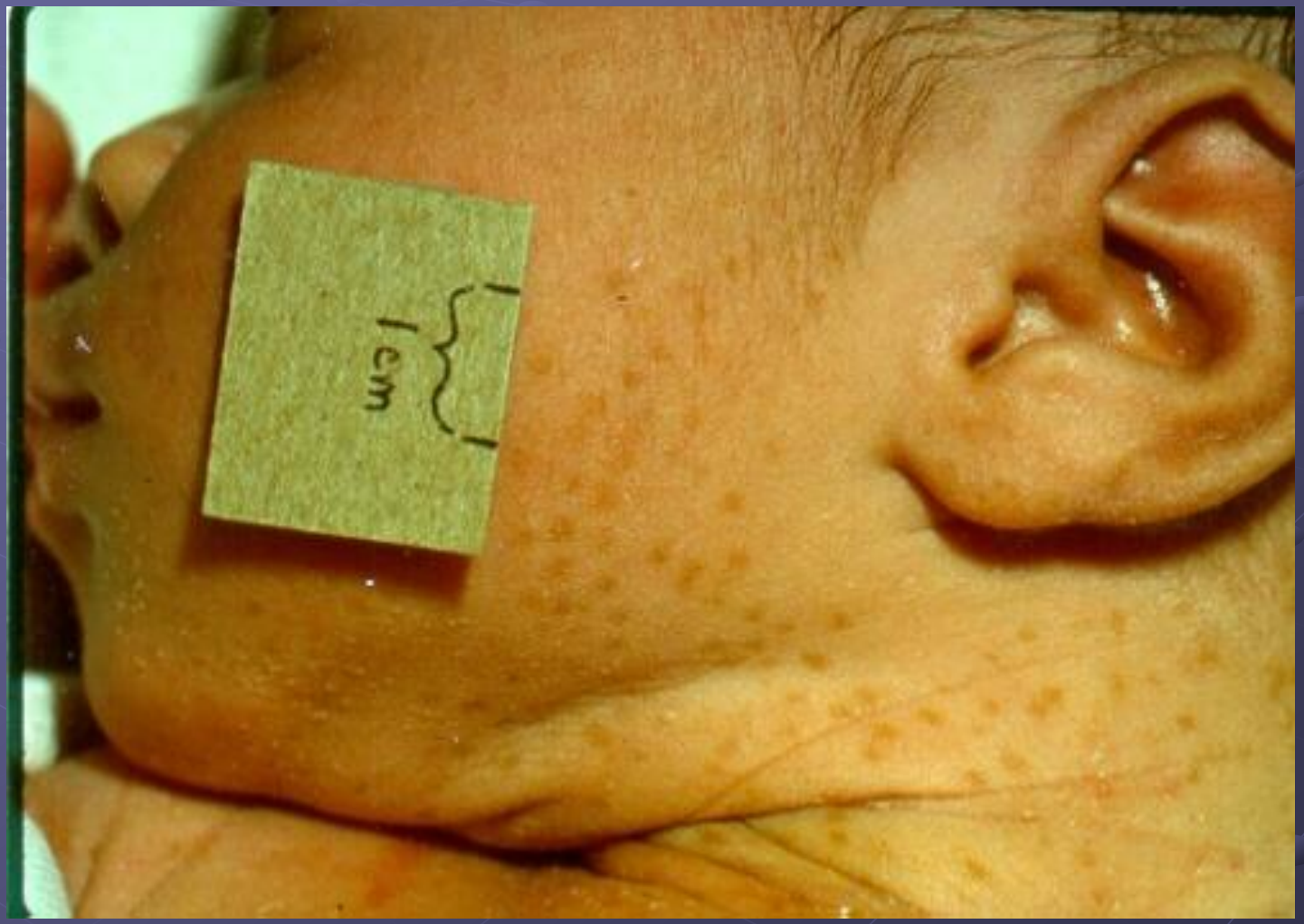
Initial rash…vesicopustules



Progression to ruptured pustules with collarette of scale



Pigmented macules last 3wk-3months



Transient Neonatal Pustular Melanosis

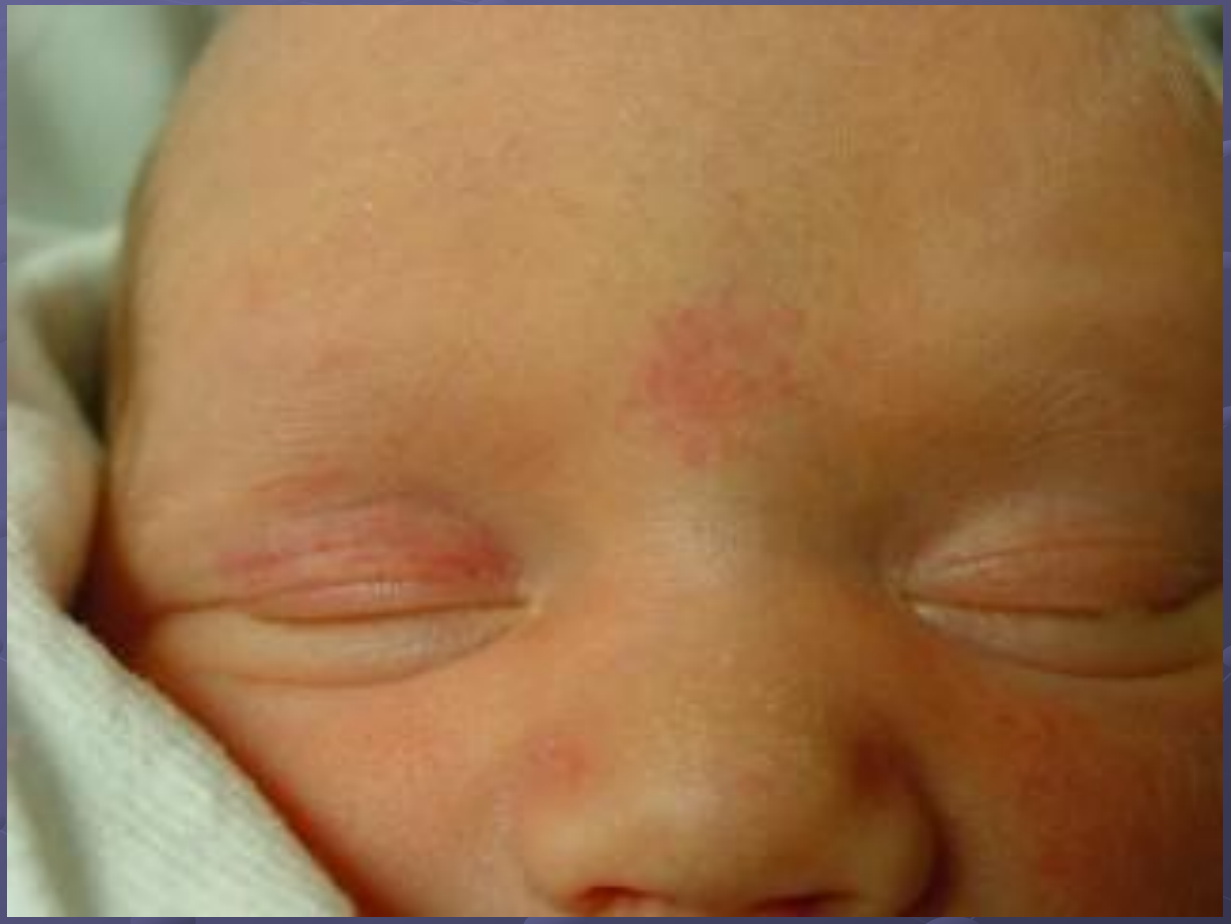
- Benign, self-limited rash
- Often present at birth
- Seen in term neonates
- Epidemiology: ~5% of African-American newborns, 0.5% Caucasian newborns

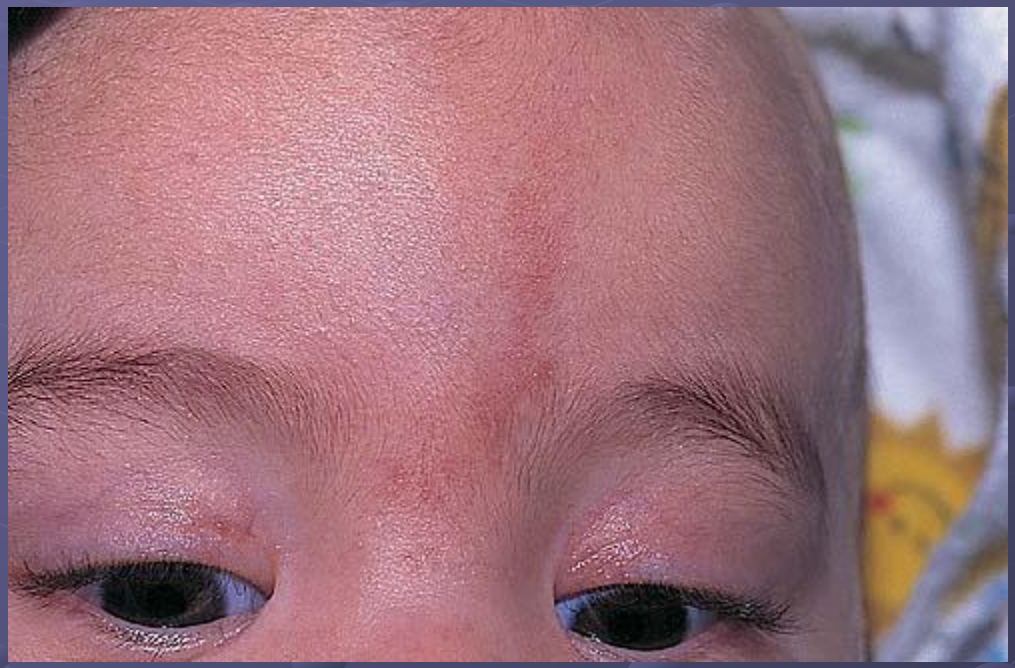
Transient Neonatal Pustular Melanosis

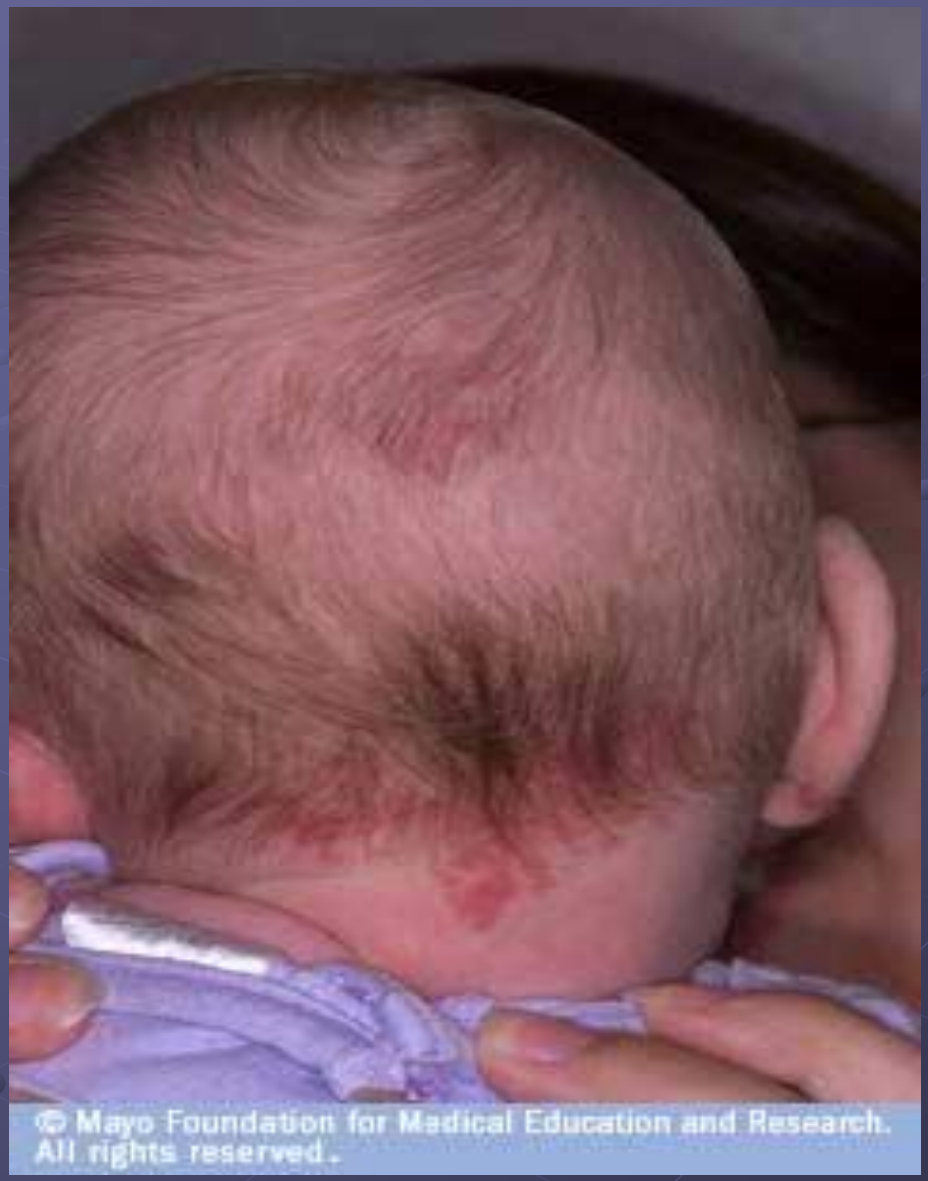
- Etiology: unknown
- Onset: self-limiting lesions are present at birth
- Lab: not necessary, but if tested, lesions will show neutrophil predominance

Transient Neonatal Pustular Melanosis

- Distribution: all areas, including palms and soles
- Description:
  - Vesicopustules
  - Ruptured pustules with “collarette of scale”
  - Pigmented macules
- Duration:
  - Vesicopustules last 2-3 days
  - Pigmented macules last 3 wks to 3 months

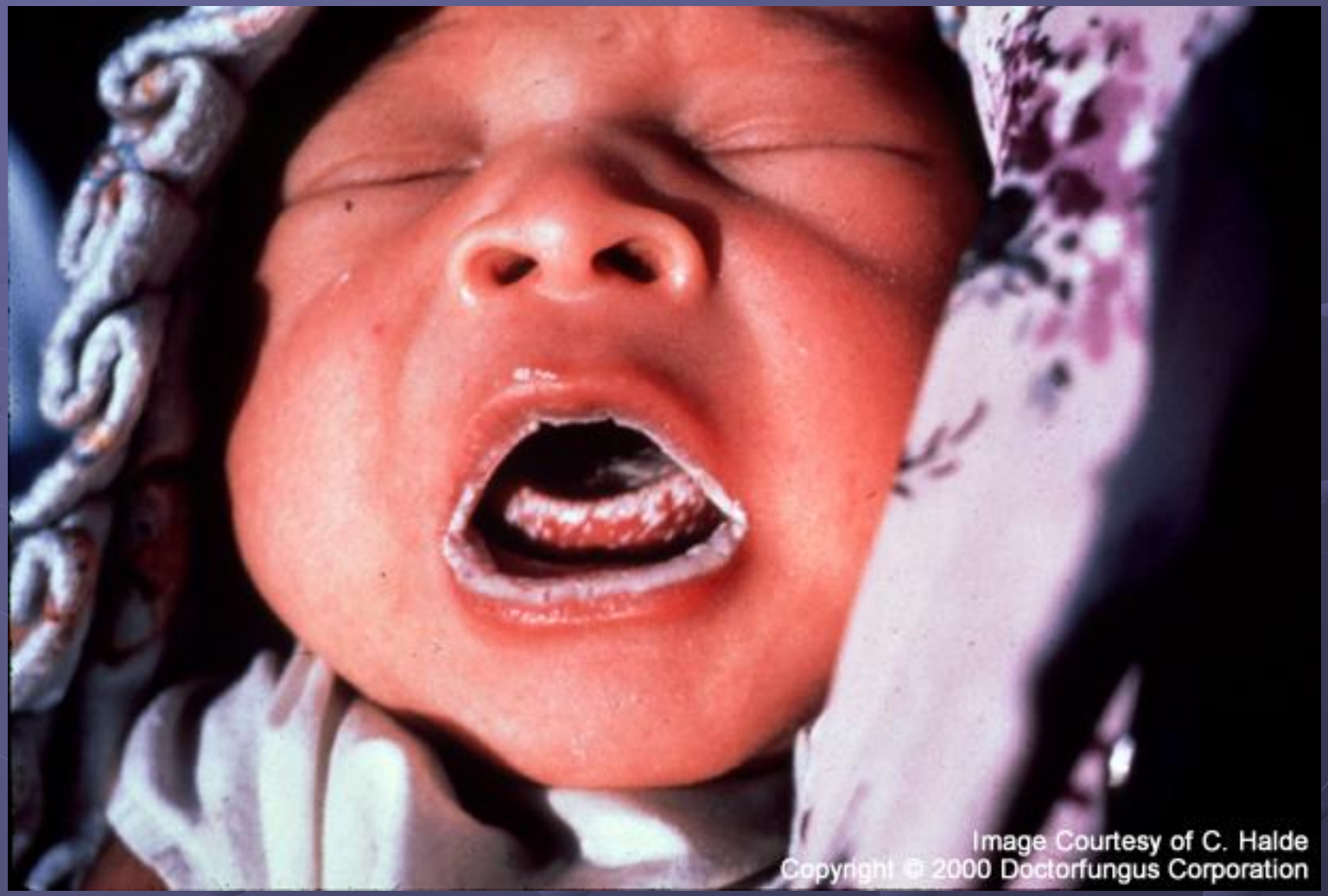






Salmon Patch/Stork Bite

- Small pink or red patches found on eyelids, between the eyes, upper lip, and back of the neck
- Caused by a concentration of immature blood vessels
- May be most visible when crying
- Benign, no treatment
- Most resolve spontaneously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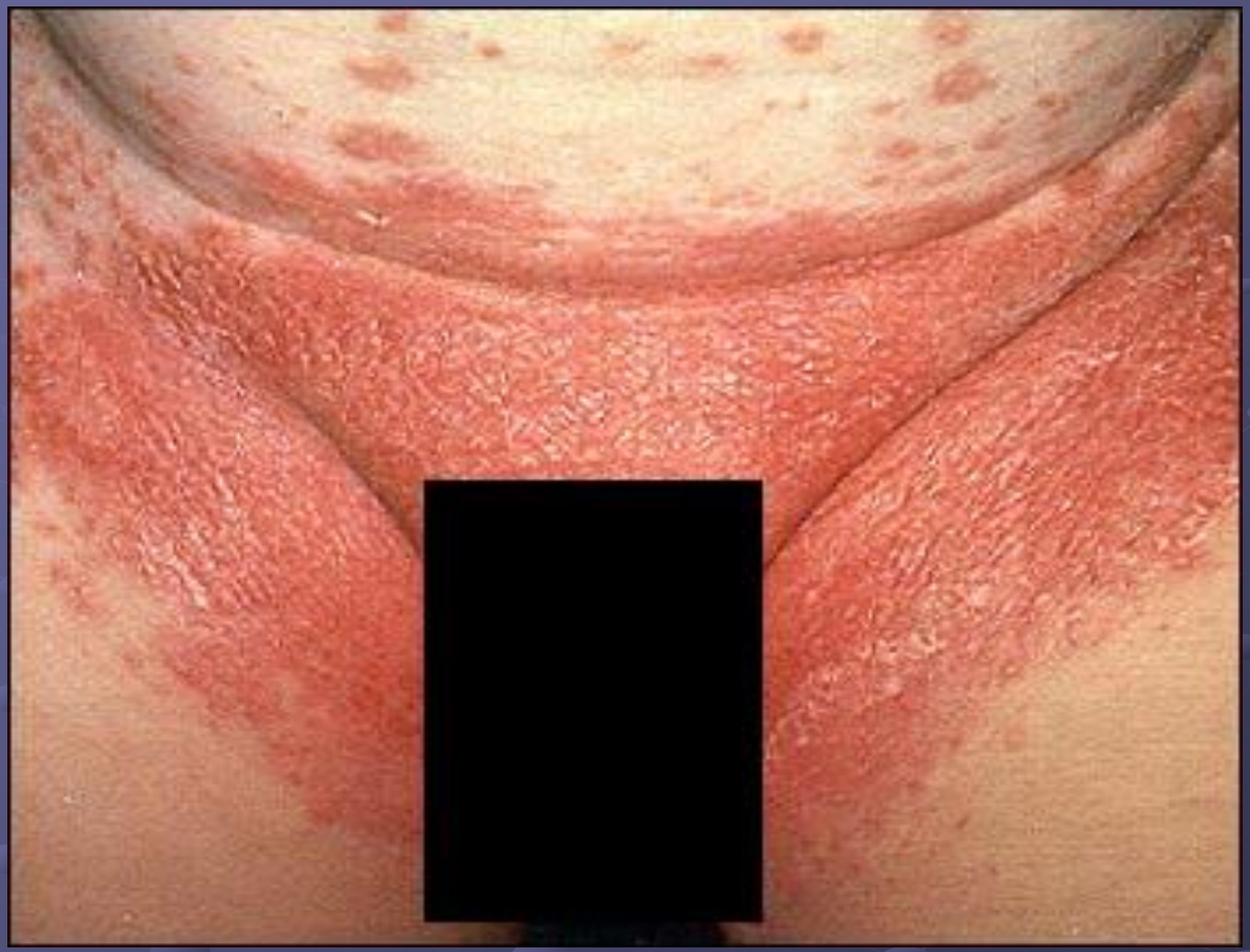
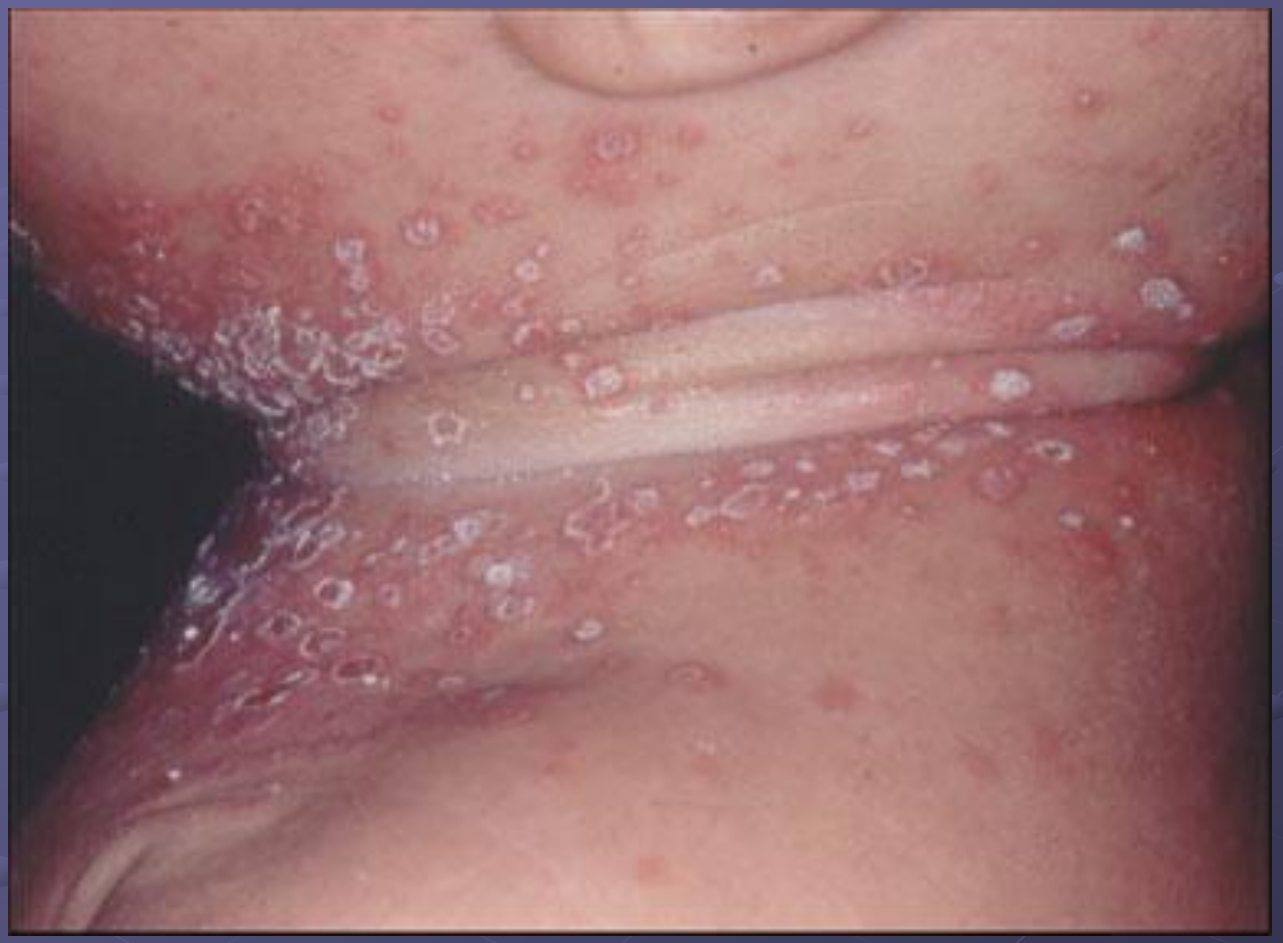




Neonatal Candidiasis

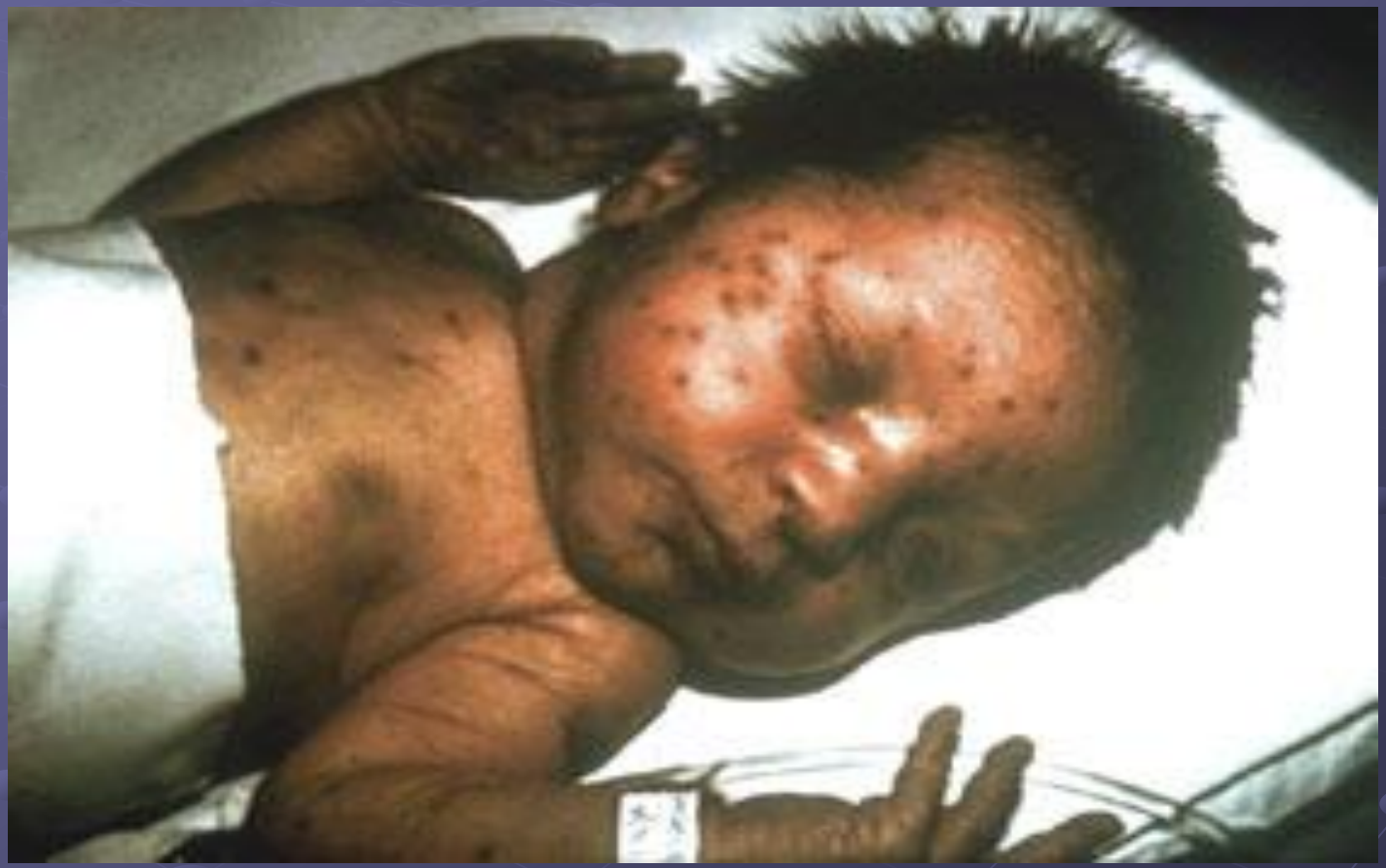
- Ubiquitous yeast found on skin, in mouth, GI tract and vagina
- Mild mucocutaneous infection (thrush) common in healthy newborns
- Usually seen >7 days of life
- Rx for oral thrush: Nystatin 100,000 units/ml, 1 ml PO QID
- Use x 48 hours after symptoms resolve

Neonatal Candidiasis

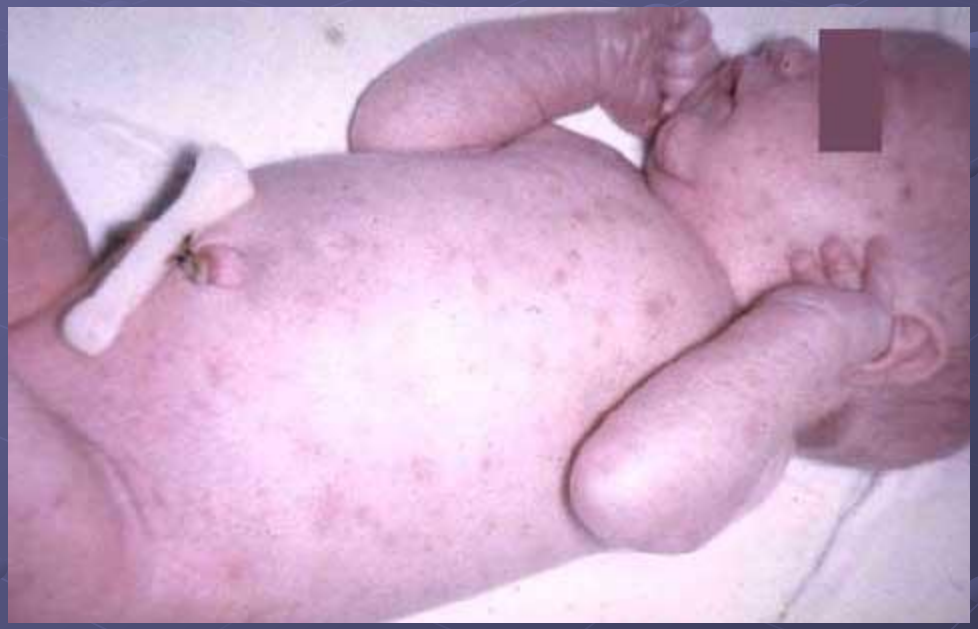
1) Beefy red rash, peripheral scaling and satellite papular lesions
2) Usually involves the skin folds, often well demarcated
3) If rash in diaper area, also check for oral thrush→ often occur together

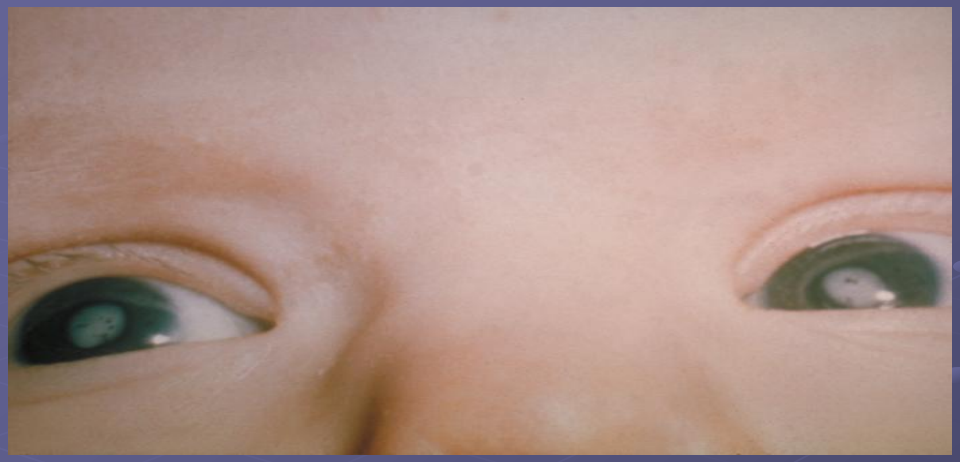
Neonatal Candidiasis

1) Dx clinically. If done, KOH prep shows pseudohyphae and spores
2) If recurs, check for sources of fungus on mother's breast, vaginal area, and pacifiers
3) Rx for diaper area: Miconazole type cream BID
4) Use 48h after symptoms resolve

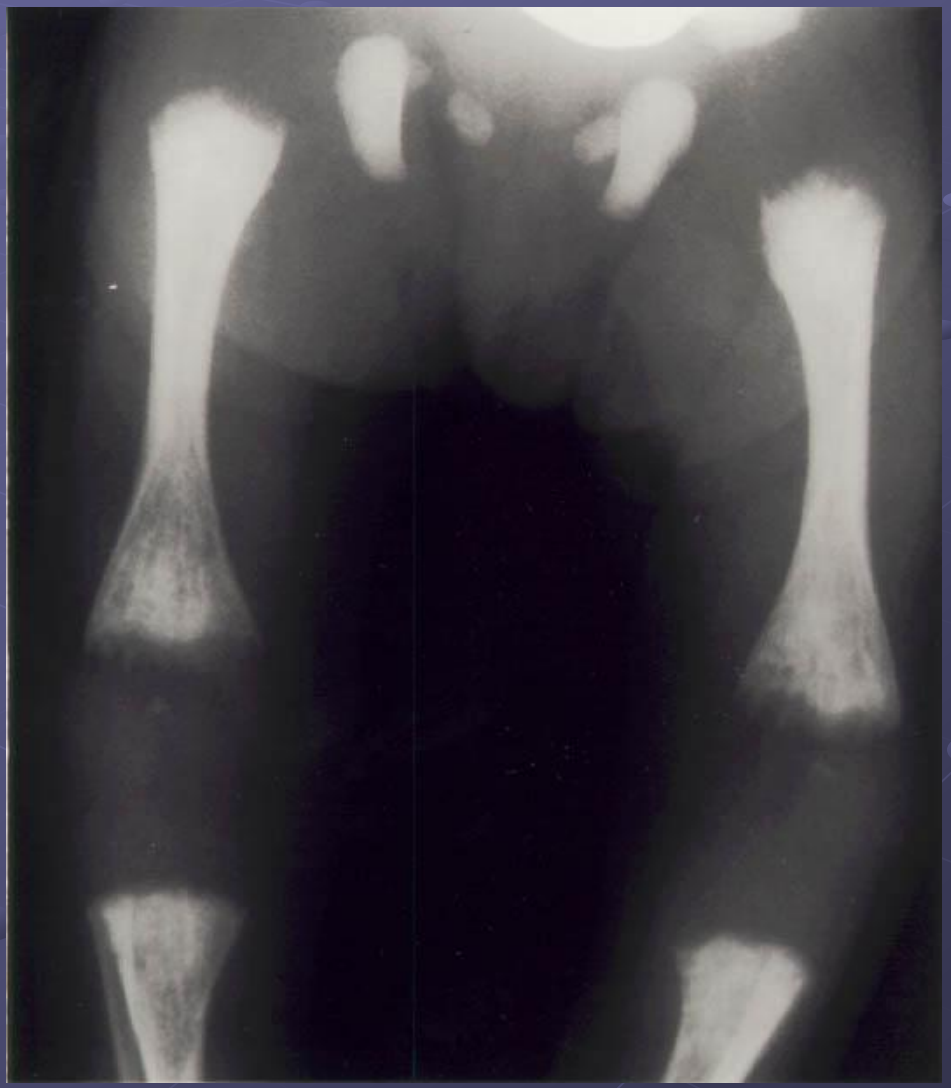


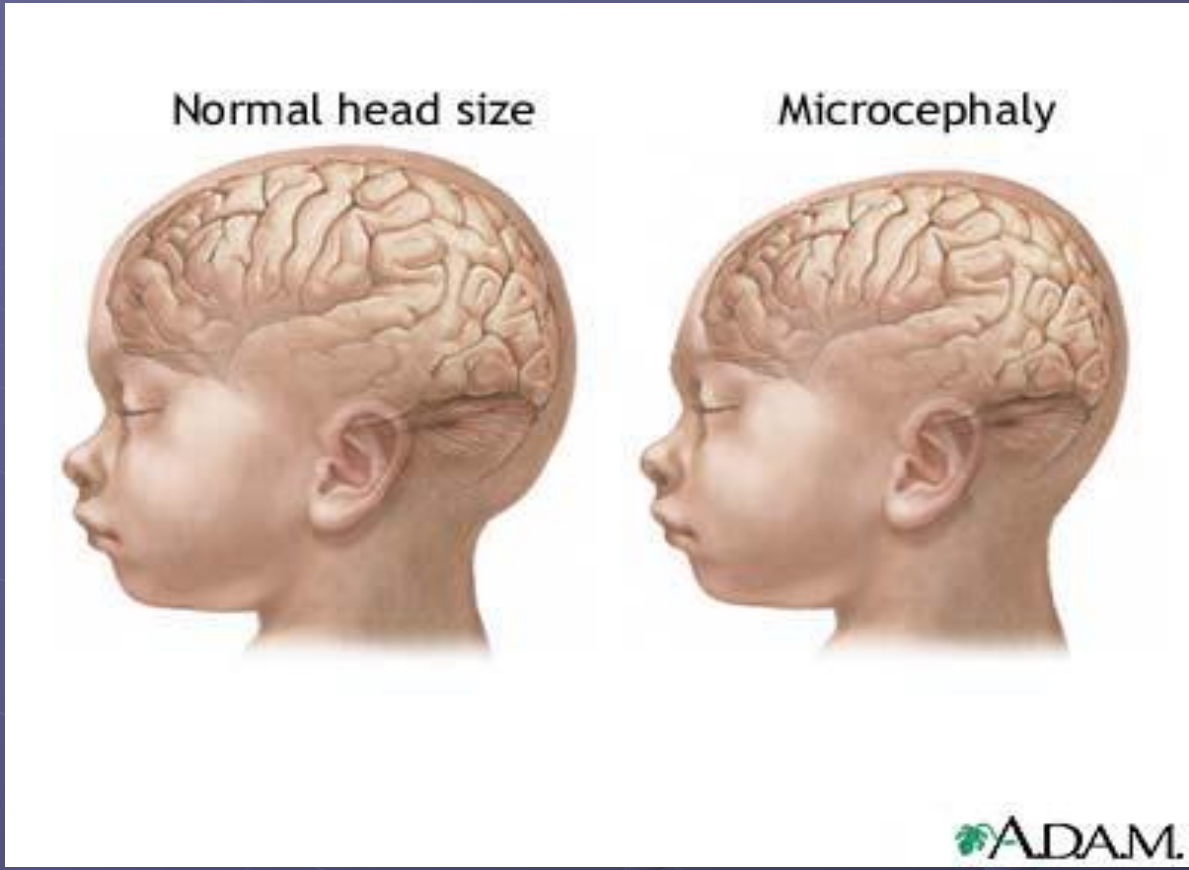
Born to an unvaccinated mother from China



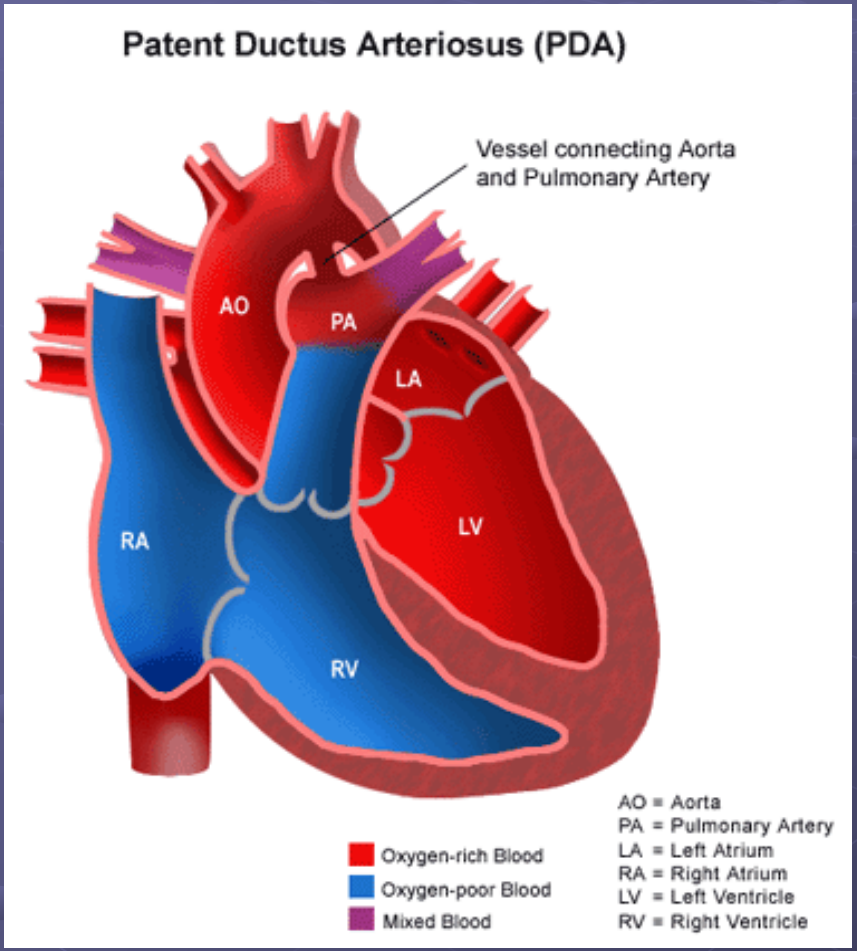


“Celery Stalk” appearance of long bones due to active infection




Normal head size
Microcephaly
A.D.A.M.

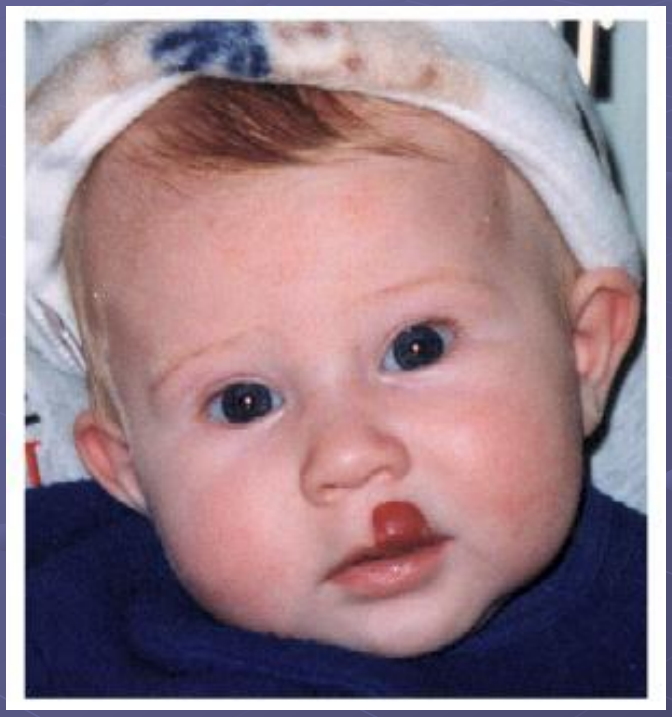
Patent ductus arteriosus (PDA)

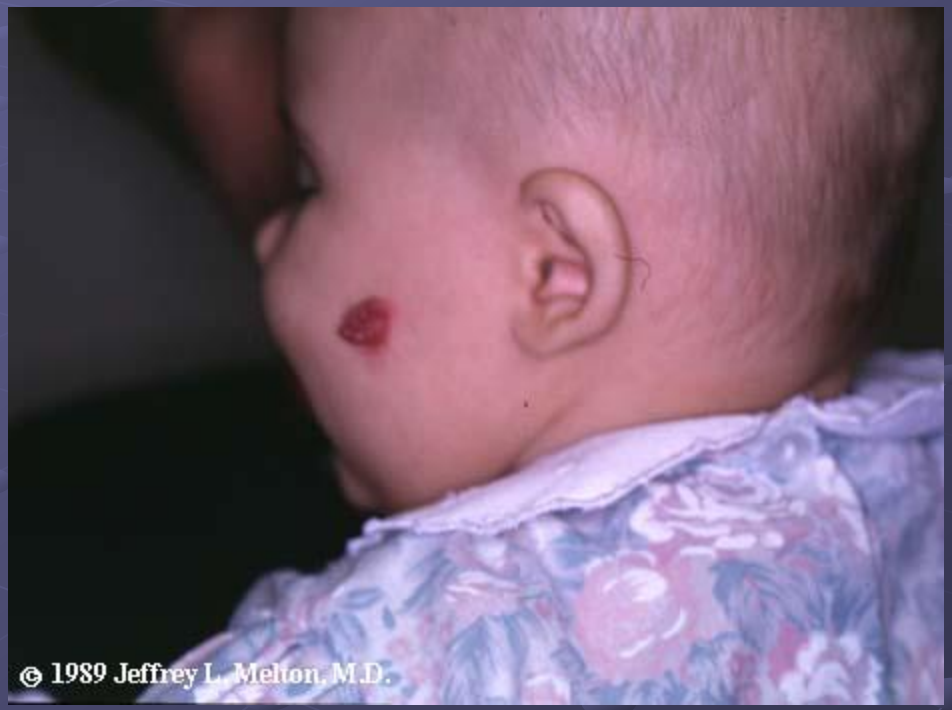


- Failure of the ductus arteriosus to close
- Allows blood to inappropriately flow from the aorta into the pulmonary artery

Congenital Rubella Syndrome

- Following immunization in 1969, incidence has decreased to <1%
- In children and adults, rubella is a mild respiratory infection with associated rash
- However, if transmitted to neonate→"blueberry muffin" rash at birth, microcephaly, heart abnormalities (PDA), limb defects and cataracts

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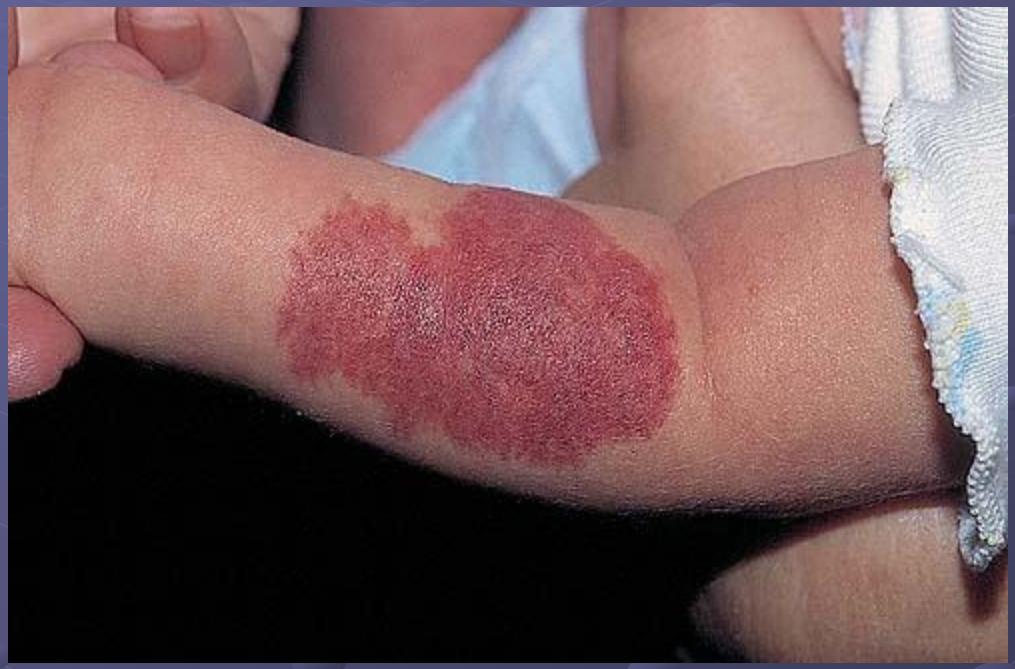
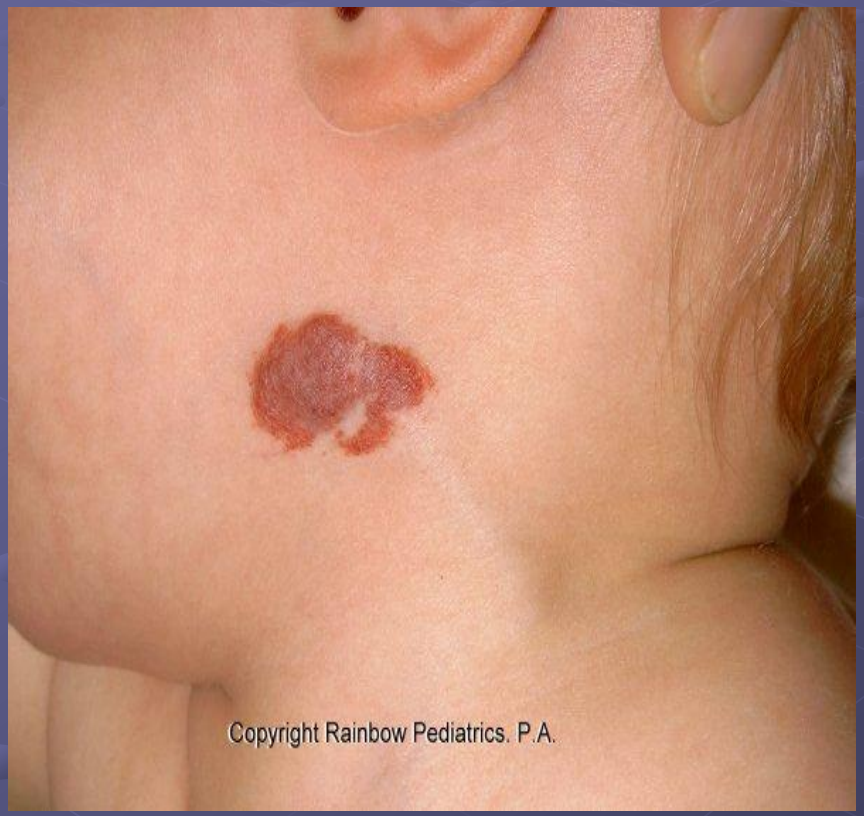


Capillary hemangioma

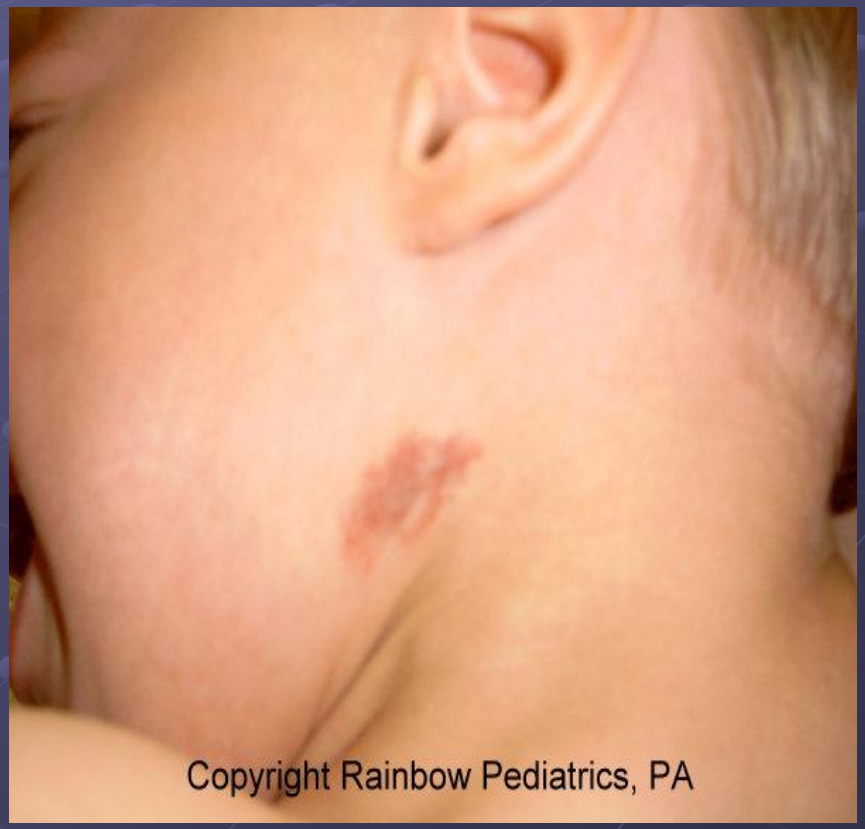
- Seen in 1-2% of population, often Caucasian
- Vascular nodule or plaque
- Develops at birth or soon after (within 1-4 weeks)
- Vast majority spontaneously resolve by age 5

Capillary hemangioma resolution

- At 6 months

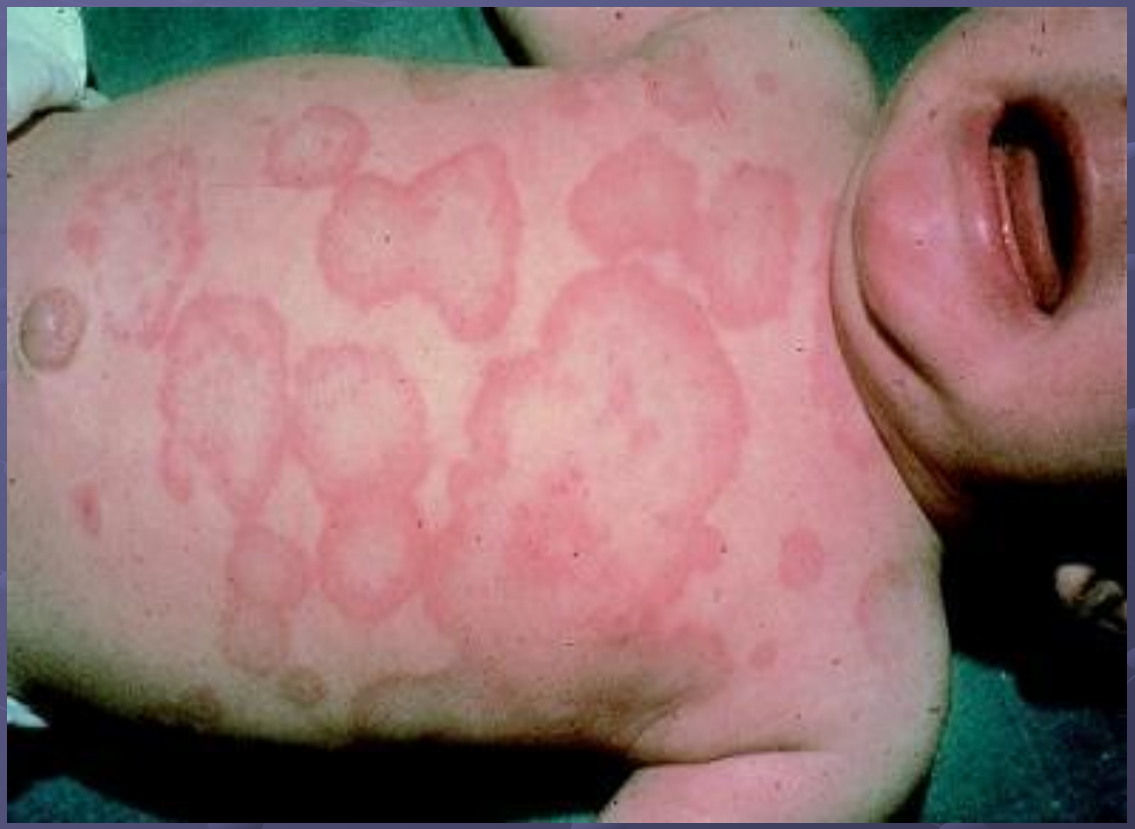


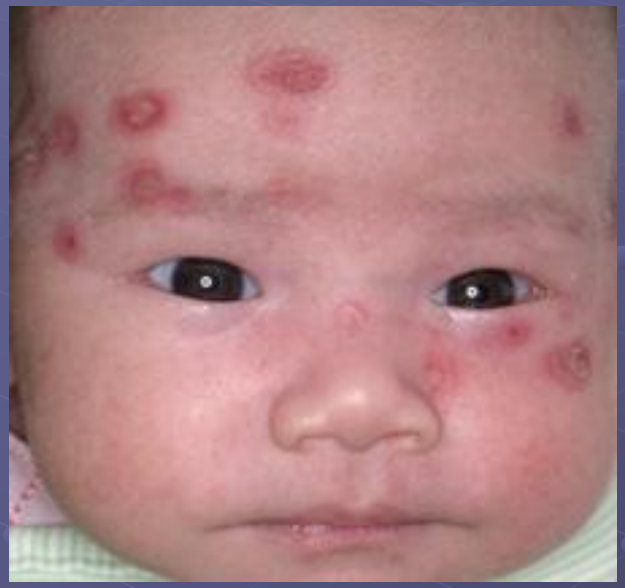
- At 18 months

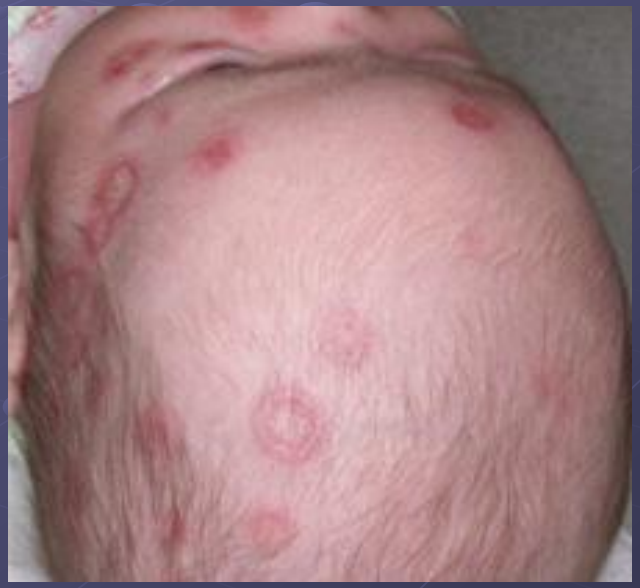


Capillary hemangioma

- Large, complex or function obscuring hemangiomas may need to be excised or treated with pulse-dye laser

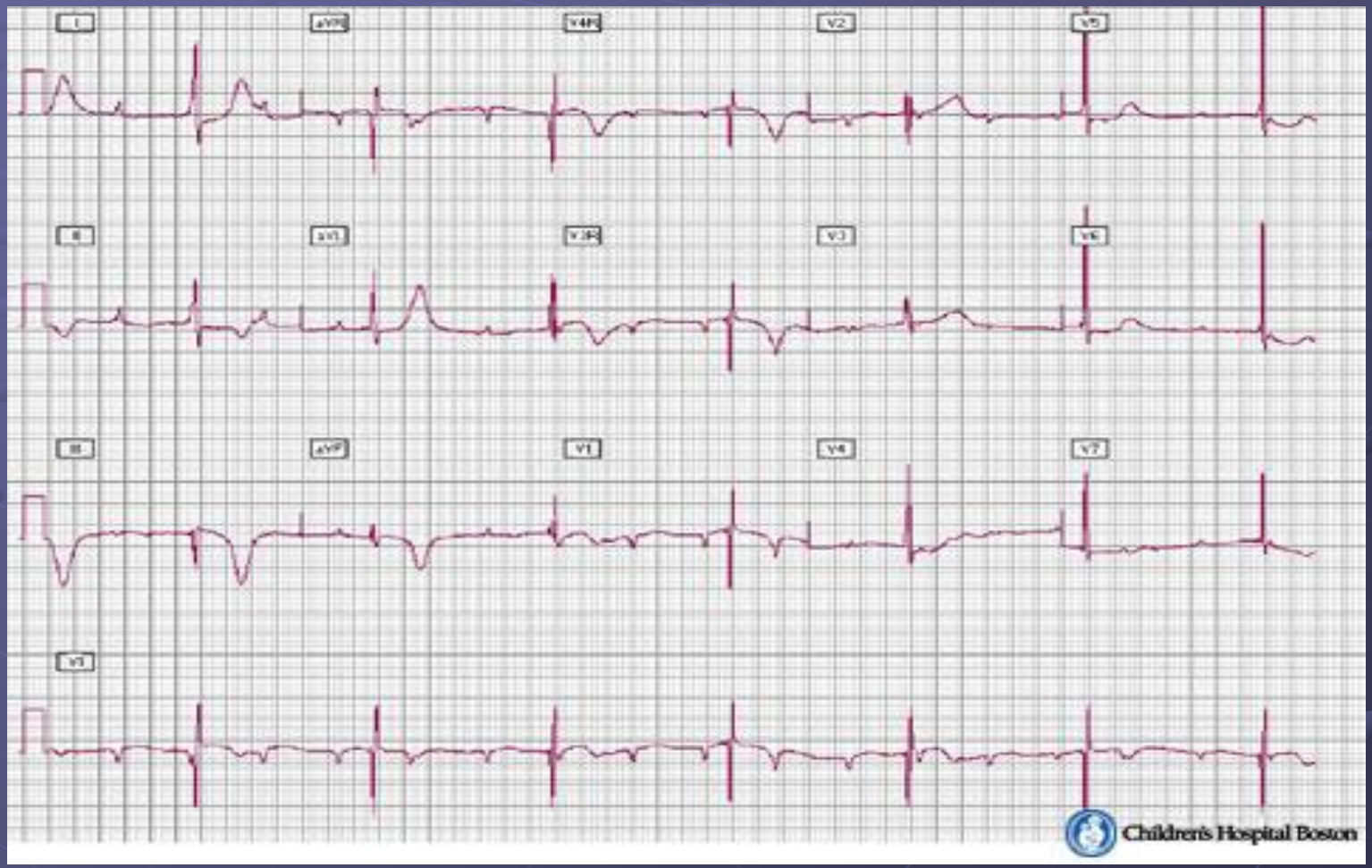






Discoid rash

EKG shows complete heart block



Neonatal Lupus (NLE)

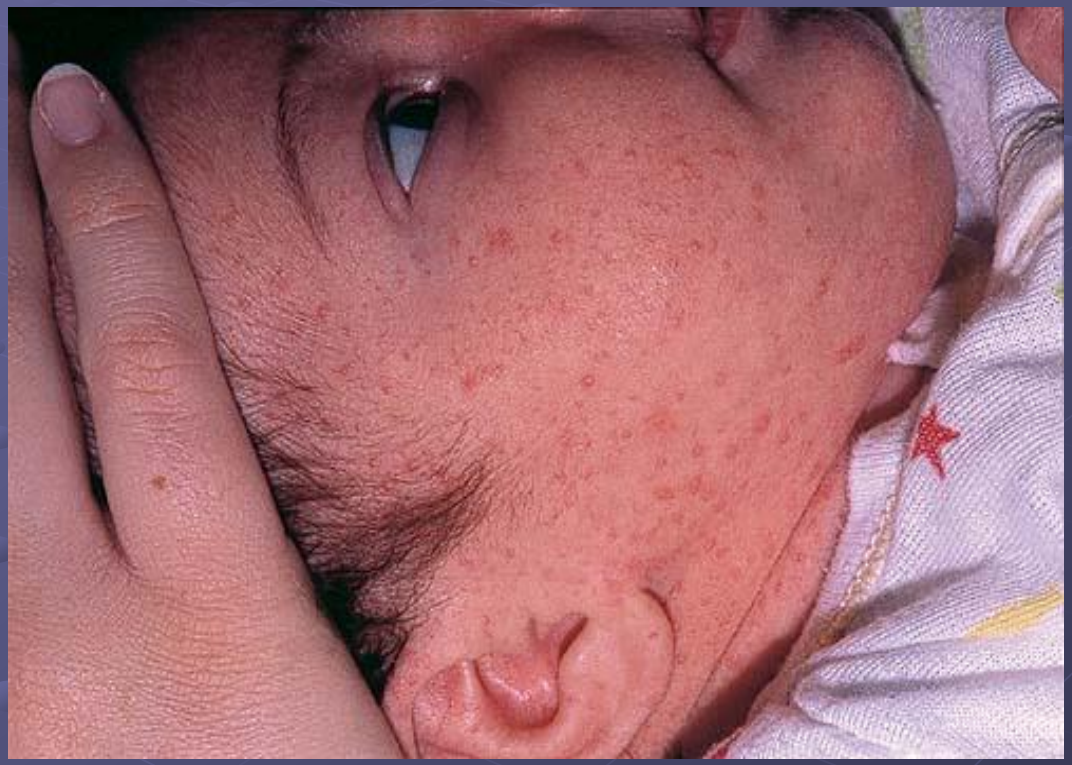
- Etiology: caused by passively acquired maternal antibodies (SLE or other connective tissue disease)
- Infant born to a mother positive for Ro antibodies has a 1:20 chance of developing NLE
- Female > male

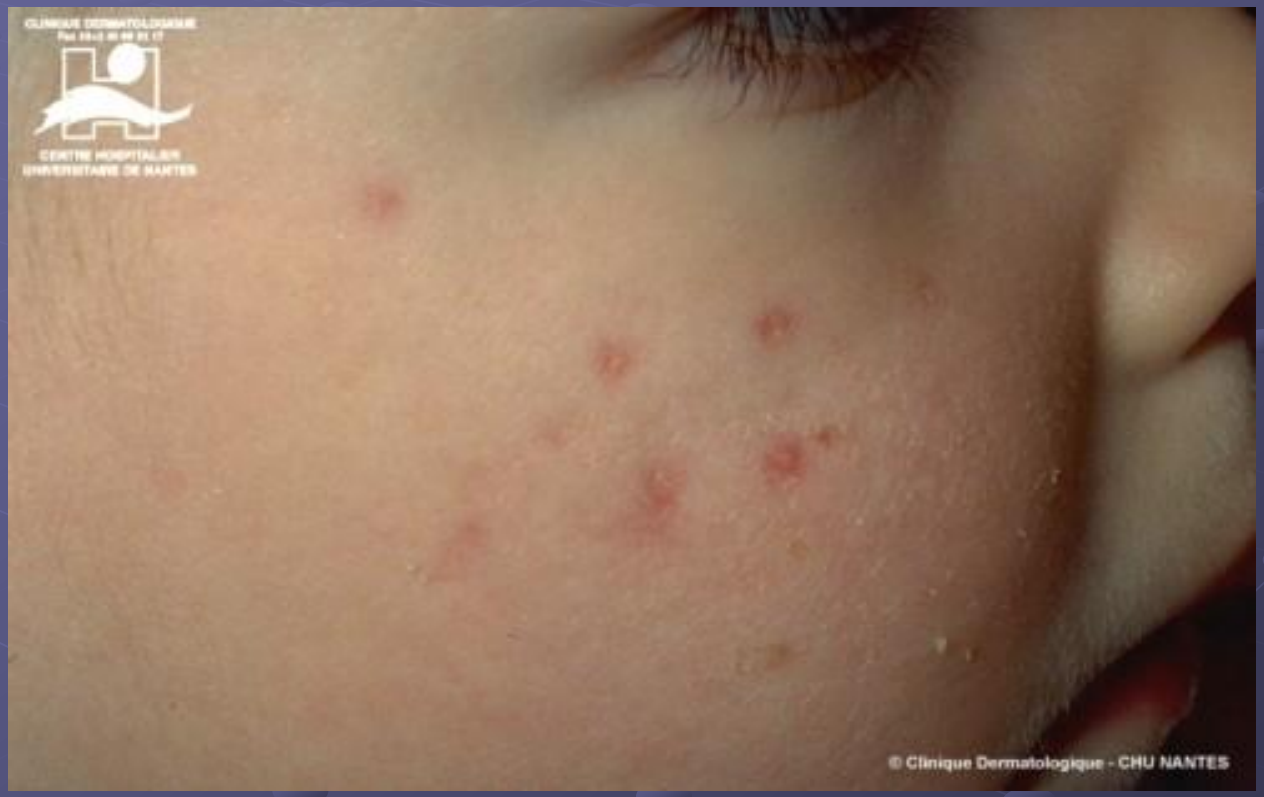
Neonatal Lupus (NLE)

- Labs:
  - CBC (anemia, leukopenia, thrombocytopenia)
  - EKG (complete heart block)
  - Ro IgG seen in 95% of patients with NLE
  - La IgG seen in 70% of patients

Neonatal Lupus (NLE)

- Cutaneous findings (often periorbital, discoid lesions) seen in ~45% of cases→ benign, require no treatment
- Congenital heart block (CHB) alone seen in ~45% → permanent and requires pacing
- Cutaneous and CHB together seen in 10% of patients

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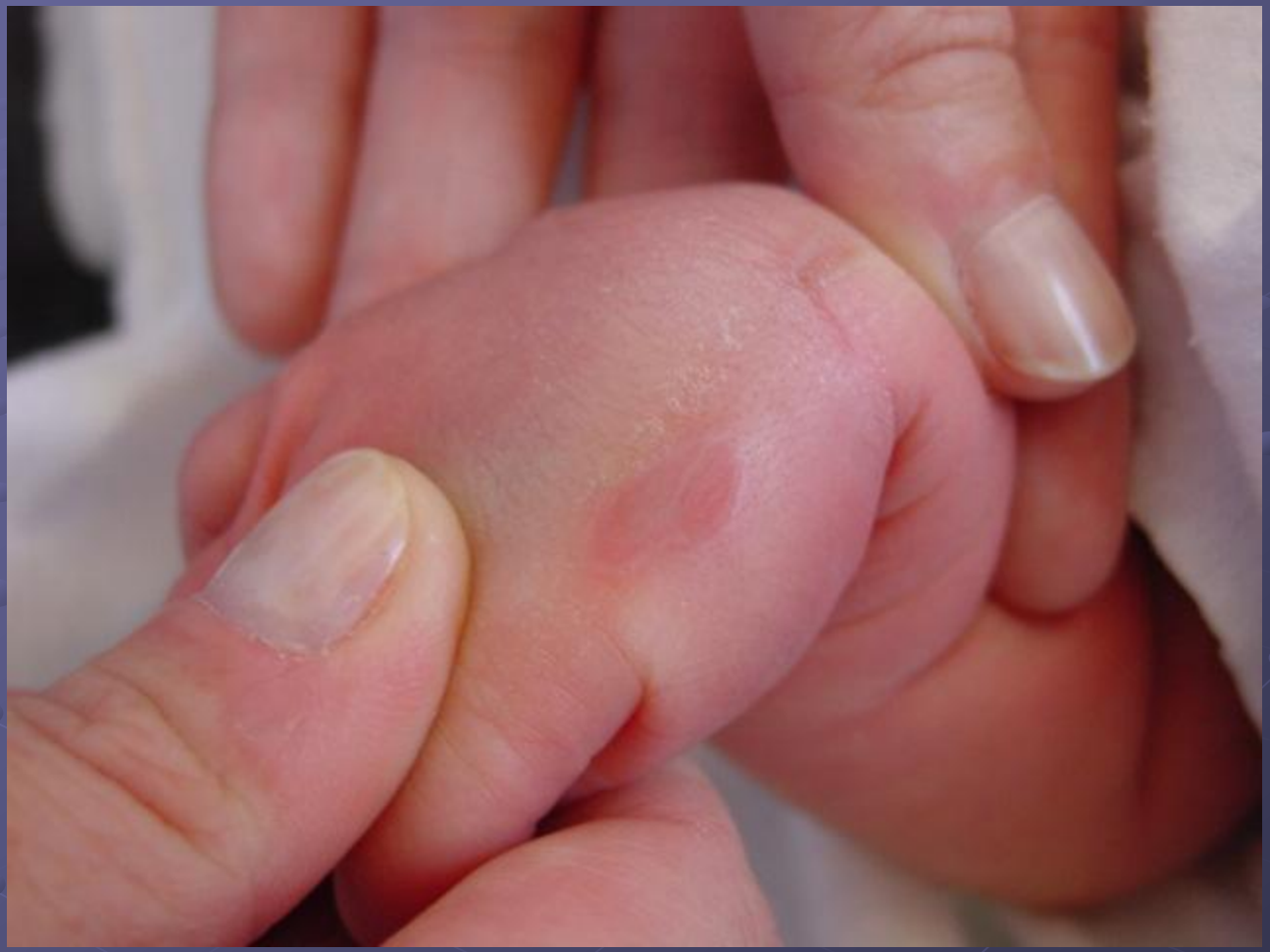
Neonatal Acne

- ~20% of newborns develop papules and comedones in the first month
- Usually on the cheeks, forehead
- Caused by stimulation of sebaceous glands by maternal/infant androgens
- Disappear within a few months
- Caution parents: no Rx, do not squeeze lesions, will not scar

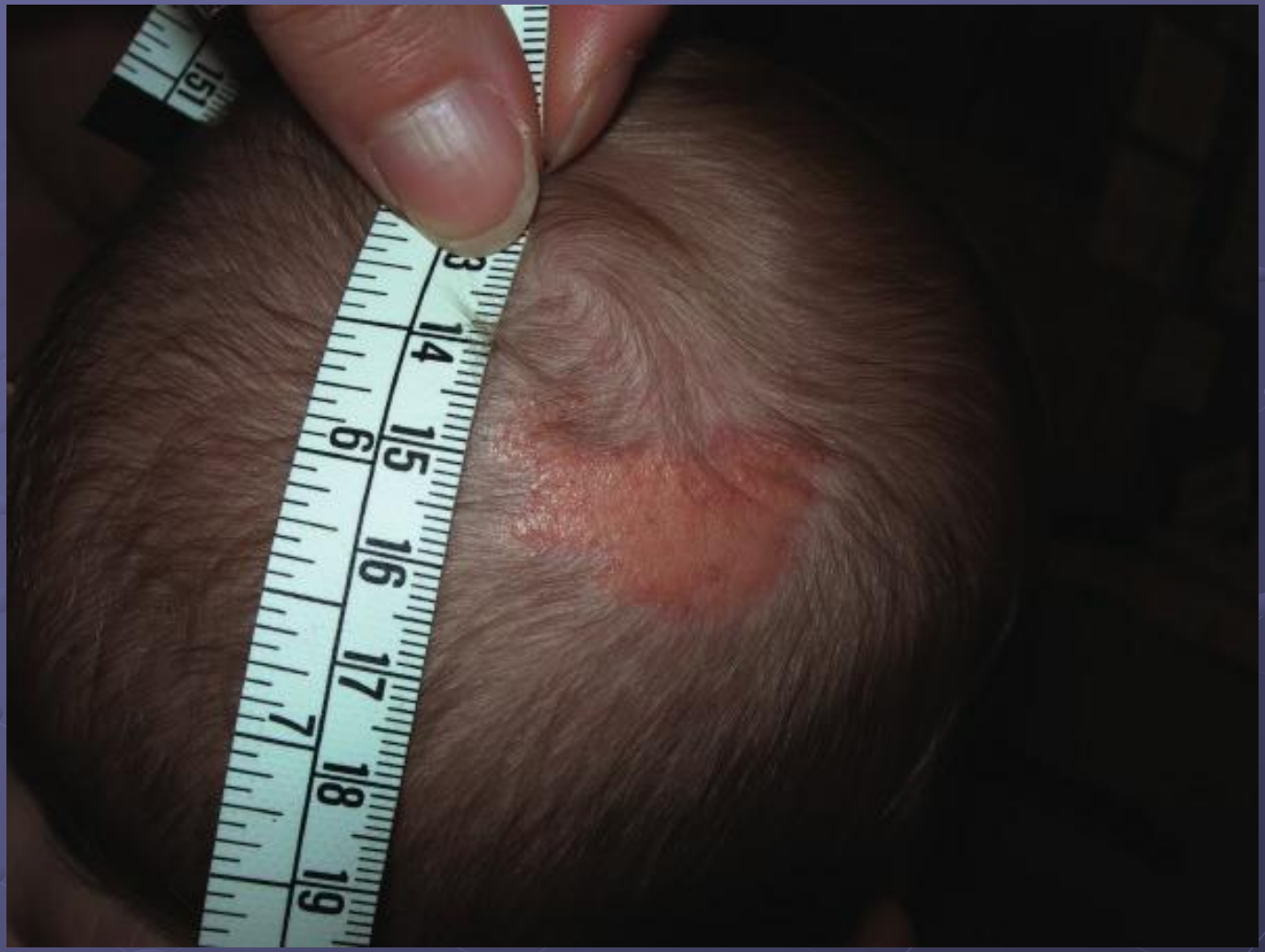


Sucking blister

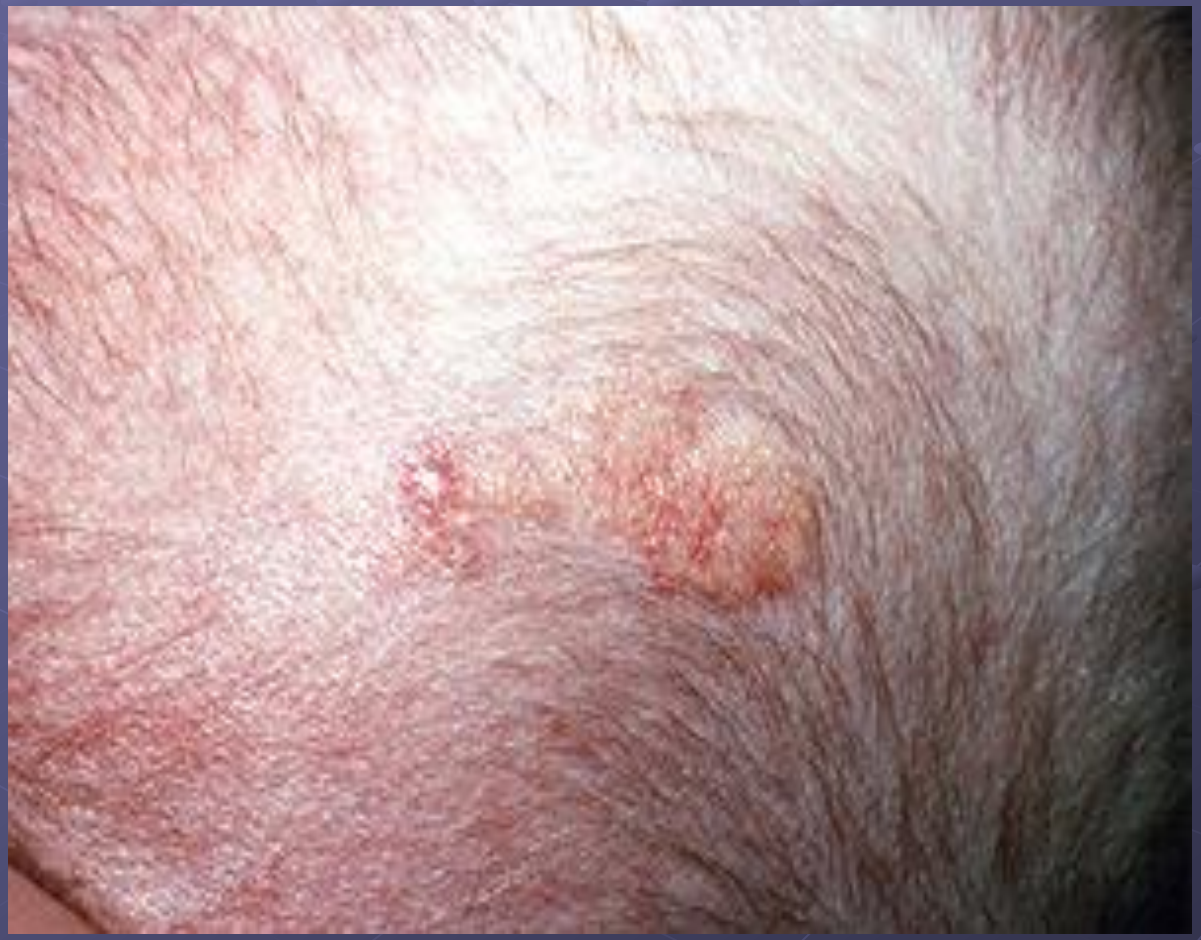
- Present at birth, most often over the dorsal and lateral aspect of the wrist, inside lips
- May appear like well demarcated bruises or may be vesicular
- May be either bilateral or unilateral
- Less often, they may be noted more proximally in the forearm

Sucking blisters

- Infant will often exhibit excessive sucking activity
- The absence of lesions in other parts of the body and the otherwise well appearance of the infant would rule out pathological disorders presenting with similar lesions

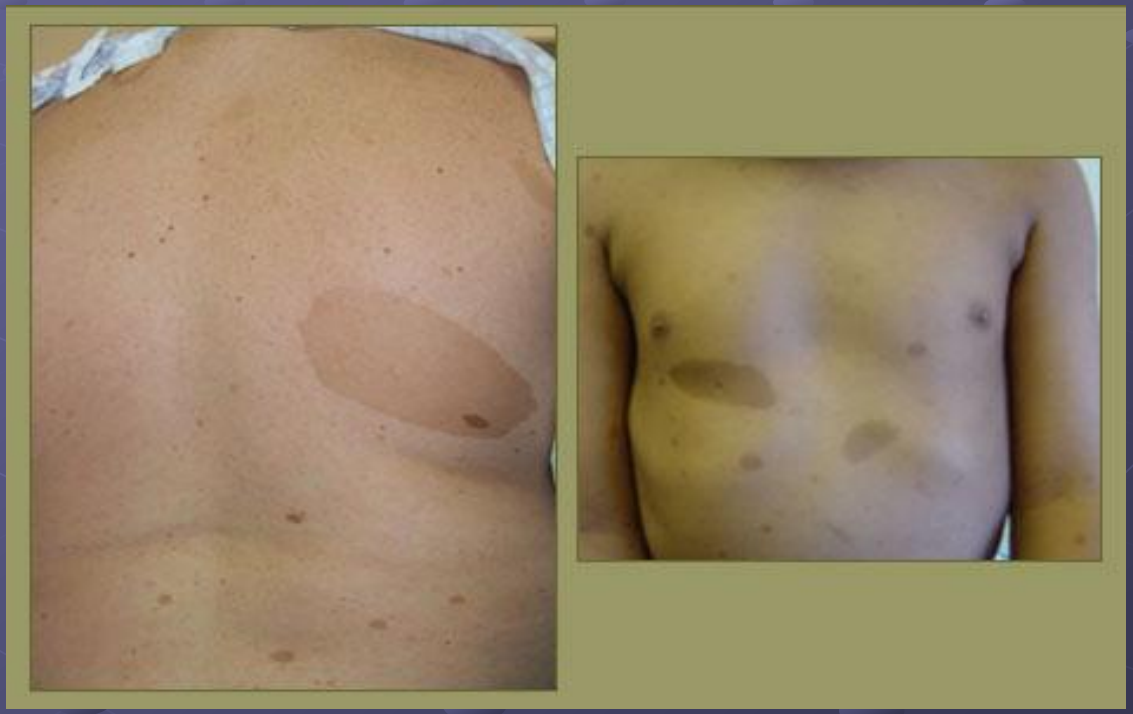


“Pink-yellow or orange-yellow with an orange peel appearance”



Sebaceous nevi of Jadassohn

- Congenital hamartoma, usually a single lesion to face or scalp
- Seen in 0.3% of newborns
- Rarely associated with systemic findings, most commonly neurologic
- Risk of development of neoplasia after puberty

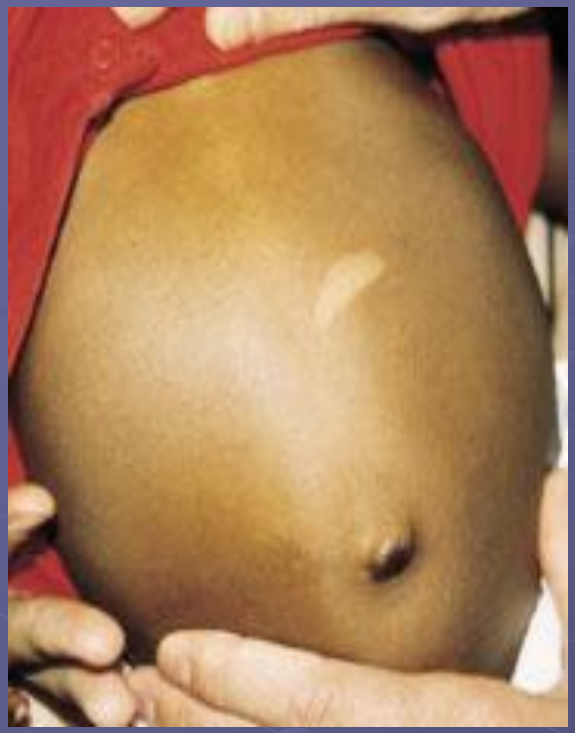


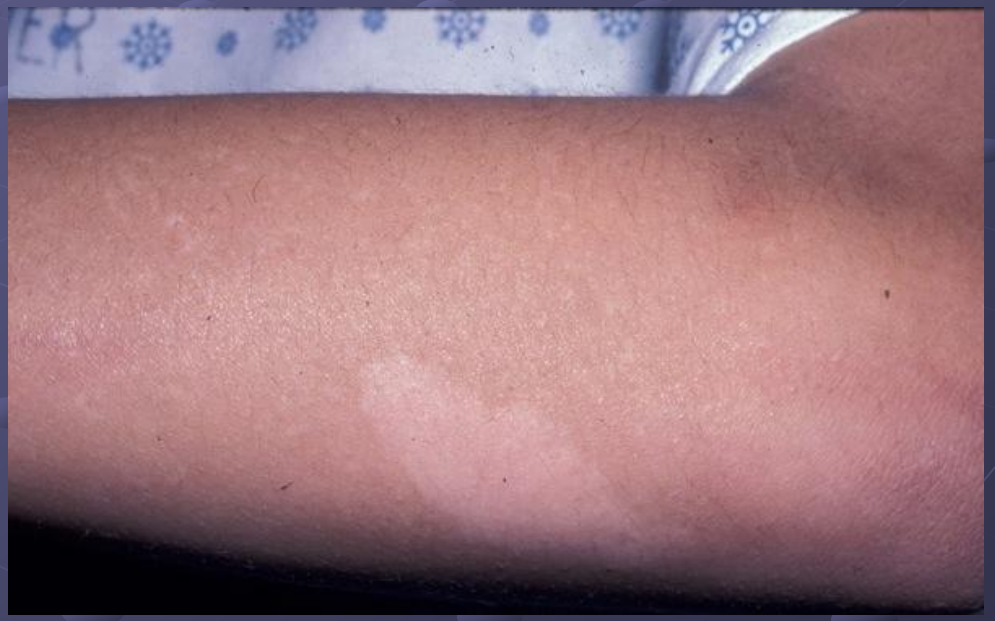
Café au lait macule

- Seen in up to 15% of neonates
- Many are present at birth or develop in the first few months of life
- May increase in number and size with age
- Most often benign
- May be associated with certain genetic diseases.

Dx of Neurofibromatosis (NF1) (any 2 of the following)

1. 6 or more café au lait macules > 5 mm diameter if prepubertal >15 mm in diameter if postpubertal
2. 2 or more neurofibromas or one plexiform neurofibroma
3. Freckling in the axillary or inguinal region
4. Optic glioma
5. 2 or more Lisch nodules (iris hamartomas)
6. A distinctive osseous lesion such as sphenoid dysplasia or thinning of long bone cortex
7. A first-degree relative with neurofibromatosis type 1 by the above criteria





Hypopigmented macule (Ash leaf spot)

- Better visualized with Wood's lamp, especially in light skinned patients
- Isolated lesions are common in the general population
- Strongly suspect Tuberous Sclerosis if 3 or more lesions present

References

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- Atlas of Pediatric Clinical Diagnosis, Shah, et al, 2000
- Color Atlas and Synopsis of Clinical Dermatology, Fitzpatrick et al, 3rd ed, 1997
- Neonatal Dermatology, Eichenfield, 2006
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