NEWBORN SKIN FINDINGS
Objectives

Medical Expert
• Recognize and develop a brief approach to 15 skin findings that present in the newborn period

Collaborator
• Know which conditions require referral to a general pediatrician or pediatric subspecialist
Background

• We will all encounter skin findings in neonates
  • Many = benign
  • Some = potentially life threatening

• Dermatology = pattern recognition
  • Try to identify the following skin conditions
  • A brief review slide will then follow
Cutis Marmorata

**Cause:** Vasomotor instability

**Clinical Features:** Reticulated mottling of the skin, accentuated by cold. Can be accentuated in certain conditions (i.e. Down syndrome)

**Treatment:** Warming. If baby = unwell, think sepsis

**When to Refer:** If localized (one extremity) or exaggerated. Could be *cutis marmorata telangiectatica congenita*
**Erythema Toxicum Neonatorum**

**Cause:** Inflammatory disorder of unknown etiology. Vesicular fluid shows eosinophils

**Clinical Features:** Appears within 24-48 hrs of birth. Common (up to 50%) in terms. UNCOMMON in prems.

Blotchy, erythematous macules & patches, often with central papule, vesicle, or pustule

**Treatment:** None. Typically resolve within 4-5 days
Milia

**Cause:** Epidermal inclusion cysts

**Clinical Features:** Tiny white papules. Forehead, nose, and cheeks. Present at birth or appear thereafter.

**Treatment:** None. Resolve spontaneously over several weeks to months
Was warmly bundled...
Miliaria

**Cause:** Eccrine duct obstruction leading to dilation and rupture

**Clinical Features:** Tiny erythematous macules or papules. Concentrated on areas of skin covered by clothing.

**Treatment:**
1) Prevention. Avoid excess environmental heat, overdressing, & applying thick emollients (occlude eccrine ducts).
2) Established. Low-humidity, air-conditioned environment. Cool baths or sponge baths may be helpful.
Slate Grey Nevi

Aka *Mongolian Spots*

**Cause:** Arrested migration of melanocytes

**Clinical Features:** Common birthmark in darkly pigmented skin. Brown to gray-blue macules and patches. Usually lumbosacral spine and buttocks, but also trunk or extremities.

**DDX:** melanocytic nevi, vascular lesions, bruises

**Treatment:** None. No potential for malignant change. Usually fade spontaneously by adolescence.
Neonatal Acne

**Cause:** obstruction and inflammation within pilosebaceous follicles. ? Androgen related.

**Clinical Features:** Present in 20% during first few wks. Primarily face. Mild (Papules, pustules, closed comedones). Papulonodular or scarring = rare.

**Treatment:** Usually unnecessary. Resolves as androgen levels decline during first months of life

**When to Refer:** Persistent or unusually severe. Work up for androgen excess.
Seborrheic Dermatitis

Aka *Cradle cap*

**Cause:** Still unknown (?! inflammatory response to *M. furfur*)

**Clinical Features:** ‘greasy’ scaling, erythematous patches. Scalp, face, postauricular and creases (lots of sebaceous glands) + umbilicus.

**Treatment:** Resolves spontaneously by 8 - 12 months.

- **Scalp:**
  - Small amount mineral oil followed by gentle brushing
  - Severe: antiseborrheic shampoo

- **Skin:** Low-potency topical corticosteroids
Sucking Blister

**Cause:** Vigorous sucking in utero.

**Clinical Features:** 0.5% of newborns. Shallow erosions or intact bullae. Fingers, wrists, forearms and lips.

**DDX:** Blistering disorders and infections (bullous impetigo, HSV)

**Treatment:** None. Dressing as needed if eroded.
Transient Pustular Melanosis

**Cause:** Unknown. Pustular fluid = polymorphonuclear leukocytes.

**Clinical Features:** 5% African American (rare in other races).
- Pustules & vesiculopustules rupture easily (often before birth)
- Then small hyperpigmented macules with rim of scale

**Treatment:** None. Pustules resolve within a few days. Hyperpigmented macules fade by 3 - 4 months.
Neonatal HSV

**Cause:** Usually, intrapartum acquisition

**Clinical Features:** Mean age at presentation around 11 days
1) Skin, Eye & Mouth (40%) – *Untreated, 70% disseminate*
2) Disseminated (25%) – *Skin lesions in up to 60%*
3) CNS (35%) – *Skin lesions in up to 60%*

**Diagnosis:** Viral culture, PCR, or direct immunofluorescence
Sample skin lesions + other sites (conjunctivae, nasopharynx, oropharynx, CSF)

**Management:** Significant morbidity & mortality. Full evaluation and treatment with high dose IV acyclovir.
Congenital Melanocytic Nevus

**Cause:** Unknown, but present from birth

**Clinical Features:** Hyperpigmented macules or thin plaques
- May exhibit hypertrichosis
- Risk of malignant transformation
  - 2 - 3% if small (< 1.5 cm, rarely malignant before puberty)
  - 4 - 8% if large ( > 1.5 cm) or giant (> 20 cm)

**Treatment:** Definitely NOT laser (need to be able to monitor)
- Small = Observe. ?Excise at puberty
- Large = Refer for possible excision
- Giant, on head or overlying midline of back = Head MRI
  (neurocutaneous melanosis)
Nevus Simplex

Aka “salmon patch”, “stork bite”, “angel kiss”

Cause: Area of superficially dilated capillaries

Clinical Features: Up to 30% - 40% of newborns
Common on glabella, eyelids, or nape of neck

Treatment: None
On face, usually resolves in first 2 yrs. On nape of neck, may persist.
Port Wine Stain

**Cause:** Vascular malformation of unknown etiology

**Clinical Features:** 0.5% of newborns. Tend to be permanent.
- Facial – think Sturge-Weber (leptomeningeal vessel malformed, glaucoma, retinal detachment)
- Extremities or trunk – think Klippel-Trénaunay, Proteus

**Treatment:** Pulsed dye laser (facial or local complications)
Aplasia Cutis Congenita

**Cause:** Absence of epidermis, dermis, subcutaneous tissue & occasionally, bone

**Clinical Features:** Ulcer or erosion on scalp. Defect may be covered by thin membrane. Can appear as healed scar. Usually solitary over sagittal suture.
- **Rarely:** cleft lip or palate, limb defects, or heart disease.

**Ddx:** Injury by fetal scalp electrode

**Treatment:** If underlying bony defect suspected or large skin defect, do CT skull. May need surgical consult.
Test Your Knowledge

The most appropriate treatment for mild neonatal acne characterized by a few small red papules is:

a) Topical benzoyl peroxide
b) Oral erythromycin
c) Topical erythromycin
d) Topical tretinoin
e) No intervention
The Answer

• E) No Intervention
Test Your Knowledge

A true statement about neonatal herpes simplex virus infection is:

a) CNS infection is rare.
b) Infants with skin infection may be treated with topical acyclovir.
c) Infection is most often acquired in utero.
d) Infection may become disseminated
e) The mean age at onset for all forms of infection is 2 days.
The Answer

- D) Infection may become disseminated
You are examining a newborn with a single, small (1-cm) congenital melanocytic nevus located on the scalp. A few dark hairs are located within the lesion. The statement that best supports your advice to the infant's parents is:

a) Hair within the lesion implies a poor prognosis.
b) Laser therapy is the treatment of choice for removing lesions.
c) Magnetic resonance imaging of the head should be performed.
d) The lesion should be removed before the child is 6 months old.
e) The risk of malignant transformation is low for small lesions.
• **C)** MRI of the head should be performed.
Summary

• We will all encounter skin findings in neonates
  • Many = benign
  • Some = carry a risk of morbidity and can be potentially life threatening

• Dermatology = pattern recognition

• Challenge yourself to identify newborn skin findings at every opportunity!
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