Skin Concerns in the Young Infant

Dr Rebecca Levy, MD FRCPC
Staff Physician
Hospital for Sick Children
Scarborough Health Network
April 11, 2023

Objectives

By the end of this presentation, participants will be able to:

1. Recognize common skin eruptions occurring in the neonatal period
2. Differentiate between benign and emergency skin rashes in newborn infants
3. Know when dermatology consultation is required for infants with skin disorders

“Pimples”

Red spots

Diaper dermatitis

Case #1

- 3-day-old term infant male
- Began to develop “small pimples” on first day of life
- Gradually spread over trunk, extremities
- Baby otherwise well – feeding, voiding, active, afebrile

What would be your management?

a) Call the pediatrician on call; this baby needs urgent investigation and management
b) Swab the baby for viral PCR and send home
c) Reassure parents that the rash will gradually resolve over the next week or two
d) Send a non-urgent consult to dermatology for “management of neonatal acne”

What would be your management?

a) Call the pediatrician on call; this baby needs urgent investigation and management
b) Swab the baby for viral PCR and send home
c) Reassure parents that the rash will gradually resolve over the next week or two
d) Send a non-urgent consult to dermatology for “management of neonatal acne”

“Pimples”

"Pimples" (Vesiculopustular rash)

BENIGN

Erythema toxicum neonatorum

Transient neonatal pustular melanosis

Miliaria

Neonatal cephalic pustulosis

URGENT/EMERGENT

Neonatal HSV infection

Staphylococcal pustulosis

Congenital candidiasis

Congenital syphilis

OTHER

Incontinentia pigmenti

Epidermolysis bullosa

Cutaneous mastocytosis

Approach to vesiculopustular rash

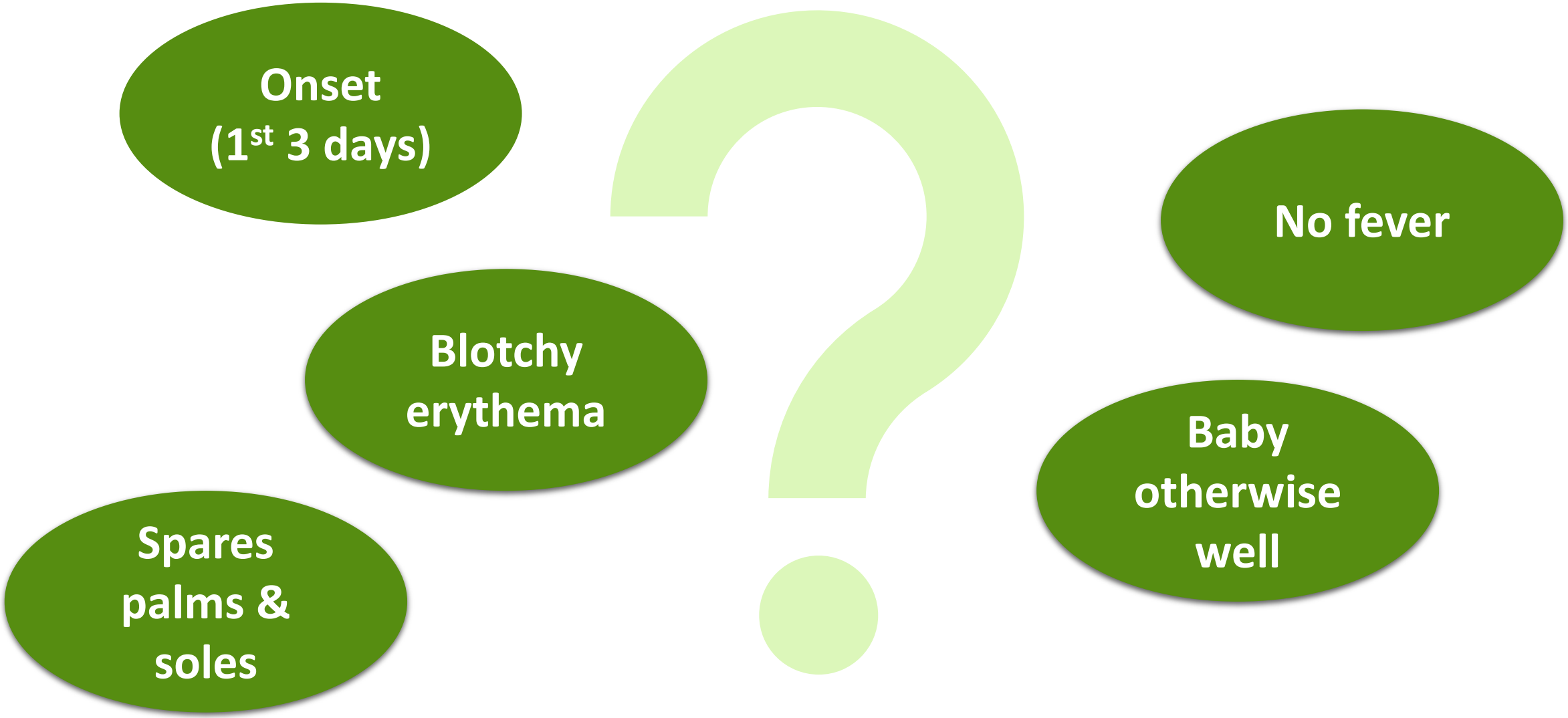
- Critical to differentiate transient, benign eruptions from those that required prompt work-up & intervention
- History: timing of onset, evolution, baby's feeding and voiding, alertness, wet diapers, fever
- Physical exam: general exam, vital signs, weight, full skin exam (characterize rash morphology, distribution), assessment for associated anomalies

Erythema Toxicum Neonatorum

- Benign, self-limiting neonatal eruption
- Up to 50%
- Blotchy erythematous macules with small papules, pustules
- Onset 24-48 hours
- Resolves over days to weeks

- **No treatment required**

Clues to Erythema Toxicum Neonatorum



Neonatal Herpes Simplex Virus Infection

- Typically secondary to intrapartum exposure to maternal lesions
- Patterns: 1) Skin/eye/mouth
  2) CNS
  3) Disseminated

**All may have skin involvement*

- Onset ~6-13 days of life
- +/- signs of sepsis, seizures, fever, lethargy, etc

Neonatal Herpes Simplex Virus Infection

- Emergent management
- Potential for ++ morbidity and mortality
- Viral PCR from multiple tissues/fluids (skin scrapings, blood, CSF)
- Tx: IV acyclovir

POSITION STATEMENT

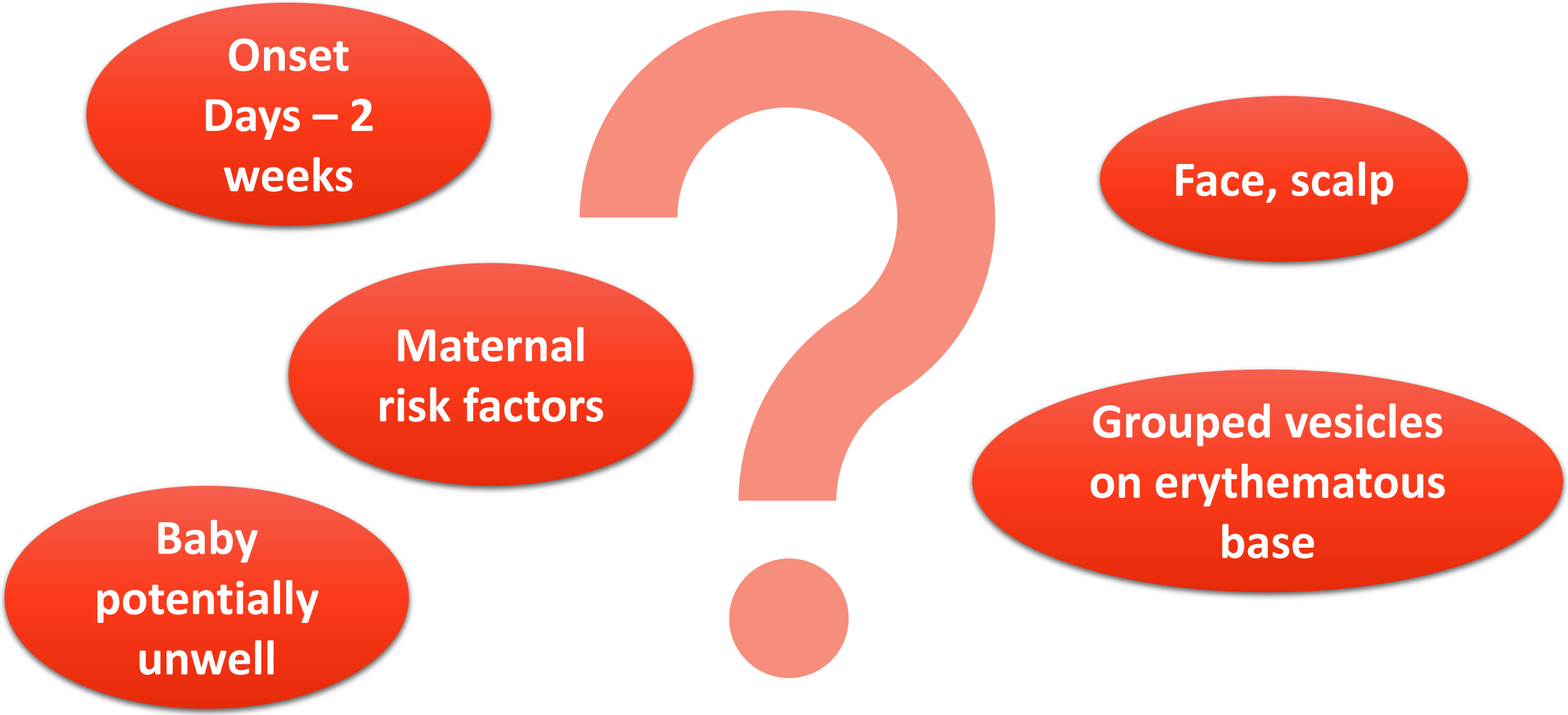
279 Shares

Canadian Paediatric Society

Prevention and management of neonatal herpes simplex virus infections

Posted: Mar 6, 2020

Clues to Neonatal HSV



Case #2

- Newborn term infant female
- Onset at birth
- Baby otherwise well, feeding and voiding, afebrile

Transient Neonatal Pustular Melanosis

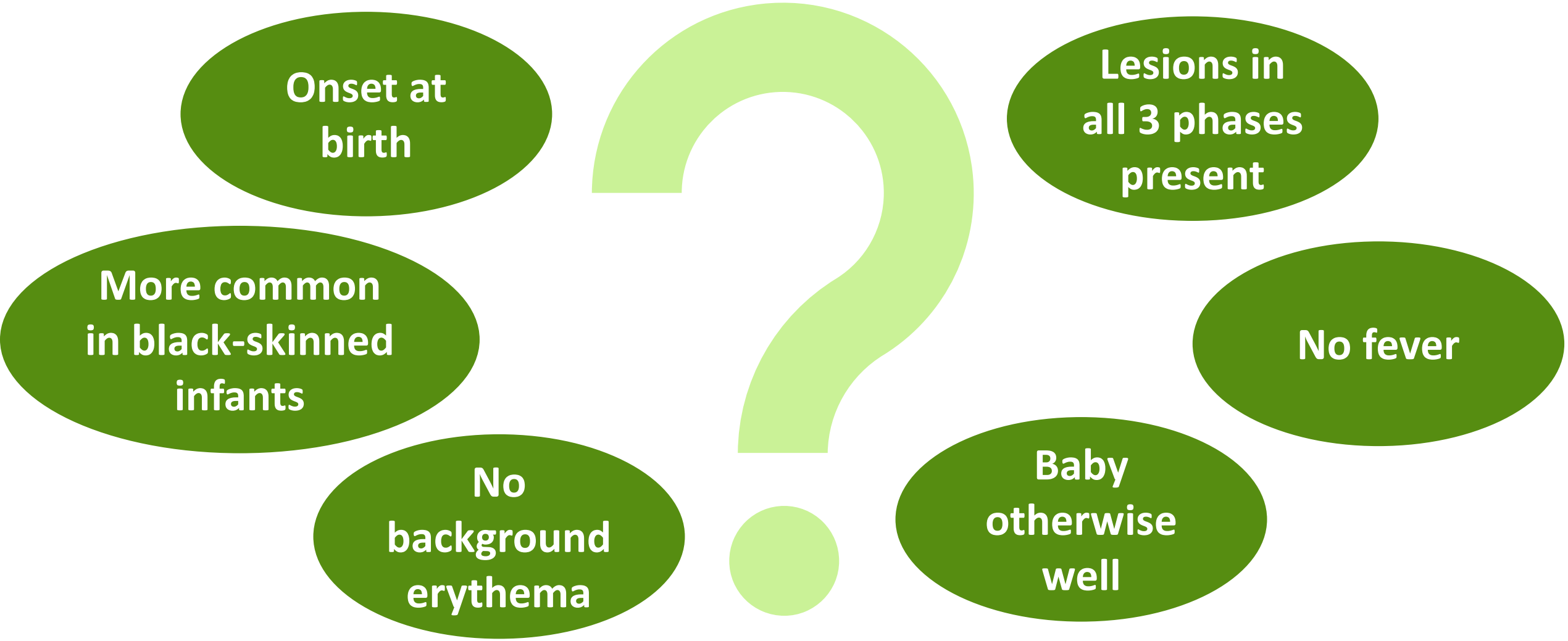
- Newborn term infant female
- Onset at birth
- Baby otherwise well, feeding and voiding, afebrile

Transient Neonatal Pustular Melanosis

- Benign, self-limiting
- Present at birth
- Pustule → collarette of scale → hyperpigmented macule
- Hyperpigmentation may persist for months

- **No treatment required**

Clues to Transient Neonatal Pustular Melanosis



Congenital candidiasis

- *Candida* infection
- Acquired prenatally or intrapartum
- More common in preterm infants
- Onset at birth or first few days
- Small diffuse pustules on erythematous base
- May have oral thrush or white globules on UC
- **Management**: fungal cultures (skin, blood, CSF), IV or oral antifungal

Clues to Congenital Candidiasis

Onset
Birth – few days

Involvement of palms + soles, folds

Known maternal candida

Disseminated rash + classic mucocutaneous candida

Prematurity

Case #3

- 3-week-old term infant male
- Onset of few bumps last week
- Spreading over face, scalp, neck and chest
- Baby otherwise well – afebrile feeding, regained birth weight

Neonatal cephalic pustulosis

- 3-week-old term infant male
- Onset of few bumps last week
- Spreading over face, scalp, neck and chest
- Baby otherwise well – afebrile feeding, regained birth weight

Neonatal cephalic pustulosis

- Onset: 2-3 weeks
- 20% of infants
- Previously called “neonatal acne” – misnomer!
- Papules and pustules but no comedones
- Etiology: *Malassezia sp*

Neonatal cephalic pustulosis

- Resolves spontaneously within ~4 months

- **No treatment required**
- If desired: 2% ketoconazole cream OR 1% hydrocortisone cream

Clues to Neonatal Cephalic Pustulosis

Onset at several weeks

No fever

Baby otherwise well

Limited to head/neck (esp. cheeks)

Persists for months

Staphylococcal infection

Staph pustulosis

Bullous impetigo

Staphylococcal infection

Staphylococcal scalded skin syndrome

Clues to Staphylococcal infection

Honey-colored crust

Widespread redness, desquamation

Lesions easily rupture → erosion

Baby potentially unwell

Pustules in sites of trauma

Fever

Red spots

Case #4

- Well term newborn M

- Red patches on the forehead, eyelids, philtrum since birth

Which of the following is TRUE?

a) This will likely fade over the first several years of life

b) This infant is at risk of seizures

c) This will likely grow initially, before eventually disappearing

d) This infant needs an eye examination

Which of the following is TRUE?

a) **This will likely fade over the first several years of life**

b) This infant is at risk of seizures

c) This will likely grow initially, before eventually disappearing

d) This infant needs an eye examination

Nevus Simplex

- Aka “stork bite”, “angel kiss”, “salmon patch”
- Up to 40-60% newborns
- Glabella, eyelids, nape of neck; less commonly scalp, nose, back
- Flat, blanchable, irregular border
- Facial lesions tend to fade (but not always!)

Nevus Simplex

- Lumbosacral lesions:
  - **No treatment / investigation required** (if isolated)
  - If additional stigmata of spinal dysraphism, then imaging (U/S, MRI)

Port wine birthmark

- Aka: port wine stain, capillary malformation, nevus flammeus
- 0.2% of newborns
- Blanchable, any location, more homogeneous, regular borders
- Persist lifelong, may thicken in adulthood

Segmental facial CM:
Think of Sturge Weber Syndrome!

1) Facial capillary malformation
2) Leptomeningeal anomalies
3) Eye abormalities

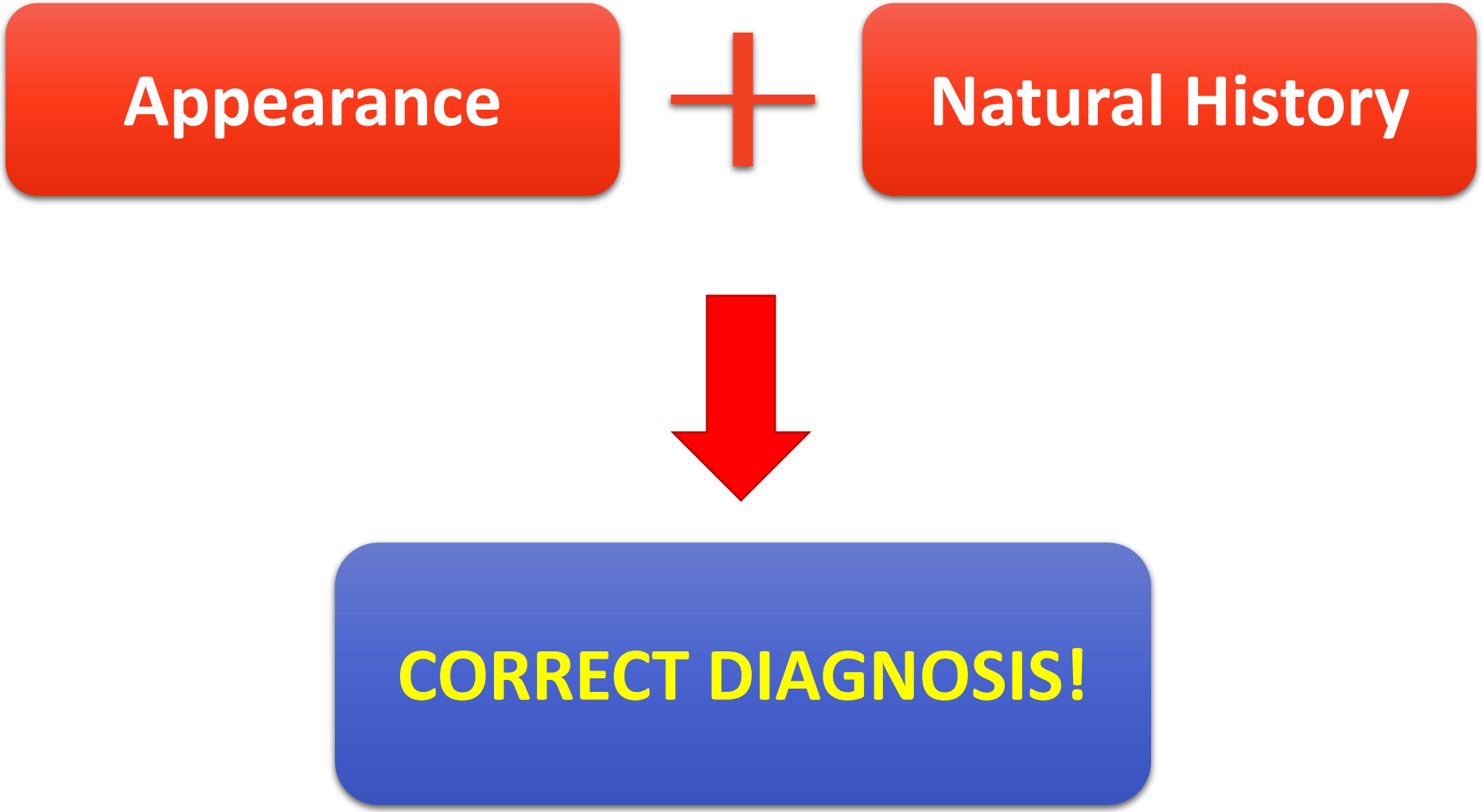
Seizures
Developm't delay
Stroke-like events
Glaucoma
Other eye abN

<u>Close monitoring</u> neuro-development: Pediatrics
Ophthalmology
Dermatology (Dx, laser)
Neuro screening (EEG or MRI)

Infantile Hemangiomas

- **Commonest** benign tumor of childhood (~5%)
- ***Risk factors***: Female sex
  Twin / multiples
  Prematurity / low birth weight
- ***Pathogenesis***: migration of endothelial progenitor cells to locations that are favorable to growth?

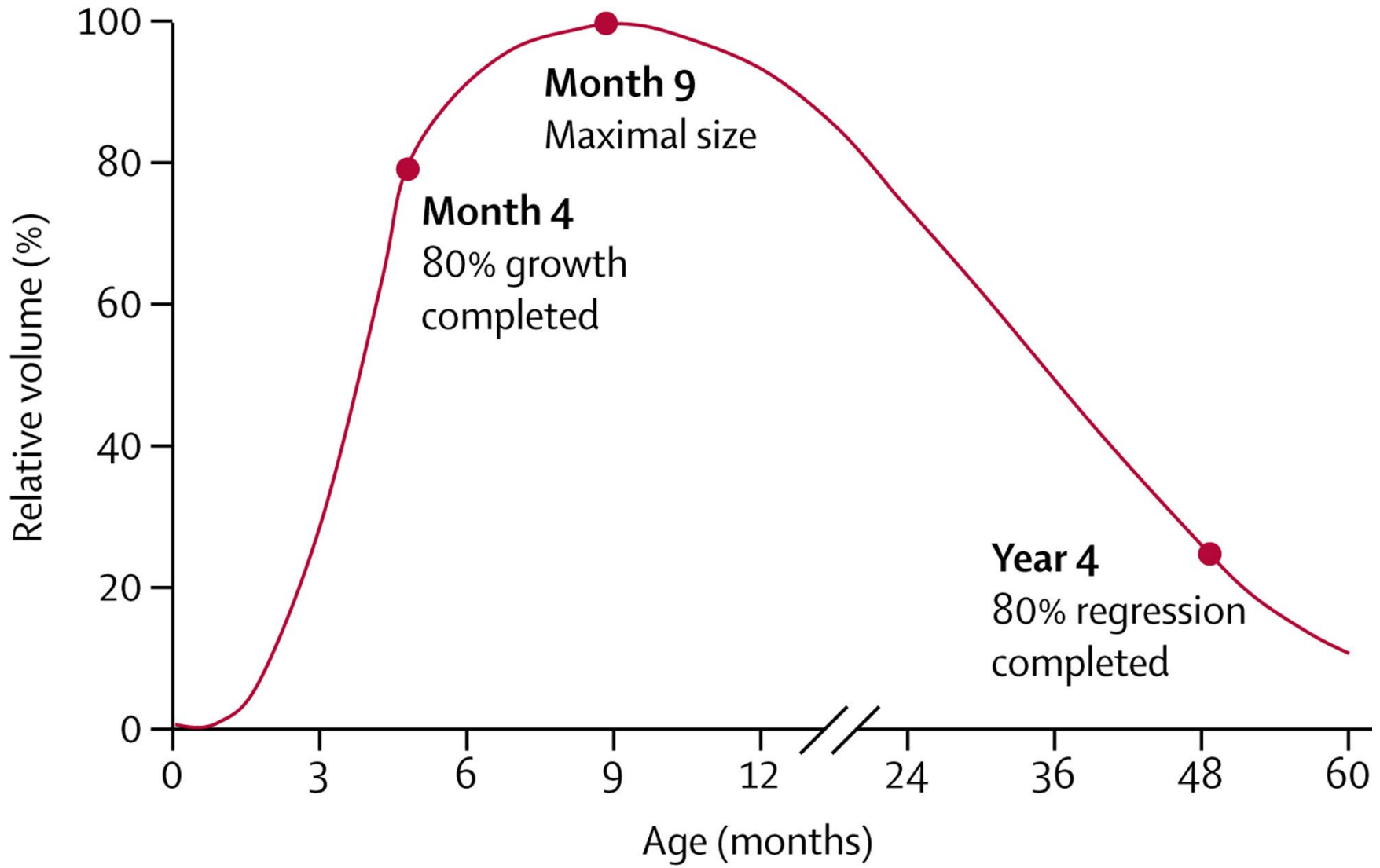
Infantile Hemangiomas



Appearance

- SUPERFICIAL
- DEEP
- MIXED

Natural History



Lancet. 2017; 390(10089):85-94

IH: Management

INDICATIONS FOR MEDICAL RX:

1. **Life-threatening complications**
2. **Functional impairment**
3. **Cosmetic disfigurement**
4. **Ulceration**

- Active **non-intervention**
- Topical therapy: **Timolol 0.5% gel-forming solution**
- Systemic therapy: **Oral beta blocker (propranolol / nadolol)**

Diaper dermatitis

Case #5

- 1-month-old breastfed infant female
- Stools frequently (6-8 times per day)
- Feeding and growing well
- Gradually worsening diaper eruption

Which is the most appropriate treatment?

a) “Expose to air” as often as possible

b) Clotrimazole cream in hydrocortisone twice a day

c) Change diaper frequently, and use wipes designed for sensitive skin

d) Frequent application of zinc-based barrier cream, which can be mixed with medical-grade powder

Which is the most appropriate treatment?

a) “Expose to air” as often as possible

b) Clotrimazole cream in hydrocortisone twice a day

c) Change diaper frequently, and use wipes designed for sensitive skin

d) Frequent application of zinc-based barrier cream, which can be mixed with medical-grade powder

Erosive diaper dermatitis

- Irritant contact reaction
- Eroded papules
- **Convex** surfaces
- **Spares** folds
- Frequent stooling

Management of Erosive Diaper Dermatitis

1) **Limit wiping** unless needed for stools; only wipe away soiled areas

2) **Avoid commercial wipes**; water on cotton pads instead

3) 1% HC twice daily if needed; avoid stronger cortisones

PEARL

Combine **Zinc oxide** cream with **stoma powder** to treat severe erosive diaper dermatitis.

Ingredients: There are different brand names

25 % Zinc cream or higher

Stoma powder

Wound application of mixture

First spray or sprinkle powder on clean wound

1/3 to ½ bottle + one jar

Cleaning

Dab off soiled parts of mixture with soft cloth or cotton

NO DIAPER WIPES

NO MINERAL OIL

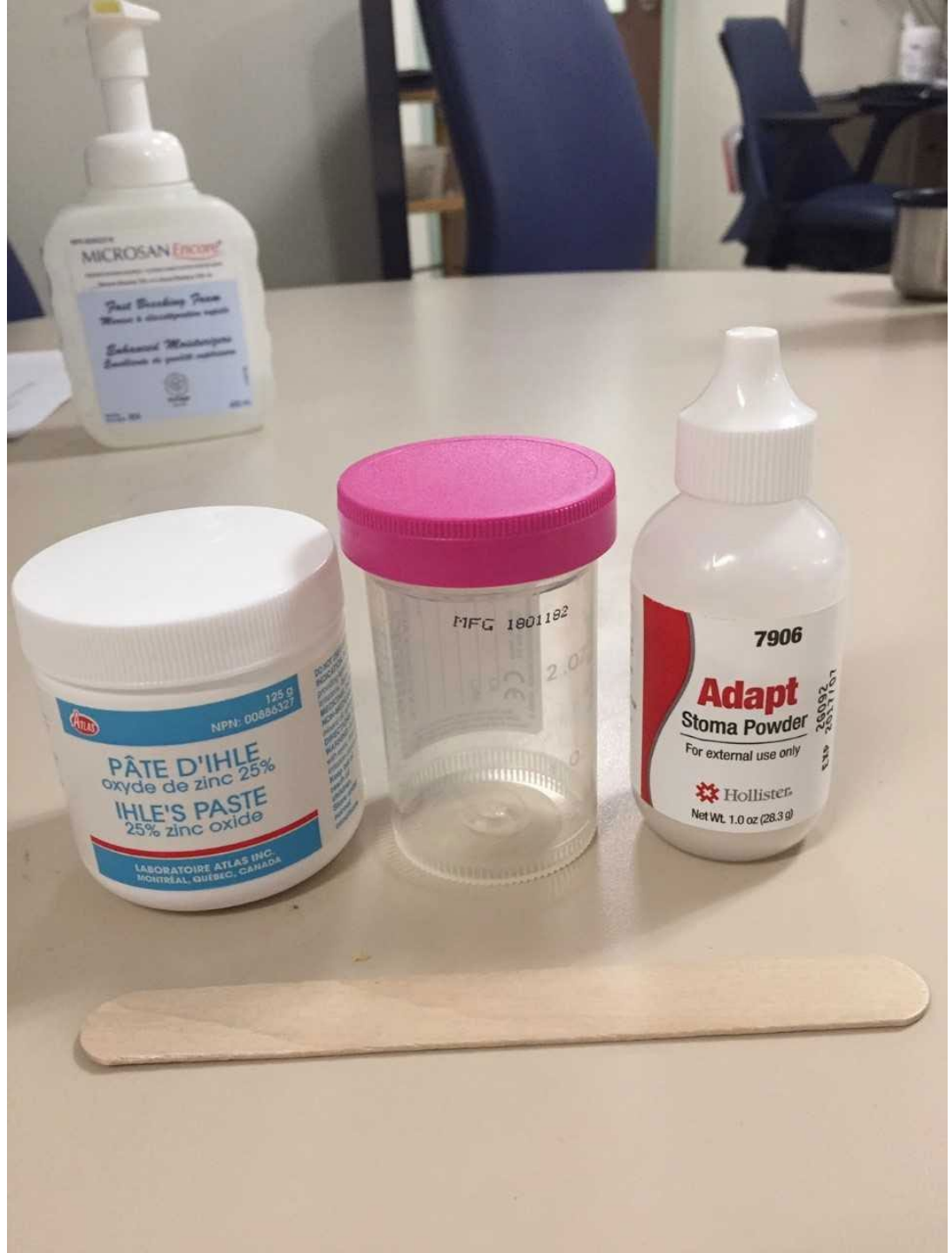
Don't rub off all the paste

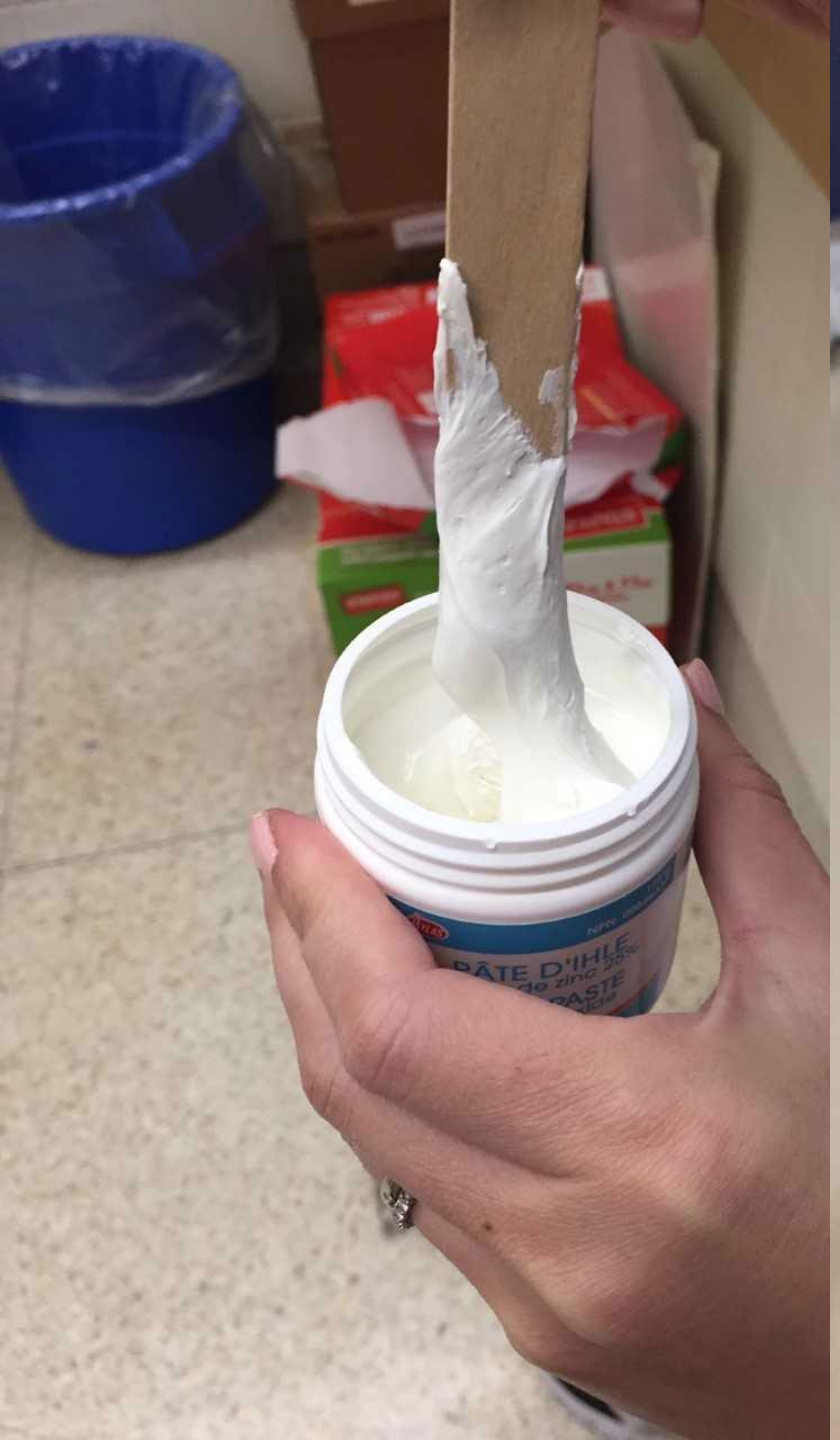
If you see the ulceration, spray more powder onto area and /or into mixture

If you don't see the wound and it's thinly covered, then reapply mixture

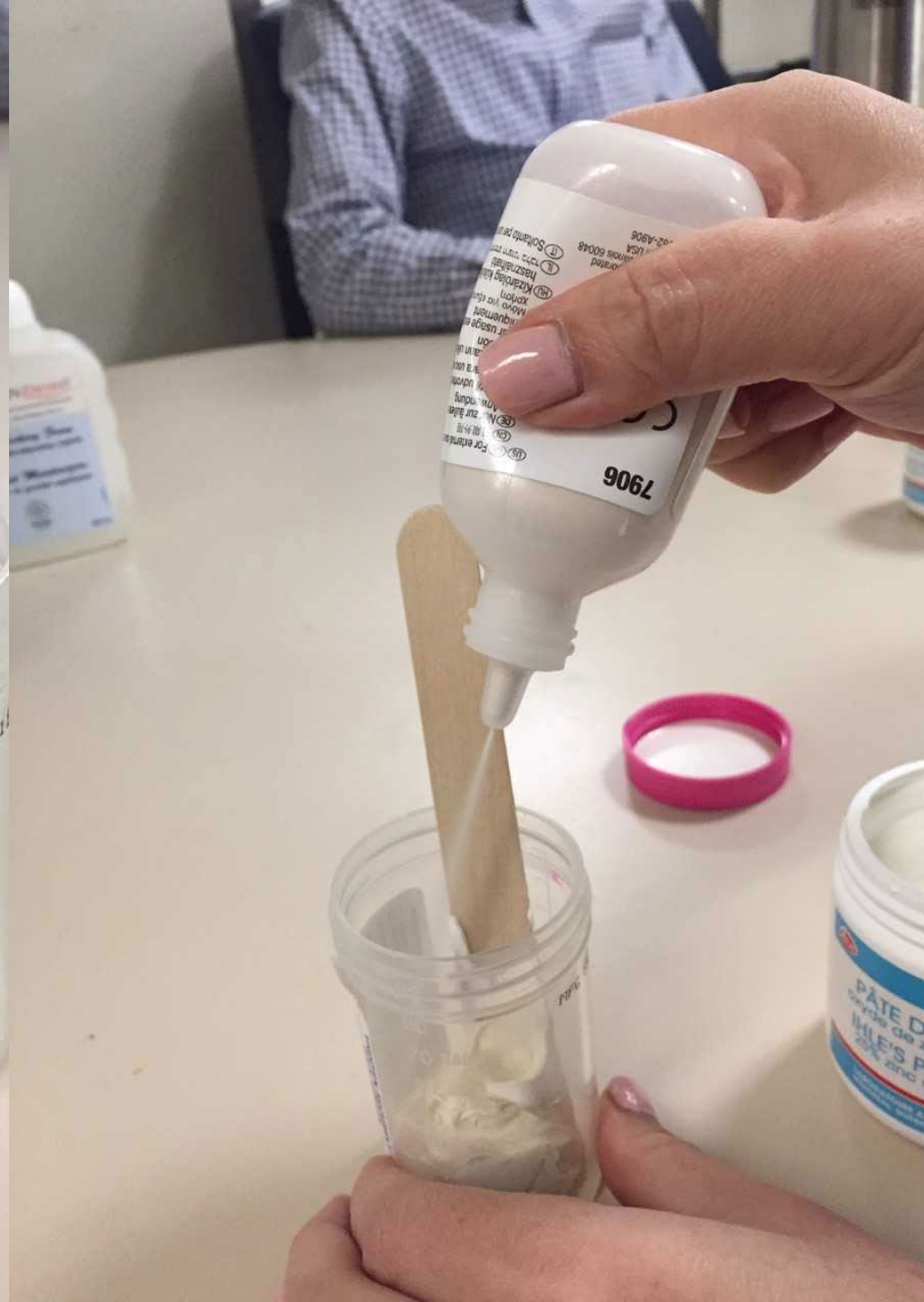
Once a day when babe is in bath, swish baby's bottom with bath water to remove excess

Version 7 – MVL RN: Approved by Sickkids Wound Care Team 2013


MICROSAN
PÂTE D'IHLE
oxyde de zinc 25%
IHLE'S PASTE
25% zinc oxide
LABORATOIRE ATLAS INC.
MONTRÉAL, QUÉBEC, CANADA
MFG 1801192
7906
Adapt
Stoma Powder
For external use only
Hollister
Net Wt. 1.0 oz (28.3 g)


PÂTE D'IHLE


MFG


7906

Other diaper eruptions…

Candidal Diaper Dermatitis

- Involves **folds**
- **Beefy** red
- Satellite papules, **pustules**
- Look for oral **thrush**!

Ulcerated infantile hemangioma

- Appearance of red lesions few weeks after birth
- Rapid **growth** thereafter
- Often **unilateral**
- Single or few ulcerations, may be **deeper**

Infantile psoriasis

- **Well-defined** plaques
- Scale may be absent
- Look for psoriatic lesions in **other sites** (scalp, umbilicus, gluteal cleft)

Zinc deficiency

- Many underlying etiologies
- Diaper, face, hands, feet

- Diarrhea, alopecia, irritability, FTT, other symptoms
- Improves rapidly with oral zinc supplementation

“Pimples”

Red spots

Diaper dermatitis

Objectives

By the end of this presentation, participants will be able to:

1. Recognize common skin eruptions occurring in the neonatal period
2. Differentiate between benign and emergency skin rashes in newborn infants
3. Know when dermatology consultation is required for infants with skin disorders

Thank you!
QUESTIONS?