Objectives :

- Learn how to identify and treat four common **skin conditions** in infants
- Review how to recognize **failure to thrive** and when to initiate a workup and referral
- Review the up-to-date evidence on diagnosis and management of **GERD** in infants

Neonatal cephalic pustulosis

- « neonatal acne »
- 3 weeks to 3 months
- Inflammatory papules and pustules
- Affects neck, scalp, face, upper chest
- Will self-resolve, does NOT bother the baby
- If severe or parents concerned:
    - Tx: 1% topical HC QD or 2% topical ketoconazole BID until resolution

Infantile Acne

- Presents at age 6-16 mo
- Usually secondary to physiologic hyperandrogenism
- Comedomes and inflammatory papules and pustules on face
- Can lead to scarring
- Treatment:
- adapalene 0.1% gel or benzoyl peroxide 2.5% cream once daily
- Systemic antibiotics if severe

Diaper dermatitis

- Caused by skin breakdown from prolonged contact with feces, urine or ammonia
- First line treatment: frequent diaper changes, barrier ointment like vaseline, zinc oxide cream, dry skin between diaper changes
    - Ihle's paste (25% zinc oxide)
    - Penaten (18% zinc oxide)
    - Sudocream (15% zinc oxide)
- If using cloth diapers may need to « strip » the diapers to remove ammonia
- If candidal: topical clotrimazole 1% (or nystatin – needs to be compounded)
- Resistant cases:
    - Cavilon spray
    - Triad cream
    - Hydrocortisone ointment 1%

Infantile Hemangioma

- Common : 5-10% of babies
- Rapid growth in 1st two months of life
- Stop growing at 6 mo

- Involution starts at 12 mo
- 50 percent of hemangiomas gone by 5y
- 70 percent gone by 7y
- 90 percent gone by 9y

Classification

- Superficial, deep or compound (both superficial and deep)
- Localized, segmental or multiple

Treatment

- Treat if:
  - Ulceration
  - Impairing function
  - Cosmetically disfiguring
- Topical: Timolol 0.05% – 1-2 drops applied to hemangioma BID
- Oral: propranolol

When to refer/investigate

- If you want to initiate treatment
- More than 5 : abdominal US to look for liver hemangioma
- Beard distribution: risk of airway hemangioma, assess for stridor or respiratory concern
- Segmental hemangioma of head or neck: PHACE syndrome
- Midline paraspinal: spine US to assess for spinal dysraphism
- Uncertain diagnosis: surface US
- dermcafe.ca/econsultbc

Failure to thrive

How to recognize :

- « crossing two growth curves »
- weight for length below the 5th percentile
- body mass index for age below the 5th percentile
- sustained decrease in growth velocity, in which weight for age or weight for length/height falls by two major percentiles
- In first two months expecting weight gain of 20-30g/day

Common causes	Less common causes
• Feeding problems • Milk protein allergy • Malnutrition • Gastroesophageal reflux disease • Pyloric stenosis • Child neglect • Acute infection	• Cystic fibrosis • Congenital heart defect • Renal tubular acidosis • HIV • Congenital adrenal hyperplasia • Inborn error of metabolism • Malignancy • Liver disease • Respiratory disease • Hyperthyroidism

Initial Investigations

- Physical exam!
- Lab investigations
    - Complete blood count with differential
    - Serum electrolytes
    - Blood urea nitrogen and serum creatinine
    - Total and direct serum bilirubin
    - Rapid blood or serum glucose
    - Venous or arterial blood gas
    - Blood ammonia
    - Serum lactate
    - Urinalysis
    - Cultures of blood, urine, stool, and/or cerebrospinal fluid

Consider ECG, CXR, echo, abdo US, skeletal survey

When to refer

- Low threshold to refer to peds
- Often requires hospital admission to complete workup

PEARLS

- Measure head circumference and length at all appointments
- WHO growth charts are recommended

<u>Gastro-esophageal Reflux Disease</u>

- Regurgitation common – 50-70% of all infants
    - Peaks at 4 mo, usually resolves by 12 mo
- Gastro-esophageal reflux DISEASE
    - Feeding refusal
    - Irritability possibly secondary to pain during eating
    - Hematemesis
    - Anemia
    - Respiratory symptoms
    - Failure to thrive
- Crying, fussiness, and back arching with or without regurgitation may be normal behaviours or caused by other etiologies
- If the infant is growing well, medical treatment with PPI or prokinetic agents is unlikely to benefit and has significant risk of harms

First-line treatments:

- Thickened feeds
    - decrease episodes of vomiting and regurgitation
    - Improved weight gain
- Elimination of cow's milk protein
    - Doesn't actually treat GERD, but significant symptom overlap so worth trying for two weeks

Second-line treatments:

- If signs of erosive esophagitis
    - Hematemesis
    - failure to feed
    - failure to thrive
- Omeprazole (off-label use):
    - Weight 3 to 5 kg: 2.5 mg daily
    - Weight 5 to 10 kg: 5 mg daily
    - Weight 10 to 20 kg: 10 mg daily

Limited evidence for PPI

- RCT comparing lansoprazole vs. placebo in 4mo infants: 54% of infants in both groups had 50% decrease in crying over 4 weeks
- More AE, including pulmonary and gastrointestinal infection, in lansoprazole vs. placebo (64% vs. 46%)
- 11% increased fracture risk reported in children using PPI in first year of life

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