Pediatric Dermatology Potpourri

Jennifer Ruth, MD
Assistant Professor of Pediatric & Adolescent Dermatology
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Disclosures

- I have no conflicts of interest or financial relationships to disclose
Learning objectives

• Discuss management of common pediatric dermatologic conditions.

• Formulate a therapeutic plan for common pediatric dermatologic conditions.

• Identify which patients benefit from a referral to pediatric dermatology.
Case #1

• **HPI:** 7 y/o F presents with itchy, slightly scaly areas of hair loss peppered over the scalp for ~ 8 months.

  Previously tried griseofulvin microsize 10 mg/kg/day divided BID x 8 weeks with incomplete clearance. No current therapies.

• **PMH:** negative

• **FH:** androgenetic alopecia (FOC), no autoimmune disease
Tinea capitis

• Infection of hair caused by dermatophytic fungi

• Usually due to *Trichophyton tonsurans* or *Microsporum canis*
  – Endothrix vs ectothrix

• Many different presentations:
  – Broken off hair with scale (“black dot” tinea)
  – Diffuse scale (seborrheic dermatitis-like)
  – Pustular inflammation (folliculitis-like)
  – Kerion
Tinea capitis - presentations
Tinea capitis – a few pearls

- Be suspicious of scaling of the scalp in prepubertal children
  - “An early school-age African American child with scaling of the scalp has tinea capitis until proven otherwise.”
Tinea capitis – a few pearls

• Diagnostic assistance
  – KOH
  – Fungal culture
  – Wood’s Lamp
  – Check for lymphadenopathy

Photo credit: http://a1props.com/product/culture-swab-dual-head/
Tinea capitis – treatment

• Tinea capitis ALWAYS requires systemic therapy

• Griseofulvin remains the gold standard, but terbinafine use is rising

• Laboratory monitoring is not needed in most children

• Concomitant therapy with an antifungal shampoo 2-3x/week can help remove scales and viable spores

• Consider a short course of oral corticosteroids (0.5-1 mg/kg/day x 2-4 wks) for kerions
# Tinea capitis – treatment

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Dose</th>
<th>Duration</th>
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</thead>
<tbody>
<tr>
<td>Griseofulvin Microsized</td>
<td>20-25mg/kg/day div BID</td>
<td>Min. 6-8 weeks</td>
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<tr>
<td>Griseofulvin Ultramicrosized</td>
<td>10-15 mg/kg/day div BID</td>
<td>Min. 6-8 weeks</td>
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<tr>
<td>Terbinafine</td>
<td>&lt;20kg: 62.5 mg daily or 125 mg every other day</td>
<td>Min. 4-6 weeks</td>
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<tr>
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<td>20-40kg: 125mg daily</td>
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<td>&gt;40kg: 250mg daily</td>
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<td>&lt;25 kg: 125 mg once daily</td>
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<td>25-35 kg: 187.5 mg once daily</td>
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<tr>
<td></td>
<td>&gt;35 kg: 250 mg once daily</td>
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**AND** Ketoconazole 2% shampoo or OTC selenium sulfide 2-3x/week
Tinea capitis – referrals and resources

• Consider referral to dermatology in recalcitrant and/or severe cases (ex: kerion)

• Other resources:
Tinea capitis – take home points

- Scaling of the scalp in an early school-age/pre-pubescent African American child → think tinea capitis
- Fungal culture = your friend
- Must treat w/ systemic therapy. Dose appropriately!
  - Griseofulvin microsize ~20-25 mg/kg/day divided BID
  - Therapy usually takes about 6-8 weeks
- Screening liver function tests are unnecessary in most pts
Case #2

- **HPI**: 2yo female presents with ~3-4 wk h/o excessive shedding of scalp hair with noticeable thinning. Washes hair twice weekly with baby shampoo, not on any meds, eats diverse diet.

- **PMH**: healthy, but had viral illness with high fevers 3 months prior to onset

- **FH**: positive for atopic dermatitis, negative for any other skin or autoimmune problems

- **ROS**: negative for weight changes or temperature instability
Telogen effluvium

- Diffuse thinning of scalp hair to varying degrees due to interruption of normal cyclic pattern of anagen and telogen hair phases

- See increased shedding of otherwise normal telogen hairs due to pathologic or normal physiologic change in health status
Telogen effluvium – triggers

- Potential triggers: illnesses (especially if high fever), major trauma, surgery, childbirth, initiation or discontinuation of meds, emotional stress, malnutrition

- Stressful event precedes onset of alopecia by ~4 months
Telogen effluvium – diagnosis and treatments

- Diagnosis:
  - Clinical exam
  - Consider hair pull test

- Treatment: Reassurance, reassurance, reassurance
At 6mo f/u without treatment

Initial presentation
Telogen effluvium – pearls and referrals

• For the normal scalp hair cycle, lose up to 100-150 hairs per day

• Telogen effluvium only involves the scalp

• Early sign of regrowth: fine fringe of new hair along the forehead hairline

• Consider referral to dermatology if fails to improve/resolve over 6-9 months or if a diagnostic dilemma
Telogen effluvium – take home points

• Be able to quantify normal hair loss
• Screen for an inciting event 3-4 months prior
• Understand the pathophysiology {a bit}
• No therapy needed, just reassurance

Photo credit: https://nohat.cc/i/free-photo-of-man-thumbs-up-wink/4859796968701952-201809271059.html
Case #3

• **HPI**: 8 yo M presents for evaluation of round, “bald spots” on the scalp. MOC believes that they began suddenly a few weeks ago. No associated pruritus or scale.

• **PMH**: negative/otherwise healthy

• **FH**: mother with hypothyroidism

• **ROS**: negative for weight changes, fatigue
Alopecia areata

- Hair-specific autoimmune disease with genetic factors involved in disease susceptibility and severity

- Sudden appearance of sharply defined round or oval, smooth patches of hair loss

- Around margins, may see exclamation point hairs
Alopecia areata – patterns

- Localized: discrete circles of hair loss
- Ophiasis: band of hair loss encircling posterior scalp
- Diffuse: widespread thinning
- Totalis: loss of all scalp hair
- Universalis: loss of all scalp and body hair
Alopecia areata – associations

- Nail changes: pitting, proximal shedding, longitudinal ridging

- Associated diseases: thyroid, autoimmune conditions, vitiligo, atopy
Alopecia areata - prognosis

- Worse prognosis: earlier onset, family history of autoimmune disease, personal history of atopy, nail abnormalities, ophiasis pattern

- Worse prognosis if temporal area involvement?
Alopecia areata - treatment

- Rate of spontaneous remission
  - 8% (> 50% scalp involvement)
  - 68% (< 25% scalp involvement)

- Treatment:
  - Superpotent topical steroids
  - Minoxidil 5%
  - IL or IM steroids
  - Contact sensitizers
  - Systemic immunosuppressive medications

Initial presentation → s/p 3 months of topical steroids
Alopecia areata – pearls

• Initial regrowth may be fine and unpigmented

• Don’t forget about emotional support!!!
  – National Alopecia Areata Foundation: www.naaf.org
  – Rx for hair prosthesis: Wigs For Kids
  – AAD Camp Discovery: www.campdiscovery.org
Alopecia areata – referrals and resources

- Consider referral to dermatology if a child (or family) is struggling emotionally, fails to respond to topical therapies, or has extensive disease.
Alopecia areata – take home points

• Completely bald spots = big clue; ok if faintly pink

• Screening thyroid labs not indicated for most pts

• Start therapy with a topical steroid (if family wants to treat) → ex: Clobetasol solution BID M-F

• Don’t forget the emotional toll
Case #4

• **HPI:** 8 mo M presents for evaluation of numerous red papules to the scalp, trunk, and extremities. First noted at about two weeks of age, + initial growth phase, now stable. No bleeding or skin breakdown. Prior work up: none.

• **PMH:** Born at 34 weeks

• **ROS:** negative for poor growth
Case #5

• **HPI:** 3 day old M presents for evaluation of an ulcerated birthmark in the diaper area. Family noted a dull red patch at birth. A few areas of skin breakdown began in the last 24 hours. No associated pain. No other similar lesions. No current therapy aside from routine use of a barrier diaper cream.

• **PMH:** Born at 38 weeks via SVD
Case #6

• **HPI:** 3 month old M presents for evaluation of a “tumor” over the left zygomatic cheek. Appeared at a few weeks of life. MOC reports rapid growth since initial presentation. No skin breakdown. She notes that his face looks asymmetric and that he cannot fully open his left eye. No current therapies.

• **PMH:** Born at 36 weeks
Infantile hemangiomas (IH)

- Vascular tumor
- Most common, benign tumor of infancy
- Risk factors:
  - Female
  - Multi-fetal pregnancy
  - Low birth weight
  - Prematurity
  - Caucasian
- Cause?
IH- classification

• Words like cavernous, strawberry, capillary should not be used

• Appearance
  – Focal/localized
  – Multifocal
  – Segmental

• Tissue Depth
  – Superficial
  – Deep
  – Mixed
IH appears after birth, grows generally until the end of the first year of life, then stabilizes and gradually involutes most significantly during years 1 to 2 and continues to improve over the ensuing years.
IH – natural history

(1) About 80% of lesional growth occurs between 1-3 months of age

(2) Growth ends between 5-12 months of age

(3) Regression DOES NOT mean complete disappearance
IH – when to worry

1. Life-threatening complications
2. Functional impairment or risk thereof
3. Ulceration or risk thereof
4. Evaluation to identify important associated structural anomalies
5. Risk of leaving permanent scarring or distortion of anatomic landmarks
IH – when to worry

Life threatening complications

• Obstruction of the airway
  – Segmental hemangioma or the “beard distribution” or anterior neck

• Liver hemangiomas associated w/ high output cardiac failure or hypothyroidism
  – 5 or more cutaneous hemangiomas
IH – when to worry

Functional impairment or risk thereof

• Visual disturbance

• Interference with feeding

• Obstruction of the nasal opening

• Occlusion of the ear canal
IH – when to worry

Ulceration or risk thereof

- Anatomic site: scalp, diaper area, perioral skin, intertriginous sites
- Hemangioma type: segmental, superficial, mixed
- Protuberant lesions
IH – when to worry

Evaluation to identify important associated structural anomalies

- **PHACE{s} syndrome**
  - Posterior fossa brain malformations
  - Hemangioma (usually large segmental of face or scalp)
  - Arterial anomalies
  - Cardiac anomalies and coarctation of the aorta
  - Eye abnormalities

- **LUMBAR syndrome**
  - Lower body hemangioma
  - Urogenital anomalies, Ulceration
  - Myelopathy
  - Bony deformities
  - Anorectal malformations
  - Renal anomalies
IH – when to worry

Risk of leaving permanent scarring or distortion of anatomic landmarks
  • Highly visible areas
  • Emotionally-sensitive areas

Remember – involution DOES NOT necessarily mean normal skin
Clinical Practice Guideline for the Management of Infantile Hemangiomas

Daniel P. Krowchuk, Ilona J. Frieden, Anthony J. Mancini, David H. Darrow, Francine Blei, Arin K. Greene, Aparna Annam, Cynthia N. Baker, Peter C. Frommelt, Amy Hodak, Brian M. Pate, Janice L. Pelletier, Deborah Sandrock, Stuart T. Weinberg, Mary Anne Whelan, SUBCOMMITTEE ON THE MANAGEMENT OF INFANTILE HEMANGIOMAS

Facial segmental IH:
- Very high risk of scarring
- Risk of associated structural anomalies (e.g., PHACE)

Increased risk of ulceration

May affect vision
Risk of disfigurement

Risk of disfigurement or permanent distortion of anatomic landmarks

Small lesions on torso are lower risk:
- Less likely to be disfiguring
- Typically do not require active intervention

Segmental lumbosacral or perineal IH:
- Higher risk of ulceration
- May be associated with underlying structural anomalies (e.g., LUMBAR syndrome)

ab or more cutaneous hemangiomas at any anatomic site may be associated with hepatic hemangiomas

Perineal or perianal IH:
- Increased risk of ulceration

Segmental IH on extremities:
- Higher risk of ulceration; permanent skin changes, such as thickening, atrophy, or scarring
IH – treatment

• Observation

• Oral propranolol
  – First line therapy for infantile hemangiomas that require systemic therapy
  – FDA approved since March 2014
  – Side effects: hypoglycemia, hypotension, bradycardia, sleep disturbance, bronchospasm
  – Usually continue for at least 6 months
IH – treatment

• Topical timolol
  – 0.5% GFS (gel forming solution)
  – 1 drop BID
  – Best for thin, superficial lesions
  – Inhibit growth $\rightarrow$ color $\rightarrow$ size/volume
  – Caution in pre-term infants and ulcerated lesions

• Corticosteroids

• Pulse-Dyed Laser & Surgery
IH – referrals and resources

• Consider referral to dermatology for the big 5:
  1. Life-threatening complications
  2. Functional impairment or risk thereof
  3. Ulceration or risk thereof
  4. Evaluation to identify important associated structural anomalies
  5. Risk of leaving permanent scarring or distortion of anatomic landmarks

• Resources:

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IH – take home points

• Bulk of growth occurs between 1-3 months of age

• Refer for the big 5: life-threatening complications (5+ IHs, beard distribution), functional impairment, ulceration, assoc. structural anomalies (segmental, large), cosmesis/risk of permanent scarring

• Involution is slow over YEARS

• Involution/regression DOES NOT necessarily mean normal skin

• Topical timolol is not helpful for deep hemangiomas; oral propranolol is first-line therapy
Case #7

• **HPI:** 2 year old M presents for evaluation of a “hemangioma” on the cheek. Present x 1 month. No preceding trauma. It has increased in size slowly over time. There has been one prior episode of severe bleeding that was difficult to control. Parents are keeping the lesion covered to avoid any further episodes of bleeding, but it is hard to keep a bandage on him.

• **PMH:** Otherwise healthy
Pyogenic granuloma

• Note: NOT a hemangioma or cherry angioma

• Presents as a rapidly growing bright red friable papule that tends to bleed

• May develop secondary to trauma

• Location: face and neck common
Pyogenic granuloma - treatment

- Management:
  - Shave excision and electrocautery
  - Pulsed dye laser
  - Topical timolol GFS
  - Topical imiquimod
Pyogenic granulomomas - referrals

• Consider referral to dermatology if lesion is frequently bleeding/surgical management is likely indicated or if the diagnosis is in question
Pyogenic granuloma – take home points

- A new-onset pink/red papule in kid over 2-3 months of age is not an infantile hemangioma
- Easy, extensive bleeding is a hallmark
- Definitive therapy is shave removal
- DDx should include a Spitz nevus
Thank you!

QUESTIONS?  JENNIFER.RUTH@ASCENSION.ORG
BONUS…

6 Quick Tips About Treating Eczema
ECZEMA 1

Start with the basics – Good skin care

- Use at thick fragrance free ointment or cream, they are more effective than lotions
- Best to apply multiple times a day and after bathing
- Apply over entire body after application of topical steroid
- Limit baths/showers, use lukewarm water < 5-10 min in tub
ECZEMA 2

Choose topical steroids based on location and severity of skin involved:

- **Mild potency**: Hydrocortisone 2.5% ointment or Desonide 0.05% ointment for face, axilla, groin

- **Medium potency**: Fluocinolone 0.025% ointment or Triamcinolone 0.1% ointment for body

- **High potency**: Mometasone 0.1% ointment, Fluocinonide 0.05% ointment for body/extremities
Topical steroids should be used twice daily for flares

- Topical steroids are safe to use on the skin twice daily to red, scaly, rough areas on face/body until skin becomes smooth, usually 1-3 weeks
- Try to limit steroid use to no longer than 15 days/month
ECZEMA 4

For severe generalized eczema do wet dressings nightly for one week at a time

Consider adding on antihistamines if there is sleep disturbance or severe daily scratching

- Hydroxyzine 1 mg/kg before bedtime
- Cetirizine 2.5 – 5 mg daily in AM
ECZEMA 6

Check out our referral guidelines!

Mild AD on the Face or Body

- Desonide 0.05% ointment or hydrocortisone 2.5% ointment twice daily as needed for flares
- For AD involving the eyelids, neck, axillae or inguinal folds, consider topical immunomodulators (calcineurin inhibitors).
  - Tacrolimus 0.03% or 0.1% ointment or pimecrolimus 1% cream once or twice daily as needed for flares (medications are approved for children 2 years or older)
  - You can also consider using these medications on steroid free days for patients that flare during steroid breaks.
Thanks, again! And spread the word...