Fitting Dermatology into the School Setting: Should I Stay or Should I Go?

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Should I Stay or Should I Go?

Molluscum Contagiosum

- Common viral disease of childhood
- Caused by the molluscum contagiosum virus (MCV), a poxvirus
- Benign and self-limited
- Spontaneous resolution within 6 months to several years

Molluscum Contagiosum

- Incubation period ranges from 2 weeks to 6 months
- Transmission occurs from skin to skin contact, fomites or autoinoculation
- Clothing, bath sponges, towels, gymnastics equipment, swimming pools, public baths
- Increased susceptibility: Atopic dermatitis or immunodeficiency

Molluscum Contagiosum

- 1-5 mm smooth, firm, dome-shaped papules with central umbilication – may need magnification to improve visualization
- Pearly white, pink, or skin colored
- Average number of papules is 10-20, range from 1 to several hundred
- Can affect any part of the skin, but most common on trunk, antecubital and popliteal fossae, axillae
- Inflammation of lesions usually precedes resolution

Molluscum Contagiosum

- Treatment Options
  - Watchful waiting
  - Cantharadin (Cantharone) topical treatment
    - Blistering agent
  - Cryotherapy
  - Keratolytics (i.e. Topical Retinoid)
What is Cantharidin (cantharone)?

- Originally derived from the blister beetle; now synthetically derived
- Causes blistering of the skin (epidermal layer) – this leads to extrusion of the molluscum body and resolution of lesion
- Retrospective study by Silverberg et al:
  - 90% of 300 patients cleared and 8% improved in an average of 2.1 treatments

Molluscum Dermatitis

- Reassurance
  - <1% intact molluscum are bacterially infected
- Vaseline ointment/ Aquaphor
  - Refrigeration
- Avoid mid-high potency topical steroids
  - Extreme circumstances mild potency topical steroids
- Antihistamines
  - Benadryl, hydroxyzine

Should I Stay or Should I Go?

- Red Book (2015)
  - Molluscum contagiosum should not prevent a child from attending child care, school, or from swimming in public pools.
  - No covering of lesions is necessary for child care or school, but when possible, lesions not covered by clothing should be covered by watertight bandage when participating in contact sports/activities.

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Herpes Simplex Virus

- Herpes Simplex virus 1 & 2 are complex DNA viruses
- Productive viral infection occurs within keratinocyte
- Incubation period can be 2-12 days
- Child may complain of pain or burning in the days before vesicles appear
- HSV-1 primarily oral and labial lesions
- HSV-2 primarily genital lesions

Herpes simplex

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Herpes simplex

• Infection classified as primary or recurrent
  - Primary
    ◦ Occur in individuals without circulating antibodies
    ◦ Result from direct contact with infected secretions or mucocutaneous lesions
  - Recurrent
    ◦ Occur in patients who were previously infected (clinically or subclinically)

• HSV in nerve ganglia may be reactivated by number of factors:
  - Fever
  - UV light
  - Trauma
  - Menses

Herpes simplex

• Classification:
  - Gingivostomatitis – lesions involve palate, tongue and gingiva
  - Herpes labialis – lesions involve lip
  - Herpes keratitis – lesions involve cornea
  - Herpes facialis – lesions involve cheek or forehead
  - Herpetic whitlow – lesions involve the fingers
  - Herpes progenitalis – lesions involve genitals
  - Eczema herpeticum – disseminated HSV infection in individuals with chronic skin disease
  - Herpes gladiatorum – widespread primary inoculation in contact sports players; lesions most commonly on head, neck and arms

Herpes simplex

• Treatment and Recommendations
  - Oral acyclovir, famciclovir or valacyclovir are recommended for localized cutaneous HSV
  - Oral acyclovir has been used in children safely
  - If outbreak is localized to small area, systemic therapy not required
  - No medication will prevent recurrence of HSV, but prophylaxis may prevent transference to others or adjacent skin
  - Prophylaxis considered if patient experiencing frequent, severe recurrences

Eczema Herpeticum

• Herpes Simplex Virus - HSV superimposed on skin
  - HSV-1 or HSV-2
• Risk for development: Skin with poor barrier
  - Atopic Dermatitis
• History:
  - Close contact with recent cold sore
  - Rapid spreading of lesions
  - Fever, malaise, irritability, lymphadenopathy
Eczema Herpeticum

- Skin findings:
  - Vesicles
  - Erosions
  - Pustules
  - Crust
  - PAIN!

Eczema Herpeticum Differential DX

- Coxsackie Virus - Hand, Foot, mouth
- Eczema Herpeticum

CULTURE!

Should I Stay or Should I Go?

- Red Book (2015)
  - Only children with HSV primary infection who do not have control of oral secretions should be excluded from child care or school – exclusion of children with cold sores is not indicated.
  - If a child has recurrent HSV infection, covering the active lesion with clothing or a dressing when they attend school is sufficient.
  - Infected children should be allowed to remain in school once any indicated therapy is implemented, unless their behavior is such that close contact cannot be avoided.

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Hand, Foot, Mouth Disease - Coxsackium

- Presents with fever, malaise, poor appetite, ST x 1-2 days
- Vesicles or erosions begin as small red spots in palate, tongue, uvula, gingiva and tonsils. Advance to ulcers, painful.
- Small red spots, some with blisters on palms, soles, hands, feet, or random other locations
- Transmitted through nose and throat secretions, blister fluid, and feces.
- Supportive treatment
Coxsackie Virus: Hand, Foot, mouth
Eczeoma Herpeticum

Should I Stay or Should I Go?

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<th>Treatment of Disease</th>
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Papular Urticaria

- Chronic, papular eruption due to hypersensitivity to bug bites
- Highly pruritic
- High risk of secondary infection due to scratching.
- Summer & Late Spring

Treatment
- Insect Repellent
  - Unscented OFF
- Low potency topical steroids
  - Hydrocortisone 2.5% ointment
  - Desonide ointment
- Topical antibiotic
  - Mupirocin 2% ointment
- Antihistamines - aid sleep, relieve itch
  - Benadryl

Bed Bug

Flea Bites
Atopic Dermatitis

- Dry, rough, itchy skin
- Waxes and Wanes
- Often begins <2 years of age - Some older
- Commonly exists with atopy
  - Allergies, Asthma, Atopic Dermatitis
  - Strong Family History
- Responds to Moisture and Topical Steroids

Distribution of dermatitis

- Infant: face, scalp, trunk, back, elbows, knees
- Child: neck, B AC, B pop fossa, B ankles/feet
- Adult: Hands, feet

Atopic Dermatitis - Differential Dx

Atopic Dermatitis
Psoriasis
Scabies
Atopic Dermatitis

Atopic Dermatitis - Treatment

- Sensitive Products
  - Dye-free, Scent-free products: soap, laundry detergent, dryer sheet
- Moisture
  - Bland ointment/cream emollient
    - Vaseline ointment, Aquaphor ointment
    - Vanicream, Cetaphil cream
  - Daily bathing
- Topical Steroid - BID Ointments!
  - Mild: Hydrocortisone 2.5% ointment, Desonide ointment
  - Moderate & Strong

Face, axilla, groin

Body only. Not on face, axilla, groin
Atopic Dermatitis - Treatment

• Antihistamines
  – Daily non-sedating - Zyrtec
  – As needed for allergy control to prevent flares
  – Sedation effect to aid sleep
  – Benadryl
  – Hydroxyzine
  – Doxepin

• Bleach Baths
  – ¼ cup unscented bleach to ½ tub of water

• Topical Antibiotics and Oral Antibiotics (cultures)
  – Mupirocin 2% ointment
  – Keflex & Clindamycin

• Wet Wraps

School Nurse Intervention

• Moisturizers!
• Medications applied at home
• Sedating antihistamines avoided during day

Impetigo

• Superficial skin infection
  – Streptococci
  – Staphylococci
  – Most common Staph aureus - MRSA, MSSA

• Red papules, vesicles then form honey-crusted lesions
• Contagious, easily spreads
• Insect bite, trauma precedes

• Bacterial Culture
  – Up to 50% Community acquired Staph aureus -MRSA in US.
• Topical Antibiotic - localized
  – Mupirocin ointment
  – Less preferred bacitracin or neomycin
• Systemic Antibiotic - diffuse
  – Broad coverage - Staph and Strep
  – Keflex, Clindamycin

• Chronic Infection
  – Bleach baths 1-2 x weekly.
  – Decolonization with mupirocin in nares, fingernails, umbilicus 1 week / month
Should I Stay or Should I Go?

- Red Book (2015)
  - Bacterial infections can spread by person-to-person contact or by shared fomites, such as towels and athletic equipment.
  - Exclusion is recommended for any child with an open or draining lesion that cannot be covered.
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Tinea corporis

- Superficial dermatophyte infection
- Dermatophytes are fungi that use keratin for growth
- Infects keratin-containing body parts:
  - Hair (Tinea Capitis)
  - Skin (Tinea Corporis)
  - Nails (Tinea Unguium)
- dermatophyte invades only stratum corneum, not remainder of epidermis or dermis
- Exact mechanism of inflammation is not known, but may be related to toxins released by dermatophyte

- May be one or several circular, erythematous patches
- Varying appearance
  - Papular, scaly, annular border with clear center
  - Nummular plaque with pustules
  - Scaly patch with partial clearing and follicular pustules
- Three major reservoirs:
  - Humans
  - Animals
  - Soil
- Can be spread via fomites

Tinea corporis

- Treatment and Recommendations
  - If hair and nails not involved, treatment with topical antifungal
    - May take 2-4 weeks of treatment to clear
    - Cream to be applied to affected areas as well as 1 cm surrounding border
  - If hair and nails involved, treatment with oral antifungal is recommended. May attempt topical (i.e. vapor rub, vinegar soak)
  - Other family members, pets etc must be treated as well to prevent reinfection

Tinea Capitis
Tinea Capitis

- **Symptoms**
  - Scale, patchy alopecia, kerion, lymphadenopathy
- **Etiology**
  - T. tonsurans, T. violaceum, M. canis
  - History: Crowded living, Barber Shop, Animal exposure
- **Culture - Dermatophyte**
- **Treatment**
  - Oral therapy required to treat hair follicle

Tinea Capitis

- **Oral therapy - 6-8 weeks**
  - Griseofulvin microsize: 20 mg/ kg/ day
    - Take with a fatty food
  - Terbinafine (Lamisil): Requires labwork
  - Fluconazole

Tinea corporis

- **Application in school setting:**
  - Recognition and advisement of parents to seek treatment
  - If involvement of hair/scalp: avoid sharing of hats, combs, jackets, hair accessories
  - Medication should be given at home
  - Topical emollients may be applied at school if itchy (e.g. vaseline kept in fridge)

Don’t Miss Tinea Faciei

Take caution: look alike

Nummular Eczema

Alopecia Areata

Tinea Corporis

Tinea Capitus
Take caution: look alike

Tinea corporis  Granuloma annulare

Take caution: look alike

Plaque Psoriasis  Tinea corporis

Should I Stay or Should I Go?

  - Children should not be excluded from school unless the nature of their contact with other students could potentiate spread.
  - Actively infected athletes in sports with person-to-person contact must be excluded from competitions. Athletes with tinea corporis cannot participate in matches for 72 hours after commencement of topical therapy unless lesions can be covered.

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Questions  Answers

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