Conditions that Mimic Child Abuse
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Skin Findings that Mimic Abuse

- Myths and Truths

Myth

- You can accurately date a bruise based on its color
Truth

- As a bruise heals it may exhibit many colors
  - Red, violet, black, yellow, green, brown

  No predictable order or chronology/dating of an injury based on color progression

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Truth (in 1991)

- A bruise with yellow in it is > 18 hours
- The other colors may appear from 1 hour after the injury until the resolution of the bruise
- Bruises of identical cause and age on the same person may not appear the same

- Langlois and Brehm, 1991

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Truth (today)

- Timing of yellow bruising is unclear
- Accuracy of determination is <40% based on color of bruise
- Inter-observer reliability is poor – you see color one way, someone sees it differently
- Do NOT use color to date a bruise

- Maguire, et al. 2010
Factors that affect the rate of bruise resolution

- Amount of:
  - Extravascular blood
  - Applied force to the body surface area
  - Tissue damage
  - Vascularity and location of the tissue
  - Patient skin color and age

Myth

- The skin overlying a fracture is typically bruised in cases of abuse

Truth

- Peters, et al identified 1,992 children with inflicted skeletal fractures
- Main outcome measure was presence of bruising and fracture in a single body region or extremity – often unrelated to site of fx
- 23.3% of children with skull fractures had associated bruising
Genital Findings that Mimic Abuse

Myth

- Sexual abuse is a common cause of genital bleeding

Truth

- Differential diagnosis of genital bleeding in a pre-pubertal child
  - Trauma
  - Genitourinary tract
  - Gastrointestinal tract
  - Dermatologic Conditions
  - Infectious diseases
Straddle Injuries

- Accidental injury to the midline ano-genital structures
- Occurs when a child straddles a firm object as he/she falls
- Compression of soft tissues against bones in the pelvic region

Most Common Forms of Injury

- Falling on a stationary object
- Straddling a bicycle
- Bath tub related
- Playground injury
- Straddling a pool

Straddle Injuries - Genital

- Most cause damage to the soft tissues overlying the pubic symphysis, the labia, as well as the posterior fourchette and perineum
- Compared with injuries caused by abuse, straddle injuries are often unilateral
- They usually only cause damage to the external genitalia
Suspicious Straddle Injuries

- Extensive trauma: multi-site body injuries
- Non-ambulatory child: child less than 18 mts
- Coexisting non-genital trauma: PA
- Lack of correlation between history and physical findings

Dowell, et al. 1994

Genitourinary Tract

- Urethral Prolapse
  - Vaginal bleeding
  - Urethral swelling
  - Vaginal and urethral pain
  - Typically occurs in young Black girls, age 4 – 8 years

Factors Contributing to Urethral Prolapse

- Estrogen deficiency
- Large weight for age
- Trauma
- Urinary tract infection
- Anatomical defects
Urethral Prolapse Treatment

- Sitz baths
- Estrogen cream (Estrace)
- If symptoms are severe or persist, referral to a urologist may be necessary.
- Treat underlying urinary tract infection if present

Gastrointestinal Tract

- Pinworm

Dermatological Conditions

- Group A Strep
- Study summary: Most frequently reported vaginitis
- Puritis – the most common symptom
- Erythema – universally present
- Discharge – infrequently
- Peak occurrence – late winter/early spring
Physical Exam ‘Clues’

- Foul Smell: Δ Foreign body, necrotic tumor
- Bleeding + DC: Δ Group A strep, Shigella, FB
- Greenish DC  Δ GC, Group A Strep, FB

Derm Conditions: Ulcerative Lesions

- Epstein-Barr virus: 'Mono' – ulcers up to 1.5cm- can do EB viral culture- often associated later with lymphadenopathy and fever
- Varicella Zoster: 'Chicken Pox' or Shingles- First eruption of Chicken Pox can be on the vulva and mistaken for herpes *looks identical on Tzanck smear
- Coxsackie Virus: Can be associated with acute renal disease

TREATMENT

- If specific infection, treat for that organism
- If treating empirically, options:
  - 10 days Amoxil, Augmentin, Cephalosporins
  - AB dose: TID dosing x week
  - Diflucan 6 mg/kg/d initial and then 3mg/kg/d x 7 days
FOREIGN BODY - VAGINITIS

A Study in Philadelphia:
- 192 prepubertal girls w/ GYN sx:
  - FB present – 4%
  - 18% with vaginal bleeding w/ or w/o DC had FB
  - 50% with bleeding and no DC had a FB

LICHEN SCLEROSIS

Appearance:
- White shiny macules that coalesce and form fine wrinkled skin - may form figure ‘8’ pattern about the labia, perineum and perianal tissue
- Pruritic, hemorrhagic, > scaling, vesicules

Lichen Sclerosis - Location

Location –
- Genital – 75% of time
- Extragenital patches on the trunk and extremities - 10 – 20% of cases
- Oral lesion are frequently seen
- Can be confused with: herpes, Candida or strep
Lichen Sclerosis

- Etiology
  - Most cases are in postmenopausal females
  - 10% cases appear in children – usually under 7 yrs.
  - CAUSE – UNKNOWN – suggested to be immunologic

- Prognosis
  - Prognosis:
    - 50-70% resolve with puberty
    - 18% may develop long term sequelae
    - Development of malignancy in adolescents has been reported

- Treatment
  - Treatment: Be aggressive
    - Temovate 0.05% BID 2-4 weeks then HS x 2 weeks; then with flares (max. 60gm/6mths)
    - If secondary infection, also treat
    - Possible side-effects of steroids:
      - Burning associated with erythema and edema
      - Dilation of blood vessels-superficial 18% of cases (hemorrhoid appearance)
      - After RX- Regular use of barrier ointments to prevent friction and reoccurrence
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Lichen Simplex

- Appearance: localized thickening of skin
- Microscopically: Lesions are hyperkeratotic
- Treatment: Mid-potency topical steroids; oral antipruritics

Inflammatory Dermatosis

- Seborrheic Dermatitis:
  - Appearance: symmetric, erythematous lesions, oily scaly, indistinct borders, intense pruritus
  - Secondary infections are common: Candida/Pityrosporum
  - Extragenital locations: scalp, hair, moist sites (diaper area, axillae)
  - RX: low-potency topical steroids, antiseborrheic shampoos and Ketoconazole creams

- Eczema: Atopic Dermatitis
  - Acute and Chronic stages
    - Acute: erythema, scaling, vesicles, crusts
    - Chronic: scaling, lichenification and pigmentary changes
    - BOTH may present at different sites at the same time and the same site at different times during the course of the disease
Inflammatory Dermatosis - Eczema

- Distribution and morphology of skin lesions are DX
- Clinical findings show a characteristic pattern of evolution
  - Infantile phase – begins between 1-6 months and lasts 2-3yrs. Rash is red, itchy papules/plaques which ooze and crust. Diaper area is usually spared

Inflammatory Dermatosis - Eczema

- Childhood Phase:
  - Occurs between 4-10 yrs
  - Circumscribed red, scaly plaques are symmetrically distributed
  - Frequently see 2nd infections – intense scratching
  - Most experience improvement during warm, humid summer months and exacerbations in the winter/fall
  - 75% children improve by age 10-14yrs

Inflammatory Dermatosis - Psoriasis

- Psoriasis:
  - May begin as persistent diaper rash
  - Eruption: bright red, scaly, well demarcated line
  - May misdiagnose for Candida – has no scales, but fungal exudate
  - RX: topical steroid – temporary improvement but lesions persist/recurr for months
Labial Adhesions

- Incidence:
  - 1-3% of all females
  - 90% present before 6 yrs old and resolve at puberty
  - 50% may resolve spontaneously over 6mts-1 year

Labial Adhesions

- Differential DX:
  - Imperforate hymen
  - Scarring of labia
  - 3/50 patients will have urologic abnorm
  - Intersex problems

Labial Adhesions

- RX:
  - Estrace cream – BID 2 weeks then HS 2 weeks (90% success rate)
  - Maintenance- A & D oint., Vaseline HS
  - TX with surgery if s/s
Cutaneous Mimics of Child Abuse

- Non-inflammatory conditions
- Inflammatory conditions
- Cultural practices

Dermal Melanosis

- Bluish gray skin coloration of the left upper extremity, including the thumb and middle finger, and on the right buttock in a full-term, African American

- Also called - Mongolian Spots

Impetigo

- The most frequent mimic of child physical abuse
- Honey-colored crust
- Streptococcus pyogenes and Staphylococcus aureus
- Spreads if untreated

Whitener et al. Habit, 1998
Impetigo

- Lesions have a thin yellow crust and can be different sizes.
- If the same cigarette is used “on end” to burn someone’s skin, the lesions will be the same size or close to the same size every time.

Cigarette Burn

- Vary from circular bullae to deep, punched out craters with raised edges
- Center of the burn typically the deepest 8 mm in diameter
- Document the dimensions of the lesions using a tape measure.
- Photo document the lesions or draw with

Constriction Bands
Constriction Bands

Cultural Practices

- Coin Rubbing
  - Warm oil is applied to the skin
  - Coin is vigorously rubbed on skin
  - Stripes of petechiae in a geometric pattern

- Hulewicz, 1994

QUESTIONS

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THE END