Child Sexual Abuse

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Objectives

- Review the medical literature how it influences us today
- Describe the limitations of our knowledge based up the medical literature
- Discuss the consensus guidelines
- Recognize the current controversies that exist in 2012.

What were the previous concepts?

- A physical examination could prove or disprove sexual contact between adults and children.
  - The hymen (absence, presence, changes) would provide such evidence
  - Anal findings such as anal dilation would prove or disprove sexual contact
  - Other things injured the hymen (horseback riding, gymnastics, etc)
  - Girls could be born without a hymen (Disproven 1989)

- Longitudinal studies of normal development of the hymen
  - Newborns to age 9: There were developmental changes in the anatomy of the hymen that were normal and unrelated to sexual acts.

A case control study of findings resulting from sexual abuse:


Berenson, 2000: the case control study

- 192 girls, age 3–8 yrs, with history of digital or vaginal penetration
- 200 girls, matched for age and race, with no history and no suspicion of abuse
- Photographs reviewed without knowledge of history, 2 expert examiners reached consensus on findings
What was important?

• Many genital findings that had been previously called abnormal, or thought to have been the result of abusive injury, were now found in girls without any history of sexual abuse.

Conclusion:

• “...findings strongly suggestive of sexual abuse were observed in less than 5% of abused children. Therefore the genital exam is unlikely to support or negate a child’s history. Thus it is critical that legal experts focus on the child’s history as the primary evidence of sexual abuse.”


• A 5 year prospective study of 2384 children referred for evaluation of possible sexual abuse.

Results

• 96.3% had normal medical exams
  – Included disclosed abuse, behavioral changes, exposure to abuse or medical conditions
• 95.6% of children reporting abuse were normal
• 99.8% who were referred for behavioral changes or exposure to abuse were normal

Results

• 68% of girls and 70% of boys reported “severe” abuse defined as penetration of the vagina or anus
• Penetration was associated with a higher percentage of girls (6%) vs. boys (1%) having abnormal findings

Genital Anatomy in Pregnant Adolescents: “Normal” Does Not Mean “Nothing Happened”

• Retrospective case review
  – 36 adolescents who were pregnant at time of or shortly before SA examination
    • Age range 12.3-17.8 years
    • 1 adolescent was pregnant with 2nd child
    • 1 adolescent had miscarriage and D&C prior to exam
    • 1 adolescent had abortion prior to exam
  – Review of colposcopic slides
    • Reviewers were blinded to medical history other than pregnancy status
    • 34 had no evidence of penetration

- Myhre, et al in Norway studied appearance of the genital tissues in 195 nonabused girls, age 5 to 7 years
- Perianal anatomy documented in 103 boys and 202 girls, same study, earlier paper (2001)

Findings:
- An outward folding of the hymen was seen in 18% of subjects, and in 7 subjects, the whole posterior rim was folded outwards, giving the appearance of a very narrow rim.


- Retrospective, multicenter study using photographs of healing of genital injuries to document the healing process and outcome of genital trauma
  - 239 cases
  - 113 prepubertal
  - 126 adolescents

Patients
- Prepubertal: 21 accidental, 73 abuse, 19 unknown
- Adolescents: all due to abuse

Prepubertal hymenal lacerations
- 75% of lacerations healed with smooth uninterrupted hymenal rims
- Transection or transection with extension: 17% healed with a smooth rim, 22% had a continuous rim, 28% had less than 1 mm.

Adolescents
- By 2 weeks 90% of lacerations were healed
- 88% had no disruption in continuity of the hymen
Most signs of acute injuries were gone at 7–10 days.
Depth and configuration of the laceration continued to change for 3 (kids) to 4 (teens) weeks.
Lacerations seen before puberty can disappear into the folds of the estrogenized hymen.

Conclusions

Outcome and final appearance of the hymenal laceration depends upon its severity.
The smoothness and persistent continuity of a hymenal rim after all but the most severe lacerations should prove reassuring...
No scar tissue was identified on the hymen.
These findings reaffirm the remarkably complex healing process that occurs after hymenal injury.

Healing of Nonhymenal injuries: McCann, Pediatrics Nov. 2007

- Same data (photos) and methods as the hymenal injury study
- Injuries heal rapidly and rarely leave any evidence of previous trauma
- More severe injuries take longer to heal
- Children or adolescents should be examined quickly after acute injury

Has this prepubertal girl been sexually abused? Berkoff et al JAMA 2008

To determine the diagnostic utility of the genital examination for identifying nonacute sexual abuse.
Reviewed published articles 1966–2006, bibliographies, textbooks
Abstracted data to calculate sensitivity, specificity, and likelihood ratio of the diagnosis of nonacute genital trauma caused by sexual abuse in prepubertal girls.

JAMA 2008

- The physical examination can not independently confirm or exclude nonacute sexual abuse as the cause of genital trauma in prepubertal girls.

Changes in Genital Anatomy and Microbiology in Girls between age 6 and age 12: A Longitudinal study; Myhre et J Pediatr Gynecol 2009 Jul 28

- Changes in genital anatomy and occurrence of HPV and Gardnerella Vaginalis in previous group of girls who were now 11–12
- 31 girls were re-examined, denied intervening sexual abuse
- More girls had developed a “fossa groove” and redundant hymen with outfolding
- Two girls had Gardnerella Vaginalis, one HPV 16
- One girl had a deep notch and a probable transection and reported painful insertion of a tampon
Fossa Groove

Reports of Repetitive Penile-Genital Penetration often have no Evidence of Penetration - Anderst Pediatrics 2009

- Reviewed 506 charts of girls 5-17 years
- 56 patients had “definite” results (transections)
- 87% provided a history of greater than 10 penetrative events and no evidence of penetration
- A history of bleeding with abuse increased rate of positive findings 2X

Children less than 10 years were twice as likely to report more than 10 penetrative events and NONE had definitive findings
- One 12 yo reported 209 incidents of penile genital penetration over greater than 1 year period. She recorded each event in journal, including rich details, specific dates, feelings, and sensations, bleeding and pain. She had a normal examination.

Adams Guidelines

- An approach for teaching and assessment of genital and historical findings
- Research/case study based
- Several versions from 1992 until 2008 based upon research and case studies.


- Consensus amongst experts with research on genital anatomy, residual of trauma, and Sexually transmitted disease.
- Good agreement on NORMAL and ABNORMAL
- Eventual consensus on calling middle category “INDETERMINATE”
- Lack of 100% consensus on several findings and a few STD’s
• All of the following findings must be evaluated in the context of the medical history and the statement from the child.

Joyce A. Adams, MD

Guidelines for Medical Care for Children who may have been Sexually Abused
• Findings documented in newborns, or commonly seen in non-abused children. (These findings generally neither confirm or discount a child’s clear disclosure of sexual abuse)
  – Normal variants (Newborn study, non-abused studies by McCann et al, Berenson et al, Myhre et al, Heger et al, and various textbooks
  – Findings commonly caused by other medical conditions – formerly called non-specific findings (Non-abused studies, textbooks, case reports of conditions mistaken for abuse)

Normal variants
• Periurethral or vestibular bands
• Intravaginal ridges or columns
• Hymenal bumps or mounds
• Linea vestibularis
• Hymenal notch or cleft in anterior rim of hymen (above 3-9 o’clock)
• Shallow notch or cleft in inferior rim of hymen (below 3-9 o’clock)

Where are the findings?

Periurethral Bands

Intravaginal Ridge

• External hymenal ridge
• Congenital hymenal variants
• Diastasis ani
• Perianal skin tag
• Hyperpigmentation of the skin of the labia minora or perianal tissues
• Dilation of urethral opening
• Thickened hymenal edge

• Anterior
• Above 3-9 o’clock: most anatomic variability
• Abnormalities are significant
• Posterior

3-9 o’clock-most anatomic variability
Abnormalities are significant
Posterior
Findings commonly caused by other conditions

- Erythema
- Increased vascularity
- Labial adhesion
- Vaginal discharge
- Friability of the posterior fourchette
- Excoriations, bleeding/vascular lesions (LS, eczema, seborrhea, strep, urethral prolapse, hemangiomas)
- Failure of midline fusion
- Anal fissures
- Venous congestion pooling
- Flattened anal folds
- Partial or complete anal dilatation to less than 2 cm (anterior posterior, with or without stool visible)

Dehiscence of Labial Adhesion

Increased Vascularity

8 year old girl with itching, sometimes blood in underwear.

Failure of midline fusion
11/14/12

7 yo with 2 months of discharge, positive staphylococcus cx

**Indeterminate findings-a misunderstood category**

- Indeterminate Findings: Insufficient or conflicting data from research studies. (May require additional studies/evaluation to determine significance) These physical/laboratory findings may support a clear disclosure but should be interpreted cautiously if the child gives no disclosure
  - Physical Examination Findings
  - Lesions with etiology confirmed: (Condyloma and Herpes) Indeterminate specificity for sexual transmission

**Indeterminate**

- Deep notches or clefts in the posterior/inferior rim of hymen between 4 and 8 o’clock
- Deep notches or clefts in the hymen at 3 and 9 o’clock in adolescents
- Smooth non-interrupted rim of hymen between 4 and 8 which appears to be less than 1mm using multiple techniques
- Wart-like lesions of the anogenital area
- Marked immediate dilatation of the anus of 2 cm or more in absence of predisposing factors (chronic constipation, sedation, anesthesia, neuromuscular conditions)

**Lateral clefs in adolescents**

**Deep Notch**

**Hymenal Transection**

**Thin posterior rim/swab technique**
Relaxation with sedation

DiagnosGc:

• Findings
  
  of
  
  Trauma
  
  and/or
  
  Sexual
  
  Contact.

• The following findings support a disclosure of Sexual Abuse and are highly suggestive of abuse even in the absence of a disclosure unless a clear, timely, plausible description of accidental injury is provided by child/ caretaker

  – Acute trauma to external genital/anal tissues

  – Residual (healing) injuries

Acute Trauma to the external genital anal tissues:

• Acute lacerations or extensive bruising of labia, penis, scrotum, perianal tissues, or perineum (may be from unwitnessed accidental, or from physical or sexual abuse

• Fresh laceration of the posterior fourchette not involving the hymen...Can be accidental or from consensual intercourse in adolescents.

Residual (healing)injuries. These findings are difficult to assess unless an acute injury was previously documented in the same location.

• Perianal scar (rare, may be due to other medical conditions such as Crohn’s disease, accidental injuries or previous medical conditions

• Scar of posterior fourchette or fossa (not to be confused with pale area in the midline or linea vestibularis)

Injuries indicative of blunt force penetrating trauma (or from abdominal/ pelvic compression)

• Laceration (tear, partial or complete) of the hymen, acute

• Ecchymosis (bruising) of the hymen (in absence of known infection or coagulopathy)

• Perianal lacerations extending deep to the external sphincter (not to be confused with failure of midline fusion)
Final exam four weeks later

Transection of Hymen

Complete healing

Acute Injury/10 Days Later
What are the current issues in case evaluations?
- Calling abnormal exams normal
  - Not a big problem
- Not interpreting the exam accurately
  - Missing an exam finding
  - Not knowing what an exam finding means

What are current issues in case reviews?
- Calling normal exams abnormal
  - Thin rims
  - Shallow notches
  - Hypervascularity
  - Scars
  - Anal findings
    - Dilation
    - Folds, symmetry
    - Scars

Why are cases overcalled?
- Inexperience
- Lack of current training
- Lack of oversight
- “Group think”
- Influenced by the history
- Influenced by our practice setting
- Influenced by law enforcement

What should we do?
- Excellent photodocumentation—all cases
- Peer review and expert review especially of cases that will be evidentiary
- Keep up with the literature
- Keep on attending courses and form collegial support groups
- Resist the temptation to “find something” to help police or prosecute a crime.