Sexually Transmitted Diseases in Suspected Child Sexual Abuse

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Learning Objectives

Upon completion of this content, the learner will be able to:

1. List the indications for testing for STI’s in prepubertal children evaluated for sexual abuse
2. List the indications for testing/ and or prophylaxis for HIV in adolescents evaluated for sexual abuse
3. List CDC-recommended treatment regimens for each STI
“The identification of a sexually transmissible agent from a child beyond the neonatal period suggests sexual abuse.”
-CDC
Indications for STI testing

- Genital contact: may be oral, anal or vaginal
- Evidence of vaginal or anal penetration-acute or chronic
- Vaginal discharge-also seek routine pathogens
- Unknown contact/unknown perp/pre-verbal child with suspicion of genital contact
- Presence of STI, sibling with STI
STI testing

- Vaginal cultures required in prepubertal girls may be difficult to obtain.
- Specimens must be placed in appropriate media, transported properly and the lab must have experience or send out.
- Most STI organisms are fastidious, die easily and require careful processing adding to the difficulty in obtaining specimens.
2973 Children evaluated for sexual abuse

1.7% Gonorrhea (only 5% of children did not have discharge)

1.3% Chlamydia

0.2% Syphilis

<1% Trichomoniasis

1.7% Condyloma acuminata

0.3% Herpes Simplex Virus
Does every child need to be cultured for STI’s?

- Consider incidence in adults, in your community.
- Consider cost.
- Remember that in some states, payment for sexual assault examination does not include payment for STI testing or treatment.
- Consider availability of Chlamydia culture media and timely transport on ice of specimens.
- Consider discomfort to the child.
What about the “gold standard”?

- For both Chlamydia and GC, genital culture is still recommended for boys, and for anus in both sexes.

- Newest recommendations from Centers for Disease Control and Prevention:
  - Urine and genital NAAT’s acceptable for girls, for both GC and Chlamydia.
  - The only reason CDC did not recommend for boys is that there were too few boys in the research studies that found that NAAT’s were more sensitive than cultures, especially for Chlamydia.
Gonorrhea

- Range of rates of infections 1 to 5%
- Incubation period 2-7 days
- Within 7 months 87% of infected prepubertal children are free of infections
- If a urine NAAT is positive for Gonorrhea, confirmatory testing must be done
- Culture is best, and should be done instead of urine NAAT if the child has visible vaginal or urethral discharge

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8 year old girl, contracted GC from a peer, who had been sexually abused by an adolescent.

This patient also has an abnormal hymen (AAP, 152)
4 year old girl, vague history of sexual contact. Acute exam, and follow-up after treatment. Culture Positive for GC
Gonorrhea
Laboratory diagnosis:

- Culture should be done on appropriate media.
  - Thayer-Martin, blood based, or appropriate transport media

- Positive cultures should be confirmed by two methods
  - Carbohydrate utilization, direct fluorescence, antibody, enzyme substrate, DNA

- Organisms that can be confuse with *N gonorrhea*
  - *N meningitidis*, *N lactamica*, *N cinerea* (normal flora)

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Non-culture methods:

- NAAT’s for GC and Chlamydia OK for adolescents/adults, from all sites of penetration

- Currently not recommended for children, except for urine or genital specimens in pre-pubertal girls

- If non-culture methods are used in children positives should be confirmed with a culture prior to treatment
Gonorrhea

- Must be reported, the link to sexual abuse is certain beyond the neonatal period
- Recommend testing all children and all adults in child’s household as early as possible
- Some studies suggest that testing only symptomatic children is necessary except in high prevalence areas.
Gonorrhea-Treatment

- Child<45 kg: Ceftriaxone 20-50 mg/Kg IM
- Child>45 kg: Ceftriaxone 250 mg IM
- There is no good evidence that dual therapy (for both GC and Chlamydia) in children is necessary.
Chlamydia: Pre-pubertal children

- Occurs in 1-2% of sexually abused children, many infections are asymptomatic. Perinatal acquisition can persist up to 3 years.
- Culture techniques are still recommended for anal specimens and for urethral specimens in males, according to CDC.
- NAAT’s OK for genital specimens or urine samples in pre-pubertal girls.
- DO NOT TREAT Prior to results of these tests in prepubertal children, follow-up positives with cultures.
Chlamydia, Adolescents:

- Same as adults: Ceftriaxone 250 mg IM single dose
- For prophylaxis, CDC recommends the following:
  - Ceftriaxone 250 mg IM, plus
  - Azithromycin 1 gm p.o., plus
  - Metronidazole 2 gm p.o., or
  - Tinidazole 2 gm p.o.
Chlamydia

- Oral Chlamydia cultures are no longer considered reliable or useful and are not recommended.
- Use appropriate media for transport, must be kept cold.
- Use appropriate swabs, cotton or dacron tipped plastic or metal shafts, no wood shafts of calcium alginate swabs.
Chlamydia

- Must be reported, sexual abuse is probable

- In children, positive NAAT for Chlamydia must be confirmed by culture (if possible), or by obtaining a second specimen and using a different type of NAAT than used initially
7 year old girl, examined for recurrent vaginal discharge.

Culture positive for Chlamydia

(AAP, 153)
Syphilis

- Approximately 0.2% of abused children are infected.
- Non-treponemal tests (VDRL and RPR) can be used for screening but must be confirmed with direct treponemal tests (FTA-ABS or MHA-TP).
  - Non treponemal tests may become negative within months of treatment.
  - Treponemal tests will remain positive for life.
- Must be reported, link to sexual abuse if not congenital is certain.
Syphilis

- Primary - incubation 10-90 days, chancre may develop. Serologic tests for syphilis may be negative for up to six weeks.

- Secondary - may remain asymptomatic or a rash can develop

- Tertiary - latent and neurosyphilis years after initial infection
Syphilis

- Congenital syphilis can occur, but primary syphilis beyond four months of age and any prepubertal child with primary or secondary stages of syphilis occurring beyond early infancy should be presumed to be victims of sexual abuse.
Two examples of condyloma lata, in a 2 yr old and 7 year old.
Primary syphilitic chancre in an 8 year old girl.

History of sexual contact.
MAP SHOWING HIGH PREVALENCE AREAS OF SYphilis

Var #1
- 0
- 1 to 9
- 10 to 69
- 70 to 679

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Syphilis-Treatment

- Acquired: Benzathine penicillin 50,000 U/kg. (Max dose 2.4 million units)
Herpes Simplex Virus: Type 2 or Type 1 in genital area

- Risk for acquiring it from sexual abuse is unknown
- HSV-1 or HSV-2 can be found in the oral or genital region--
- Viral culture and typing should be done on all suspicious lesions.
- PCR test for HSV are available in some areas
- Link to sexual abuse/contact is likely, unless (For HSV-1), history suggests self-inoculation from an oral lesion, or from transmission by a caretaker during assistance for toileting hygiene)
Interpretation of positive test for HSV in a child:

- For both HSV-1 and HSV-2, the finding is listed in the “No Expert Consensus” section of the “Approach to Interpretation” table in 2015 Guidelines paper.

- Some of the experts felt that sexual contact is almost always the cause of genital HSV infections.

- Some experts were less certain, since most had cases where the child denied any sexual contact, and had no other indicators of sexual abuse.

- All agreed that in a child who gives a disclosure of sexual abuse, the HSV is supportive of that disclosure.
HSV-2 virus was isolated from both patients. Only the 7 year old girl gave a history of abuse.
This 10 year old girl initially denied any sexual contact. Lesions were positive for HSV-2, and Chlamydia was cultured from the vagina. One year later, she disclosed sexual abuse.
HSV-1 was cultured from both children. Probable innocent transmission.
HSV-Treatment

- Adolescents: Acyclovir 400 mg PO tid for 7-10 days or Acyclovir 200 mg PO 5x/day for 7-10 days or Famciclovir 250 mg PO tid x 7-10 days or Valacyclovir 1 g PO bid x 7-10 days

- Children: Acyclovir 80 mg/kg/day qid x 7-10 days
Human Papilloma Virus- HPV

- Condyloma Acuminate-transmitted via sexual contact or perinatally, or possibly by close non-sexual contact.
- May be more suspicious for sexual transmission if found in children over 5 years of age.
- In infants and pre-verbal toddlers, need to obtain mother’s history of past infection.
HPV, Continued

- Possible auto-inoculation from common skin warts
- Possible abusive or non-abusive contact with person with hand warts
- HPV (DNA) present in underwear of 17% of 74 adults with vulvar HPV,
- HPV DNA has been found in the mouths of healthy children, on swabs from mouth and genital area of infants, on hands and mouths of parents before and after baby is born

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What is known about genital HPV transmission?

- HPV (by DNA testing) can be transmitted perinatally
- It was found in female college students who denied intercourse
- It is USUALLY transmitted by sexual contact
HPV genital infection in college women (Winer, et al, 2003)

- Study tested 603 women for HPV on vulvovaginal and cervical swabs, at 4 month intervals, 1990 to 2000
- Participants reported their sexual history, including whether they had engaged in non-penetrative sexual practices
- Also looked at new partners, condom use, number of partners, smoking
Cumulative incidence of first time infection after 24 months:

- Overall: 34%
- 9.7% of women who reported only non-penetrative sexual contact were positive for HPV from vulvar swabs
- So, transmission by fondling can happen
HPV (condyloma acuminata)

- HPV is not proof of sexual abuse
- Impossible to determine source of HPV without a history of sexual abuse
- Condyloma acuminata is listed in the “No expert consensus” section of the 2015 revision of 2007 Guidelines paper.
- Do forensic interview to try to find source
- Examine child to confirm clinical Dx of HPV
- Test children with HPV for other STDs
Condyloma Acuminata
Variable appearance of Condyloma accuminata in the peri-anal region:
Giant, pedunculated condyloma on the labia of an 8 month old child.

Both mother and father had condyloma at time of delivery.
Application of acetic acid can highlight condyloma lesions in adolescents.
Trichomoniasis

- Rare in pre-pubertal girls
- Wet mount less than 50% sensitive for finding infection
- Culture is most reliable, sensitive and specific
- In adolescents, PCR tests done using vaginal swab can detect Trichomonas, Candida, and Gardnerella
- In a child, if vaginal culture is positive, report; highly likely to be sexually transmitted outside the neonatal period

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Trichomoniasis-Treatment

- Adolescents: Metronidazole 2g PO x 1 or Metronidazole 500 mg PO bid x 7 days
- Children: Metronidazole 15 mg/kg/day (max 250 mg) divided tid x 7 days or 40 mg/kg (max 2g) PO x 1
Bacterial Vaginosis

- Link to sexual abuse uncertain, report if other findings indicate sexual abuse

- Caused by a combination of organisms, including Gardnerella Vaginalis and other anaerobic organisms

- Thin, yellow discharge:
  - clue cells
  - Whiff test + (10% KOH produces fishy odor)
  - pH of vaginal fluid > 4.5 in post-pubertal child

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BV-Treatment

- Adolescents: Metronidazole 500 mg PO bid x 7 days
- Children: Metronidazole 15 mg/kg/day divided tid x 7 days
Human Immunodeficiency Virus

- Transmission from sexual contact is certain if not from neonatal transmission or infection from contaminated needles.

- Guidelines for testing (ELISA then Western Blot if indicated)
  - repeated abuse
  - multiple/unknown perpetrators
  - high prevalence area
  - perpetrator with risk factors
  - other STD’s
Post-Assault Prophylaxis

- May be indicated if there is substantial risk of exposure, defined by CDC:
  - IF the source is known to be HIV infected, AND
  - There was exposure of vagina, rectum, mouth, mucous membrane, or non-intact skin, TO
  - Blood, semen, vaginal secretions, or any body fluid with visible blood, AND
  - Contact was less than 72 hours prior to examination
If the HIV status of the assailant is unknown:

- HIV PEP may be indicated IF:
  - Assailant is at higher risk of being HIV positive
    - Man who has sex with men
    - IV drug abuser
    - Multiple assailants, AND
  - Mucosal contact with potentially infected fluids, AND
  - Exam is less than 72 hours after assault, AND
  - Patient and family understand the potential side effects of the drugs, patient is able to start them immediately, and is willing to have HIV test drawn.
Implications of STDs and SA in children

<table>
<thead>
<tr>
<th>Condition</th>
<th>Diagnostic Report</th>
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<tbody>
<tr>
<td>GC *</td>
<td>Report</td>
</tr>
<tr>
<td>Syphilis *</td>
<td>Report</td>
</tr>
<tr>
<td>HIV §</td>
<td>Report</td>
</tr>
<tr>
<td>CT *</td>
<td>Report</td>
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- If not prenatally transmitted
- § If not from needle/transfusion

AAP/CAN Peds, 2013

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<table>
<thead>
<tr>
<th>Test</th>
<th>Description</th>
<th>Action</th>
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</thead>
<tbody>
<tr>
<td>TV</td>
<td>* Highly suspicious</td>
<td>Report</td>
</tr>
<tr>
<td>HSV</td>
<td>*§ Highly suspicious</td>
<td>Report</td>
</tr>
<tr>
<td>HPV</td>
<td>* Suspicious</td>
<td>Consider report**</td>
</tr>
<tr>
<td>BV</td>
<td>Inconclusive</td>
<td>Medical f/u</td>
</tr>
</tbody>
</table>

- * Unless perinatal transmission likely
- § Unless clear history of auto-inoculation exists
- ** Report if evidence exists to suspect abuse

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Adolescent Treatment:

- STD Screening/Prophylaxis:
  - No routine cultures, unless patient requests
  - Prophylactic antibiotics:
    - Azithromycin 1 gm PO
    - Ceftriaxone 250 mg IM
    - Flagyl 2 gms PO
  - Hepatitis B vaccine (#1 of 3)
  - RPR, HIV, pregnancy test
  - Give HPV vaccine if patient has not received all 3
Conclusions:

- In pre-pubertal children, testing for STI’s should not be routinely obtained on all children with suspected sexual abuse.

- If child has signs of infection (vaginal discharge, ulcers resembling HSV), culture and wait for results before reporting.

- In pre-pubertal children, CDC still recommends using culture for genital, anal and pharyngeal sites for GC; genital and anal sites for Chlamydia.

- NAAT’s may be used for urine or genital samples in pre-pubertal girls.
Questions?

• Thanks for your attention!