Abstract:
Sexual abuse of children and adolescents places these victims at risk of contracting sexually transmitted infections (STIs) and represents an important public health issue. The timely diagnosis and management of STIs can prevent negative long-term health effects and have important forensic implications. The emergency department is a common setting for patients to initially present with reported sexual abuse, and it is important for emergency care providers to have an understanding of the recommended approach to STI screening and management of these patients.

Keywords:
Sexual abuse; Sexual assault; Sexually transmitted infections; Child abuse; Screening; Emergency department

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Sexually Transmitted Infections in Child Abuse

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Sexual abuse of children and adolescents represents an important public health problem. A recent national survey estimated that 5% of all children ages 0 to 17 years have experienced some form of sexual abuse.[1] The prevalence of sexually transmitted infections (STIs) among childhood victims of sexual abuse is low.[2,3] One study demonstrated less than 10% of victims test positive for STIs, even with the implementation of new, highly sensitive screening tools such as nucleic acid amplification testing (NAAT).[2] Despite the low prevalence in this population, the identification of STIs through recommended screening laboratories can have important forensic and medical implications, especially because a large proportion of young patients with STIs will have normal or nonspecific physical examinations.[2-4]

CASE 1

A 15-year-old girl presents to the emergency department (ED) after an acute sexual assault. The patient reports that she snuck out of her home last night to attend a fraternity party at a local college with some friends. Toward the end of the party, she stepped outside to get some fresh air by herself but was followed by a 19-year old man. She reports that she told him "no" when he attempted to kiss her, but the alleged perpetrator would not stop. The patient reports that he threw her to the ground when she attempted to run past him. He held her down while he vaginally penetrated her with his penis until ejaculation. There was no

TABLE 1. Postpubertal STI testing, prophylaxis, and treatment.

Disease	Screening Laboratories	Prophylaxis	Treatment	Follow-up
N gonorrhea	Site specific (vaginal or urine, anal, and oral) NAAT specimens *	Ceftriaxone 250 mg IM once	Ceftriaxone 250 mg IM once plus Azithromycin 1 g orally once **	Test of cure: not indicated for patients with uncomplicated urogenital or rectal gonorrhea who receive recommended or alternative regimens unless therapeutic adherence is in question, symptoms persist, or reinfection is suspected. Retest 3 months after treatment for all sexually active patients to assess for new infections.
C trachomatis	Site specific (vaginal or urine, anal, and oral) NAAT specimens *	Azithromycin 1 g orally once	Azithromycin 1 g orally once	Same as *N gonorrhea*. ***
T vaginalis	Urine or vaginal NAAT specimen	Metronidazole 2 g orally once	Metronidazole 2 g orally once	Retesting recommended for all sexually active females between 2 weeks-3 months after treatment. ****
HIV	ELISA screening antibody testing with confirmation by IFA or Western blot	Refer to Figure. Discuss with local infectious disease expert	Discuss with local infectious disease expert	Discuss with local infectious disease expert. Repeat serologic testing at 6 weeks, 3 months, and 6 months.
Syphilis	Nontreponemal test (RPR or VDRL) confirmed by a positive treponemal test (FTA-ABS or MHA-TP). Dark field examination of primary lesion	N/A	Penicillin G benzathine, 50 000 U/kg IM up to the adult dose of 2.4 million U in a single dose	Repeat serologic testing at 4-6 weeks and 3 months after treatment.
Hepatitis B	HBsAg	HBV immunization and HBIG for unvaccinated persons or persons known to not have responded to a complete HBV series	No specific therapy. Chronic HBV should be managed by a local infectious disease expert.	Complete vaccine series. Consider repeat serologic testing at 6 weeks, 3 months, and 6 months.
Hepatitis C	HCVAb	N/A	Discuss with local infectious disease expert	Consider repeat serologic testing at 6 weeks, 3 months, and 6 months.
Anogenital herpes (HSV)	Cell culture or PCR and viral typing *****	N/A	Acyclovir 400 mg orally TID for 7-10 d	Follow clinically for future outbreaks. Consider suppressive therapy if clinically indicated.
Anogenital warts (HPV)	Clinical diagnosis. Biopsy and PCR viral typing for atypical lesions and subclinical infections	HPV vaccine series should be initiated if patient is 9 years or older if not already given or fully immunized	Patient-applied: Podofilox 0.5% solution or gel or Imiquimod 3.75% or 5% cream or Sinecatechins 15% ointment. Provider-administered: Cryotherapy or Trichloroacetic acid or bichloroacetic acid 80-90% or surgical removal	Complete vaccine series. Consider a follow-up examination at 1-2 months to evaluate for the development of warts.

Alternative antimicrobial regimens exist if the primary medications listed are unavailable or contraindicated. The regimens listed above are for uncomplicated infections, not the treatment of PID.

Initial examination should include a visual inspection of the genital, perianal, and oral areas for genital discharge, odor, bleeding, irritation, warts, and ulcerative lesions. Consider a follow-up examination approximately 1-2 months after the last exposure to identify any evidence of STIs.

Medical record adapted from Reece RM, and Christian CW (2009). Child abuse: medical diagnosis & management. Elk Grove Village, IL: American Academy of Pediatrics. Sexual Victimization and STIs. In: Kimberlin DW, Brady MT, Jackson MA, Long SS, eds. Red Book: 2015 report of the Committee on Infectious Diseases. American Academy of Pediatrics; 2015; pp 185-188, and Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines—2015. MMWR Recomm Rep 2015; 61(RR-03):1-134.

Abbreviations: ELISA, enzyme-linked immunosorbent assay; IFA, immunofluorescence assay; RPR, rapid plasma reagin; FTA-ABS, fluorescenttreponemal antibody absorption; MHA-TP, microhemagglutination assay for Treponema pallidum antibodies; N/A, not applicable.

* The NAATs are recommended at the sites of penetration or attempted penetration.

** Theoretical basis that combination therapy improves treatment efficacy and potentially slows the emergence and spread of resistance to cephalosporins.

*** Use of chlamydial NAATs at less than 3 weeks after completion of therapy is not recommended due to continued presence of nonviable organisms.

**** Trichomonal NAAT can be repeated as soon as 2 weeks after treatment.

***** The PCR is more sensitive than culture.