Chapter 3: Evaluating Sexual Assault

Reading:

Christian CW. Forensic evidence findings in prepubrtal victims of sexual assault. Pediatrics 2000; 106: 100-103

Palusci VJ, Cox EO, Shatz EM, Schultze JM Urgent medical assessment after child sexual abuse. Child Abuse Negl. 2006; 30: 367-80

Centers for Disease Control and Prevention; Workowski KA, Berman SM. Sexually transmitted diseases treatment guidelines, 2006.
MMWR Recomm Rep. 2006; 55(RR-11): 1-94

Evaluating sexual assault has much in common with evaluating sexual abuse. In Maryland, abuse is by a caregiver or household member; assault is by others. A history of the events must be collected in detail, as details contribute to both the medical assessment, and to credibility in legal fora. Non-leading questions that elicit a narrative while providing reliable and valid information are the foundation of such history taking. The history must also include past medical and traumatic history, social, behavioral and emotional history. Taking an emotional and behavioral history in a time of acute crisis is difficult, and a follow-up assessment may be a better time to explore these areas. Differences between abuse and assault include a differing spectrum of assailants, the need to collect a forensic evidence kit, and the use of prophylactic medications. The assessment of acute sexual assault and collection of forensic evidence kits is not envisioned as a core activity for a CHAMP physician. Local circumstances may cause the CHAMP physician to consider offering these services in some situations.

A. What is Sexual Assault

The definition of what is abuse, and what is assault is defined differently in different settings. We will not attempt to put a definition forth here. For the purposes of this chapter, we will use the term “sexual assault” to mean acts of abuse or assault occurring within a time window that allows for the possibility of collecting a sexual assault evidence kit, and the provision of prophylactic medications. This window is defined by sexual acts and timing, not the relationship of the child to the assailant.

The traditional window for a forensic evidentiary exam, or “rape kit”, is 72 hours. Newer DNA detection techniques have extended this window, but studies in prepubertal children shorten it. When there is the possibility that semen was deposited on the skin, older techniques are effective for 48 to 72 hours. In the vagina of a post pubertal female, detection may extend out to 120 hours. In a prepubertal vagina or anus, however, detection after 24 hours is uncommon. By contrast, semen in the environment, on towels, clothing, bedding, carpets etc., is detectable for an extended period of time.

Prophylactic medication for pregnancy and STIs is provided to adolescent and adult victims of sexual assault. For the most part, these medications are most effective if given within 72 hours of sexual contact. Extension out to five or even seven days may be possible, but with decreasing efficacy. Pre-pubertal children usually do not receive prophylaxis. The exception to this is for HIV. The provision of HIV prophylaxis is somewhat controversial, but again a 72 hour window is allowed. We will return to these issues later, but together with the rape kit, these measures tend to draw a 72 hour window around the procedures discussed below. Other reasons to assess a sexual abuse complaint urgently are reports of pain, current apparent injury, bleeding, or symptoms of sexually transmitted infection.

B. Collecting the Rape Kit

Collection of a rape kit impacts the entire physical examination. Collection, and examination, begins when the child is first received. Sexual assault patients should be moved into a dedicated area as soon as possible, to avoid shedding evidence, and picking up traces from other persons and locations. Anything on the body of a sexual assault victim may be evidence, including but not restricted to, stray hairs, bits of dirt and plant matter, threads and paint chips, and residue from liquids or adhesives. Victims who have not bathed or changed their clothes are asked to stand on a drape, and disrobe, placing their discarded clothing in paper bags. They may then dress in scrubs or a hospital gown, and the drape is folded up for submission with the kit.

The actual examination begins with thorough inspection of the skin. Injuries are obviously important, but adherent material, stains, dried residues etc. are all important. Often this inspection is aided by use of an alternative light source. Cobalt blue light viewed through an orange filter is the current standard, and the old Wood's lamp is used as a last resort. Bites, hickeys, stains, and dried liquids are sampled with a moistened swab that is then labeled and set aside to dry. Adhesive residue and crusty dried material may be scraped into a paper envelope with a scalpel blade. Hairs, fibers and dirt may be lifted with cellophane tape then attached to a microscope slide or a card. Once trace evidence is removed, closer inspection of any injury or mark is performed. The presence of tenderness, with or without apparent bruising is also noted. All findings should be documented on a body diagram, and visible injuries should be photographed.

Following the cutaneous exam, a general examination is performed. At certain points additional forensic evidence is collected. Inspection of the mouth should look on the palate for evidence of petechiae or bruising inflicted during forced oral sex. If oral sex occurred, swabs are used to collect residue from the recesses and fornices of the mouth, rubbing in the recesses of the lips, under the tongue and around the base of the teeth. Some kits will call for the patient to chew a 2 X 2, saturating it with saliva, as a standard. Head hair and pubic hair are requested in many kits, and should be plucked. Sometimes this step is skipped so as to spare the patient. Patients can support this step by agreeing not to shave, color, or perm their hair. The pubic hair is also combed towards an open sheet, collecting any traces that comb out, and then the comb itself for inclusion in the kit.

The genital exam may begin in the same manner that the sexual abuse exam is performed. Prior to labial separation, a moistened swab is used to collect any residue on the labia majora, mons veneris, and perineal body. Labial separation and traction are used to evaluate the introitus for injury. Anterior, lateral and posterior vestibular structures are looked at in turn. Acute injury during sexual assault is commonest on the posterior forchette and the hymen, but labial injury, peri-urethral injury, and injury in the vestibule all occur commonly. These areas must be thoroughly visualized. A complex hymen may need to be "run" with a swab to look in all of its fold for injury. Injuries as extensive as laceration through the hymen, fossa navicularis, and forchette, and as minimal as a few petechiae surrounding the urethra may be significant. Following direct examination, swabs are collected. For the post pubertal girl, a speculum exam may be appropriate. This allows for collection of swabs from the posterior fornix of the vagina, and the cervical os. For other girls, swabs may be restricted to a blind swab of the vagina, or even limited swabbing of the forchette and fossa navicularis. The exam should be adjusted to the reported acts of the assailant, and the age, anatomy and tolerance of the patient.

The anus is also examined much as it is in the sexual abuse exam. Early in the process, swabs of the buttocks and the peri-anal tissues are collected. Following examination for lacerations, abrasions, and bruises, a swab of the anal canal and rectal vault may be obtained, as indicated by the history, and tolerated by the patient. If there are significant anal symptoms, following reported penetration, anoscopy may be performed.

If any cutaneous swabs were collected, a control swab from a similar but unaffected patch of skin is also collected. Blood specimens are also requested as a control. If there is any evidence of intoxication, in the history or in the examination, blood and urine for alcohol and drugs are collected. Date rape drugs, such as GHB, ecstasy, rohypnal and ketamine may not be detected in routine hospital toxicology, and require special handling. The kit itself must be packaged and sealed according to instructions. Kits are turned over to police investigators according to the "rules of evidence" with appropriate documentation.

C. Sexually Transmitted Infections

In the otherwise sexually inexperienced child, any sexually transmitted infection is important, and guidelines for testing, outlined in the sexual abuse chapter, should be followed. Some worry that a pre-existing STI may be used to embarrass or harass a victim, and choose not to test for diseases that will be prophylaxed anyway. We believe that patient care is best guided by full information, and recommend collecting gonorrhea, Chlamydia, syphilis, HIV, Hepatitis B and C testing on these patients. Prophylaxis is often given for gonorrhea (ceftriaxone 125 mg i.m., or cefixime 400 mg p.o.), Chlamydia (azithromycin 1 gm p.o.) and trichomonas (metronidazole 2 gm p.o.). HIV prophylaxis may be begun if the patient desires. HIV tests, CBC and liver function tests must be drawn first, and a three to five day supply of an effective two or three drug regimen

provided. Treatment is for 28 days, and so follow-up in an appropriate setting must be established before beginning this regimen.

D. Pregnancy Prophylaxis

If a pregnancy test is negative, prophylaxis against pregnancy may be given. Plan B is given immediately and again in 12 hours. This regimen has fewer side effects than older regimens, but must be started within 72 ours. The older regimens (Ovral two pills immediately and in 12 hours) may be effective out to five days following contact, but with decreasing efficacy. Informed consent should explain that these drugs may work by preventing implantation. Some families consider such a method to be abortion, and may choose to forego contraception once they understand.

E. Rape Trauma Syndrome

Rape trauma syndrome is a description of how women respond emotionally to rape. While this condition is well recognized in adults, it should not be applied to children. Some children may follow the pattern, but many do not. It is not unusual for adolescents to be unfazed, or apparently pleased with the attention they receive during a sexual assault assessment. Unusual combinations such as shyness about the cutaneous and breast exam, but ready accommodation to the genital exam are common. Presumptions about "normal" behavior should be set aside when assessing these cases.

F. Assessment:

Injuries documented during a rape assessment can corroborate a child's story of sexual contact, or suggest sexual contact in a non-disclosing child. In young children this is enough to establish that a crime has been committed. In older children who may voluntarily consent to sexual contact, physical findings may not be relied upon to make such a determination. Injuries have been shown to be both more common, and more extensive, following sexual assault than voluntary sexual activity, but significant overlap exists, and no physical finding can establish that a sexual act was not voluntary. The history and non-medical examination must be relied upon to determine whether contact was voluntary or assaultive.

G. Follow-up

Though the emotional response to rape may vary, there is a high probability of post traumatic stress disorder and other behavioral and emotional disorders following rape in children. Referral for mental health assessment is mandatory in all cases. Medical follow up of patient's two weeks after their initial assessment is also recommended. The healed state of the child's genitalia will be documented against the possibility that a second assault may occur. The child's compliance with prophylactic medications, and their effective prevention of pregnancy, and sexually transmitted infections are verified. Behavior by the child that contributed to the rape can be explored, and effective protection from family and community threats can be assessed. Finally, many children'

and their families, need follow-up and encouragement to follow through with referral to mental health services.