Consultant360 Multidisciplinary Medical Information Network

CASE IN POINT

PEER REVIEWED

Mass and Dysuria in a Toddler: Condyloma Acuminatum Secondary to HPV, HIV, and Chlamydia Coinfection

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Authors:
Rebecca M. Beyda, MD, MS; Gilhen Rodriguez, MD; Vikas S. Gupta, MD; Rebecca G. Girardet, MD; Gloria Heresi, MD; Carolyn A. Bangert, MD; and Laura J. Benjamins, MD, MPH

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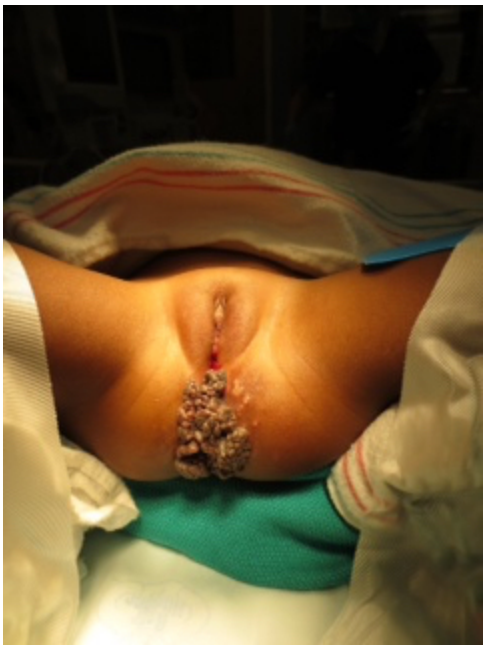
A 23-month-old girl presented to the hospital for evaluation of a perianal mass. Her grandmother stated that the lesion had appeared 6 months ago, shortly after having visited her aunt's home, and had begun as a "small scratch between her buttocks."

The girl initially had presented to her pediatrician, who diagnosed constipation and an anal fissure. The family applied triamcinolone cream and topical triple-antibiotic treatment with little improvement. Two months later, and 4 months prior to her current presentation, she had returned to her pediatrician with a perianal lesion and had been referred to a dermatologist, who in turn referred the patient to child protective services and to a surgeon for evaluation. The patient underwent a forensic evaluation, but test results for sexually transmitted infections (STIs) were inadvertently missed, and the child was lost to follow-up for 1 month until her arrival at our hospital.

Initial examination of the child in our hospital revealed a 4 × 4-cm verrucous lesion originating from the anus and along the perineal body (**Figure**). Some verrucous tissue appeared to originate from the urethra and from the perihymenal tissue. The hymen and anal folds were covered by warts. The remainder of the physical examination findings were unremarkable. She was admitted for excision of the mass.



On postoperative day 1, the patient experienced tachycardia and fever (39.3°C). She also had decreased activity and seemed to have pain with urination.

The child abuse team was consulted and recommended HIV testing, along with screening for hepatitis, syphilis, gonorrhea, and chlamydia. Test results were positive for HIV infection, with a viral load of 1350 copies/mL and CD4 lymphocyte count of 773/μL (21%). She was started on combined antiretroviral therapy (cART) with zidovudine, lamivudine, and lopinavir/ritonavir. Due to the fever and tachycardia on postoperative day 1, a complete blood cell count, urinalysis, and urine culture tests were performed. The urinalysis results were positive for leukocyte esterase, negative for nitrites, and 3 white blood cells per high-power field.

She was started on ceftriaxone for empiric treatment of a urinary tract infection, but she remained febrile. The urine culture grew 10,000 to 50,000 colony-forming units/mL of *Escherichia coli* and Enterobacteriaceae. Results of a nucleic-acid amplification test (NAAT) for *Chlamydia trachomatis* were positive, and she was given azithromycin, which resulted in resolution of fever.

The girl's mother tested negative for HIV. An uncle living in the home tested positive for HIV; he also was a registered sex offender. The patient was placed in the custody of child protective services and was discharged with a foster family following treatment.

Within 1 month of initiation of treatment for HIV, her HIV viral load was undetectable. After 4 months and 2 surgical resections, she experienced complete resolution of the condyloma. She continues to follow up with the infectious disease team, and her viral load has remained undetectable on cART therapy.

DISCUSSION

The differential diagnosis for genital masses in children includes molluscum contagiosum, condyloma latum, condyloma acuminatum, bowenoid papulosis, skin tags, infantile hemangiomas, and infantile perianal pyramidal protrusion. Molluscum contagiosum is by far the most common lesion in children, as autoinoculation often occurs. Molluscum contagiosum presents as isolated lesions with an area of central umbilication. Condyloma latum (from secondary syphilis) typically presents with a flat, velvety lesion.[1] Condyloma acuminatum from human papillomavirus (HPV) may present as a smooth, flat papule or have a verrucous, papilliform appearance. Genital HPV in children can be a sign of sexual abuse but also can be transmitted innocently during birth or by caregivers, particularly in children who wear diapers. Condyloma acuminatum can also be transmitted by the child from other parts of the body if the child has verrucae elsewhere.
In a 2011 multicenter study to characterize the epidemiology of HPV genital infection in minors, children with evidence of child sexual abuse (definite, probable, or possible) were 10 times as likely to have genital HPV than children without evidence of sexual abuse (13.7% vs 1%).[2] Child sexual abuse is the strongest predictor of HPV without variance based on race, ethnicity, or gender.[2] Child protective services should be called in every case where a physical examination finding is concerning for abuse. The index of suspicion for abuse is higher in children who are older than 3 years.

No treatment approach has proven universally successful for HPV infection. Among nonimmunocompromised children, up to 75% of anogenital warts resolve spontaneously within months or a few years. Treatment is often best reserved for symptomatic or persistent cases. Treatment can be divided into outpatient prescription topical creams and surgical options.[3] Topical creams include podophyllin and podofilox, which cause nonspecific tissue destruction, and imiquimod, an immunomodulator. Clearance rates associated with the use of topical medications range from 75% to 88%. Podofilox and imiquimod are not approved for children younger than 12 years.[4]

Operative approaches include surgical resection, cryotherapy with liquid nitrogen, electrodessication, and pulsed dye laser. These are best reserved for children with extensive condylomas. Because recurrence rates are as high as 25%, topical medication is recommended in addition to these therapies.[3]

Because of the social and legal implications of a positive test for an STI, diagnoses in children must be made using tests with a high specificity. Specimens should be obtained using trauma-informed care by an experienced clinician (a child abuse specialist, if possible). The decision to obtain genital, anal, and/or oral specimens must be made on an individual basis. Children who receive a diagnosis of one STI should be screened for all STIs (**Table**).[5,6] A follow-up evaluation 2 weeks after the initial examination should be strongly considered in order to check for healing, allow for STI testing if indicated, monitor the child's safety, and ensure that the child and family are receiving proper counseling. Six-week and 3-month follow-up should be considered after the last suspected sexual exposure if syphilis, HIV, hepatitis, or HPV infection are a concern and initial serology and physical examination findings were negative.[2]

Table. Screening for Sexually Transmitted Infections in Children[3,5]

Organism	Method of Testing	Specimens Source[a]	Comments
Neisseria gonorrhoeae[b]	Culture (preferred method for males and extragenital specimens)	Rectal, throat, urethral (males), urine, vaginal or cervical swab	Not recommended in prepubertal females but must be obtained in pubertal females
	NAAT (alternative to culture only in females)	Vaginal swab or urine	Use in children is limited due to lack of data, and performance is test-dependent
Chlamydia trachomatis[c]	Culture (preferred method for extragenital specimens; only standard culture should be used and confirmed by microscopic identification of inclusions by monoclonal antibodies)	Rectal, urethral (males), vaginal swab	Likelihood of positive test is too low in prepubertal males, unless urethral discharge is present
	NAAT	Vaginal swab or urine (females)	No data are available regarding male or extragenital specimens
Trichomonas vaginalis	Culture and wet mount	Vaginal swab (not limited to vaginal discharge)	
	NAAT		Use in children is not recommend due to limited data
Bacterial vaginosis	Wet mount, pH, and potassium hydroxide testing or Gram stain	Vaginal swab	In pubertal and postmenarcheal females
Herpes simplex virus	Culture or polymerase chain reaction, all virologic specimens should be typed (HSV-1 vs HSV-2)	Vesicular or ulcerative genital or perianal lesions	
Human papillomavirus	Biopsy if clinically indicated	Lesions	Diagnosis usually made by visual inspection
Treponema pallidum, HIV, hepatitis B virus	Serology	Serum	At initial assessment and then 6 weeks, 3 months, and 6 months after exposure

[a]All specimens should be retained for additional testing.
[b]Consultation with an expert is necessary before using NAATs to minimize cross reaction with nongonococcal *Neisseria* species and appropriate interpretation of positive test results.
[c]Pharyngeal specimens are not recommended for either gender due to a low likelihood of recovering microorganism. Perinatally acquired infections might persist beyond infancy and may difficult to distinguish from *Chlamydia pneumoniae*.
Abbreviation: NAAT, nucleic-acid amplification test.

Our patient had condyloma acuminatum secondary to HPV, HIV, and *C trachomatis* infection. Studies have shown a higher prevalence of condylomas among HIV-positive individuals.[7,8] This coinfection could help to explain the rapid growth and large nature of the condyloma in our patient. This case highlights the need for a complete and thorough workup of children suspected to be victims of sexual abuse. A multidisciplinary approach to patients presenting with condylomas is key, and appropriate laboratory studies for STIs are crucial.

Rebecca M. Beyda, MD, MS, *is an assistant professor in the Department of Pediatrics at the McGovern Medical School at the University of Texas Health Science Center at Houston, Texas.*

Gilhen Rodriguez, MD, *is a senior research assistant and clinic care coordinator in the Department of Pediatrics at the McGovern Medical School at the University of Texas Health Science Center at Houston, Texas.*

Vikas S. Gupta, MD, *is a resident physician at the McGovern Medical School at the University of Texas Health Science Center at Houston, Texas.*

Rebecca G. Girardet, MD, *is a professor of pediatrics; director of the Division of Child Protection Pediatrics; program director of the Child Abuse Pediatrics Fellowship; director of the CARE Clinic; director of the PATH Program; and medical director of the Forensic Assessment Center Network in the Department of Pediatrics at the McGovern Medical School at the University of Texas Health Science Center at Houston, Texas.*

Gloria Heresi, MD, *is a professor of pediatrics; chief of the Division of Pediatric Infectious Diseases; director of the Pediatric Infectious Disease Fellowship Program; and head of the Donald M. Gross Pediatric Research Group in the Department of Pediatrics at the McGovern Medical School at the University of Texas Health Science Center at Houston, Texas.*

Carolyn A. Bangert, MD, *is a dermatologist and an associate professor in the Department of Medicine at the University of Arizona Health Sciences in Tucson, Arizona.*

Laura J. Benjamins, MD, MPH, *is an associate professor and the associate program director of the Adolescent Medicine Fellowship in the Department of Pediatrics at the McGovern Medical School at the University of Texas Health Science Center at Houston, Texas.*

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