Journal of Pakistan Association of Dermatologists. 2023;**33(3)**:1140-1144.

Case Report

Condyloma acuminata accompanied by Neisseria sp. infection in a child: A Case Report

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Abstract Sexually transmitted diseases typically affect sexually active individuals of reproductive age. Approximately 2-10% of children are affected by this infection. Sexual contact is the most prevalent route of transmission, however nonsexual contact can also lead to transmission. In children with Condyloma acuminata, the possibility of sexual abuse is a major concern. We report a 2-year-and-five-month-old girl who complained of genital warts and discharge. She was diagnosed with Condyloma acuminata and Neisseria sp. Infection. The treatment of choice was electrosurgery under general anesthesia, which produced favorable results, and oral antibiotics. Her clincial outcome was favorable and there were no newly emerging lesions reported. Early STD diagnosis and treatment as well as evaluation for sexual abuse in this age group is important.

Key words
Condyloma acuminate; Neisseria infection; Children.

Introduction

Sexually transmitted diseases primarily afflict sexually active, reproductive-age individuals. Approximately two to ten percent of children are infected by this virus. Sexual contact is the most common method of transmission, however nonsexual contact can also result in infection. Human Papillomavirus is responsible for anogenital warts and condyloma acuminatum (HPV). Infants and toddlers can develop Condyloma acuminate via prenatal and nonsexual contact, in addition to sexual harassment. In children outside of the perinatal era, the presence of condyloma acuminatum strongly suggests sexual abuse. Despite this, the mode of HPV transmission in children is typically unknown. Moreover, during the lengthy latency period preceding clinical manifestation, confirming sexually transmitted genital warts becomes more difficult. The mere presence of warts or HPV DNA is insufficient to diagnose sexual abuse in the absence of social and clinical information.[1] Human Papillomavirus (HPV) has more than 200 genotypes, of which 30-40 are genital tract-specific. HPVs are classed as high or low risk based on their tendency to produce anogenital neoplasia, notably of the cervix. Condyloma acuminata, often known as external genital warts, is caused by the low-risk HPV genotypes 6 and 11 (EGW). An estimated 10% of sexually active individuals will get clinically apparent genital warts during their lifetime.[2] According to an epidemiological study of 124 children with clinical HPV infection, many children older than 2 acquire HPV via nonsexual contact. The positive predictive value of EGWs for sexual abuse ranged from 37% for children aged 2 to 12 years to 70% for children aged eight and older.[2]

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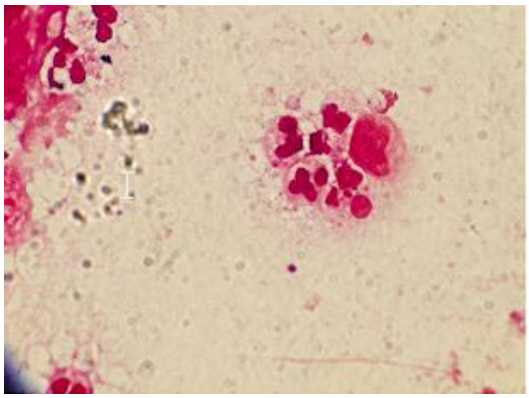
Figure 1 Verrucous papules appeared brownish, clustered, and cauliflower-shaped on the lips of the vagina and anus, with a yellowish discharge emanating from the body.



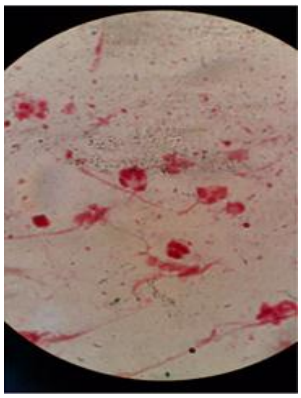


Figure 2 Gram examination revealed intracellular and extracellular Gram-negative diplococcic.

When treating a child with genital warts, it is important to understand the lengthy incubation period for HPV. It is possible for HPV to be transmitted vertically even if lesions do not appear until many years after birth.[3] The significance of the association between anogenital warts and child sexual abuse requires an understanding of wart transmission and incubation period.[4]

Gonorrhea is caused by Neisseria gonorrhoeae. It is most prevalent among adolescents ages 15 to 19. The infection is transmitted through close contact, including sexual activity. When this infection occurs in a child after the newborn period and before puberty, it may indicate sexual abuse. However, not all sexually transmitted infections are always transmitted sexually.[5,6] In this study, we reported a 2-year-and-five-month-old girl diagnosed with condyloma acuminata, which was accompanied by Neisseria sp. infection. In evaluating children with genital warts, the possibility of sexual abuse is of utmost importance.

Case report

A 2-year-and-five-month-old girl was brought by her parents to the Department of Dermatology and Venereology at Hasanuddin University Hospital with complaints of genital warts and discharge. The warts were clusters of small nodules. Her mother firstly discovered her warts six months ago. At first, only a few nodules appeared around the anus, but they multiplied as time passed. She also complained of a yellowish-white discharge in the last two days. Tenderness and itching were difficult to assess. There were no reports of urinary discomfort. There was no history of warts in the mother or other family members. However, her father had complained of genital lumps a year ago, which was self-limiting. The patient's father had a history of penile discharge prior to marriage and a history of alcohol consumption. A history of sexual harassment was denied. The child had never been treated before.

Physical examination showed that the general condition and vital signs were normal. Genital examination revealed papules that were brownish in color, clustered, and cauliflower-shaped with yellowish-white discharge on the lips of the vagina and the edges of the anus **(Figure 1)**.

The 5% acetic acid Acetowhite examination revealed a whitish discoloration of the papules. The skin biopsy was consistent with anal papilloma, revealing a polypoid structure lined

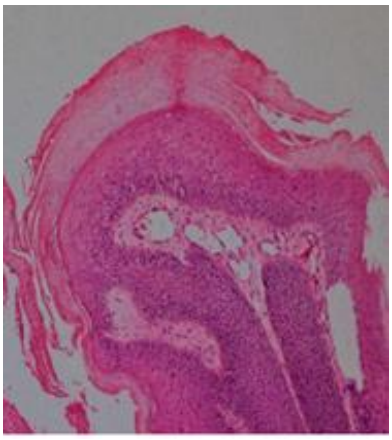


Figure 3 Histopathological analysis.

Figure 4 Post excision clinical image.

Figure 5 Postoperative day 7 showed healed wounds with discharge.

with keratinized stratified squamous epithelium, non-atypical nuclei, and an intact basement membrane. Syphilis and human immunodeficiency virus (HIV) screenings were negative. Gram staining revealed Gram-negative diplococci **(Figure 2, 3)**. The patient was then diagnosed with condyloma acuminata accompanied by Neisseria sp. Condyloma was treated with electrosurgery under general anesthesia and followed by Cefadroxyl syrup 2x125 mg/day, paracetamol syrup 3x250 mg/day, isoprinosine syrup 4x125 mg/day for seven days, and compress using saline in the morning and evening and gentamicin ointment. On the seventh day of observation, the postoperative wound began to dry out **(Figure 4, 5)** with no new lesions, and the patient was active. Gram examination was repeated, which was positive for Neisseria spp. Cefixime 2x100 mg and azithromycin 2x125 mg (single dose) were subsequently added as an additional treatment. After seven day post electrosurgery wound completely healed and after antibiotic regimen there was no discharge again.

Discussion

The incidence of condyloma acuminata has increased in children, a trend mirrored in adults. Girls are affected three times more frequently than boys. However, little is known about the epidemiology of the virus among children at this time.[7,8] Recent research indicates that sexual abuse of minors is on the rise globally, with prevalence rates of 8-31% for girls under 18 and 3-17% for boys in the same age group, and that 9 out of 100 girls and 3 out of 100 boys are victims of forced sex. Other than sexual transmission, the primary modes of HPV transmission in children are vertical and horizontal transmission. There are three categories of vertical transmission: (i) periconceptional transmission (period close to conception), (ii) prenatal transmission (during pregnancy), and (iii) perinatal transmission (during and immediately after birth). A comprehensive maternal gynecological history, including episodes of AWs and abnormal cytologic examination, is therefore required. It is estimated that vertical transmission occurs in approximately 20% of cases.[7] In the reported cases, there was no history of mothers having the same disease prior to, during, or after pregnancy. Vertical transmission from the mother of the patient can be excluded.[9] Horizontal transmission is possible through autoinoculation or heteroinoculation. Autoinoculation is the contamination of a healthy body site by an infected body site. Heteroinoculation entails transmission by third parties, specifically by parents or caregivers through direct contact. Transmission through

fomites, such as sharing personal hygiene products, bathing, or even underwear, is possible but appears to have little impact on the development of active infection.[7] In this case, both parents denied a history of sexual harassment; the patient was raised by his mother, but his father had experienced the same complaint a year prior and recovered on his own. Based on the anamnesis, the transmission occurred through heteroinoculation, with the possibility of sexual harassment. Father's history of risk of contracting sexually transmitted diseases (+), his history of frequent partner changes, and his unhealthy lifestyle. Typically, warts appear as flesh-colored, verrucous papules measuring between 1 and 5 mm in diameter. Pedicle-shaped, highly exophytic, and able to resemble a cauliflower.[7] Warts are typically asymptomatic. In this patient, condyloma manifests as clusters of cauliflower-shaped, brownish papules along the vaginal and anal margins. Regardless of the occurrence of sexual abuse, the perianal region and vulva are the most common sites of infection in females.[7]

A colposcope, the application of acetic acid, and a biopsy and histological examination should be performed if there is any doubt about the diagnosis. When the papules were examined with acetic acid, a whitish discoloration was observed. The literature indicates that the acetic acid test is performed by applying 5% acetic acid to the suspected lesion for approximately 10 to 15 minutes. However, this test is not specific for HPV infection, and its screening specificity and sensitivity are unknown. Nevertheless, some experience with the management of condyloma acuminata indicates that the acetic acid test is useful for detecting flat or subclinical condyloma acuminata.[10]

The histopathological analysis revealed a polypoid structure lined with keratinized stratified squamous epithelium, an atypical nucleus, and an intact basement membrane. According to the literature, condyloma acuminata is a complex papillary proliferation of squamous, corrugated, and hyperplastic (acanthosis and papillomatous) epithelium with significant hyperkeratosis that is frequently parakeratotic. Numerous koilocytes (vacuoles, clear cells with a central pycnotic nucleus surrounded by a halo) are frequently observed in the epithelium's superficial layers.[11]

A second complaint is vaginal discharge, which was present for two days prior to hospitalization. The examination of body secretions in the form of KOH and NaCl preparations yielded negative results. A gram examination revealed gram-negative diplococci. The Gram test has a high degree of sensitivity and specificity. The examination results suggested a Neisseria gonorrhea infection. Presumptive gonorrhea diagnosis is made based on one of the following three criteria: 1) Gram-negative intracellular diplococci on microscopic examination of urethral exudate stains from males or endocervical secretions from females;[2] 2) Gram-negative, oxidase-positive diplococcal growths, from the urethra (men) or endocervical (women) on selective culture media; 3) demonstration of characteristic colonial morphology, oxidase-positive reaction, and characteristic Gram negative.[12]

There are numerous treatment options for condyloma acuminatum. However, there is no single treatment modality capable of eradicating HPV infection. The sole purpose of treatment is to eliminate or control condyloma acuminatum lesions by removing chemical and physical lesions. In our patient, electrosurgery performed under general anesthesia was the treatment of choice. Electrosurgery is capable of treating both external and internal lesions. Electrosurgery is a procedure that utilizes thermal coagulation to burn, cut, and destroy the wart lesion using a high-frequency electric current, followed by

curettage to remove the dead or damaged tissue.Electrosurgery is a highly effective short-term technique, with 94% success rates after six weeks of surgery in randomized controlled trials.

Other treatments of Condyloma acuminata include podophyllotoxin solution, imiquimod, cryotherapy, podophyllin resin, trichloroacetic acid, or bichloroacetic acid, excision-curettage, electrocautery, shave excision, or laser vaporization, or injections of interferon or 5-fluorouracil/ epinephrine implantable gel. None of the currently available treatments for condylomata acuminata in children younger than 12 years old have been approved by the FDA. Surgical treatment has the benefit of typically removing the wart in a single visit. Nonetheless, this therapy requires extensive clinical training, additional equipment, and extensive experience.[13-15]

For the treatment of the suspected gonorrhea, our patient was treated with 2x100 mg of cefixime and 2x125 mg of azithromycin (single dose). Cefixime at a dose of 8 mg/kg/12 hours and azithromycin at a dose of 20 mg/kg (single dose) are the antibiotics recommended by the guidelines for the treatment of gonorrhea in children.[13]

Conclusion

A thorough history and physical examination are required to determine the mode of condyloma acuminata transmission in children. Before the age of two, transmission through the birth canal should be considered and sexual abuse should be suspected in cases of coinfection with gonorrhea. For the treatment of condyloma acuminatum in children, a variety of therapeutic approaches are available. The importance of early STD diagnosis and treatment as well as evaluation for sexual abuse in this age group should be kept in mind.

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