

Vulvovaginitis

COMPETENCY - The resident should be able to define vulvovaginitis, determine the factors that explain the increased susceptibility of children to vulvovaginitis, develop a differential diagnosis and devise a diagnostic and therapeutic plan for the prepubertal girl with vulvovaginitis.

CASE - A 6-year-old girl comes to your clinic for her school physical. On history, her mother states that she has complaints of intermittent dysuria accompanied by perineal discomfort and pruritus for several weeks. Physical examination reveals vulvar erythema, normal hymenal tissue, and no vaginal discharge. You suspect nonspecific vulvovaginitis.

QUESTIONS -

1. What are the presenting symptoms of vulvovaginitis and how is it defined?
2. What are the etiologic factors involved in nonspecific vaginitis in prepubertal girls?
3. What is the differential diagnosis for a prepubertal girl with vaginal irritation and discharge?
4. What are the methods used for performing gynecologic examinations in prepubertal girls?
5. When are laboratory tests and/or studies necessary to make a proper diagnosis in prepubertal girls?
6. What are the treatment guidelines for vulvovaginitis?

REFERENCES -

1. Vandeven AM, Emans SJH. Vulvovaginitis in the child and adolescent. *Pediatrics in Review*. 1993; 14: 141-147.
2. Stricker T. Vulvovaginitis in prepubertal girls. *Arch Dis Child*. 2003; 88: 324-326.
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4. Jaquier, A. Vulvovaginitis: clinical features, aetiology, and microbiology of the genital tract. *Arch Dis Child*. 1999; 81: 64-67.
5. Thomas, A. National guideline for the management of suspected sexually transmitted infections in children and young people. *Arch Dis Child*. 2003; 88: 303-311.

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CASE - A 6-year-old girl comes to your clinic for her school physical. On history, her mother states that she has complaints of intermittent dysuria accompanied by perineal discomfort and pruritus for several weeks. Physical examination reveals vulvar erythema, normal hymenal tissue, and no vaginal discharge. You suspect nonspecific vulvovaginitis.

QUESTIONS -

What are the presenting symptoms of vulvovaginitis and how is it defined?

Vulvovaginitis is the most frequent gynecological problem in prepubertal girls. The terms vulvitis, vaginitis, and vulvovaginitis are often used interchangeably to describe inflammatory conditions of the lower genital tract. The infection or irritation can be localized at onset but may become generalized by the time of presentation. Vulvitis may occur alone or accompanied by a secondary vaginitis. The presenting symptoms can include genital irritation, pain and inflammation, vaginal discharge, pruritus, bleeding and dysuria. Symptoms may be present for a long period before the child is brought in for evaluation. The acute onset of symptoms can be associated with an acute infection or abuse.

What are the etiologic factors involved in nonspecific vaginitis in prepubertal girls?

Prepubertal girls are more susceptible to vulvovaginitis due to several factors that include: the close anatomical proximity of the rectum; lack of labial fat pads and pubic hair; small labia minora; thin and delicate vulvar skin; thin, atrophic anestrogonic vaginal mucosa; and poor local hygiene. Tightly fitting clothing, nonabsorbent underpants, use of perfume soaps and bubble baths, foreign bodies (most commonly tissue paper) and obesity also contribute to vulvar irritation.

What is the differential diagnosis for a prepubertal girl with vaginal irritation and discharge?

Most cases of vulvovaginitis (up to 75%) are of nonspecific etiology. However, in some patients the symptoms are caused by infections with specific bacterial pathogens. In both specific and nonspecific vulvovaginitis, changes occur in the normal vulvovaginal flora that may induce inflammation. The specific organisms that cause infection in the prepubertal female are often respiratory, enteric, or sexually transmitted pathogens. Bacteria which are not sexually transmitted and are generally considered pathogens include: group A β -hemolytic streptococcus, Haemophilus influenza, Staphylococcus aureus, Moraxella catarrhalis,

Streptococcus pneumoniae, *Neisseria meningitidis*, *Shigella* and *Yersinia enterocolitica*. Several other conditions can produce symptoms and signs of vulvovaginitis as well. Physiologic leucorrhea associated with the onset of puberty is a common concern of families and may be misdiagnosed as vulvovaginitis. *Candida albicans* infection is a common cause of vulvovaginitis in pubertal girls but is uncommon prepubertally unless patients have recently received antibiotic therapy, have diabetes mellitus, are still wearing diapers, or are immunosuppressed. Girls who have lichen sclerosus experience vulvar pruritis, irritation, pain, or bleeding; dysuria; painful defecation; constipation; or enuresis. Physical examination reveals white, atrophic, cigarette paper-like skin surrounding the introitus and possibly the anus. Erosions or telangiectasias also may be observed. In the prepubertal child, vaginitis due to *Neisseria gonorrhoeae* generally causes a purulent, green or less commonly mucoid vaginal discharge. The presence of this or other bacterial pathogens is confirmed by culture. In the discovery of *N. gonorrhoeae*, *Chlamydia trachomatis*, *Trichomonas*, or *Herpes simplex*, the possibility of sexual abuse must be investigated. Girls who have a vaginal foreign body also have vaginal discharge as their primary symptom, although the discharge is typically foul-smelling and may be blood-tinged. Pinworms (*Enterobius vermicularis*), scabies and lice should also be considered on the differential diagnosis.

What are the methods used for performing gynecologic examinations in prepubertal girls?

Examinations of young people should be conducted so as to minimize pain and trauma to the child. During the initial evaluation, especially in children with a benign history of vulvitis and minimal vaginal discharge, an examination of the external genitalia with the child in the supine frog-leg position is adequate. An alternate approach to the examination that works well to keep small children more comfortable and less scared is to have the child sitting or reclining in the mother's lap for the exam. The mother may even help with retracting labia to make the child more comfortable. In most cases, scanty mucoid discharge and introital erythema is present and the etiology is commonly nonspecific vulvovaginitis. In this situation, cultures are unnecessary. If the child is experiencing persistent, purulent, or recurrent vaginal discharge, a complete gynecologic assessment is necessary. The perineum and vaginal introitus are inspected with the child in a supine frog-leg position. The labia can be retracted gently to allow visualization of the anterior vagina. The child then takes the knee-chest position and the buttocks are held apart laterally and slightly upward. The vaginal orifice falls open and, with a light source, it is possible to visualize the vagina and cervix in the majority of prepubertal girls. The examination for signs of suspected sexual abuse should only be carried out by medical personnel specifically trained in forensic examination of suspected victims of child sexual abuse. Careful inspection and documentation of the appearance of the hymen and introitus are necessary.

When are laboratory tests and/or studies necessary to make a proper diagnosis in prepubertal girls?

In cases of persistent, purulent or recurrent vaginal discharge or in cases of suspected sexual abuse, vaginal specimens should be obtained for wet-mount preparation, Gram's stain, and cultures. Vaginal discharge can be collected in most circumstances with a sterile saline moistened swab. In a very young child or uncooperative patient, a small flush of the vagina can be obtained using a sterile large bore intravenous catheter attached to a syringe with 1-2ml of saline. The catheter is introduced inside a short pediatric catheter to prevent injury to the vagina. If bleeding or a malodorous discharge raises the concern about foreign body, a rectal examination and vaginoscopy either in the office or with the aid of sedation is appropriate. If sexual abuse is suspected, cultures of the vaginal specimens must be obtained. It is not appropriate to use the DNA probe assay for GC/Chlamydia in this case because of legal reasons. The higher likelihood of a false positive result with the probe can be reasonable doubt in a sexual abuse case. If a good exam cannot be obtained in a patient with persistent or purulent vulvovaginitis or in cases where sexual abuse is suspected, it may be necessary to perform the exam under anesthesia. In other cases in which aid in diagnosis and treatment is necessary, it is important to refer to a specialist in pediatric gynecology. At U of C, Dr. Maura Quinlan is the only OB/Gyn physician with an active interest in pediatric gynecology. To schedule an appointment, call 2-6118 or Maria at 4-1199. Medicaid is accepted. There is also a good pamphlet for parents recommended by Dr. Quinlan that is put out by NASPAG, the North American Society for Pediatric and Adolescent Gynecology.

What are the treatment guidelines for vulvovaginitis?

Treatment of vulvovaginitis is directed at the particular cause. In cases of nonspecific vulvovaginitis, treatment is generally directed toward improved hygiene. Hygienic measures for the prepubertal child include more frequent bathing, proper front to back wiping, wearing cotton underpants, avoidance of tightly fitting clothing and other irritants such as bubble baths and perfume soaps. Sitz baths and protective ointments can be used to relieve discomfort. Petroleum jelly based (clear) ointments such as A & D would be preferred over white ointments like zinc oxide based Desitin. For severe symptoms, 1% hydrocortisone cream can be used. If there is persistent, purulent or recurrent vaginal discharge or if there is any suspicion of abuse, cultures should be obtained to delineate a specific etiology so that treatment can be guided appropriately.

REFERENCES -

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