Urethritis in Adolescent Girls — Symptoms and Treatment
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Dysuria due to urethritis is a widespread problem in adolescent girls which can be caused by either a urinary tract infection or a sexually transmitted disease. The incidence of urethritis due to sexually transmitted infections is highest in sexually active adolescent girls. Cases of urethritis might be complicated by cervicitis and an ascending pelvic inflammatory disease. Therefore, girls with chronic lower abdominal pain and dysuria should undergo a pelvic exam, if possible, to exclude the possibility of pelvic inflammatory disease. Treatment with antibiotics should be started as soon as possible to avoid complications.

Overview

Dysuria is a common symptom in children and adolescents that can be defined as the **feeling of pain, burning or discomfort upon urination**. Dysuria is usually caused by a urinary tract infection that involves the urethra, i.e., urethritis, but the possibility of a sexually transmitted disease should not be excluded in any adolescent girl who is sexually active. Urethritis is a lower urinary tract infection that is usually not associated with systemic symptoms.

Epidemiology of Urethritis in Adolescent Girls

Sexually transmitted diseases are common in adolescent girls for several reasons. Firstly, almost half of high school students have had at least one sexual encounter and up to one-fifth of adolescent girls have had more than four sexual partners. The use of condoms is less likely among adolescent girls compared to adults as only half of the sexually active adolescent girls used a condom.

Additionally, adolescent girls are more likely to have a sexual encounter with a male or female partner whose medical history might be unknown. Because of this behavior, the
incidence of chlamydia is twice as high among adolescent girls compared to female adults. The estimated prevalence of chlamydia among adolescent girls is around 13 to 16% whereas the prevalence of gonorrhea is 2 to 10%.

Clinical Presentation of Urethritis in Adolescent Girls

Differentiation between urethritis caused by a sexually transmitted infection and a urinary tract infection based on the clinical presentation is difficult. Sexually transmitted infections such as chlamydia and gonorrhea are very common in sexually active adolescent girls, and they usually present with symptoms and signs of a lower urinary tract infection, i.e., urethritis.

Such differentiation, however, between sexually transmitted infections and simple urinary tract infections, is essential as the treatment might differ. Chlamydial infections cause dysuria that is more commonly associated with abdominal pain, vaginal discharge and vaginal bleeding. Gonorrhea can also present in a similar way to chlamydia, but it is more likely to cause proctitis or a swelling over the labia minora due to an abscess of Bartholin’s gland.

On the other hand, urethritis due to urinary tract infections is usually associated with urgency, increased frequency and gross hematuria. Abdominal pain, vaginal discharge and vaginal bleeding are uncommon in simple cases of urethritis. A low-grade fever is more commonly seen in cases of sexually transmitted infections than in urinary tract infections.

Diagnostic Workup for Urethritis in Adolescent Girls

Adolescent girls with dysuria should be always offered an external exam of the genitalia to exclude common causes of dysuria such as herpes simplex. If vesicles are present, the treating physician should inquire about other common symptoms of herpes infection such as fever, malaise, headache and muscle pain. A Tzanck test of the vesicle base can provide an immediate confirmation of herpes simplex infection.

Less commonly, the genitalia examination might reveal a chancroid. Chancroids are also painful and can be associated with symptoms and signs suggestive of urethritis. Gram or Giemsa stain of the fluid from the chancroid can confirm the diagnosis.

Girls with symptoms and signs suggestive of a chlamydial infection should undergo a pelvic examination to confirm the diagnosis. Friability of the cervix, cervical motion tenderness and the presence of mucopus are all diagnostic of chlamydia. Additionally, the use of urinary ligase chain reaction tests, when coupled with a swab of the vaginal vault examination, can be enough for establishing the diagnosis of chlamydia. Gene amplification tests, i.e., polymerase chain reaction assays, can also confirm the diagnosis of chlamydia or gonorrhea in an adolescent girl with dysuria.

Adolescent girls who have abdominal pain, cervical motion tenderness and adnexal tenderness are very likely to have pelvic inflammatory disease. This condition puts the girl at an increased risk of infertility and a diagnostic laparoscopy might be indicated. C-reactive protein and the erythrocyte sedimentation rate are also elevated in adolescent girls with pelvic inflammatory disease. C-reactive protein levels can be also used to monitor response to treatment as they usually fall to normal limits if treatment was
成功。

尿液试纸检查可以显示由于尿道炎的简单尿路、淋病或淋菌性感染的阳性白细胞酯酶结果。尿中的硝酸盐的存在对尿路感染是提示性的。尿路感染最有常识别的菌种是**金黄色葡萄球菌**。尿中白细胞管型（定义为每高倍视野8个或更多的白细胞的显微镜检查）的存在也是尿道炎的提示。管型不区分尿路感染和性传播感染。显微镜检查结合染色可以有助于确认诊断，特别是如果单个细菌被看到。尿液显微镜检查中可见的胞内革兰氏阴性双球菌对淋菌性尿道炎是典型征。尿液培养通常不被常规地进行。复杂性尿路感染、未对24小时内的抗生素治疗作出反应或反复尿路感染的青少年女孩应进行尿样采集和培养以确定感染的病原体的敏感性。

**治疗尿道炎的青少年女孩**

治疗尿道炎在青少年女孩取决于最可能的病因是性传播疾病还是不是。不复杂性尿道炎或由于尿路感染引起的尿道炎通常对3天的甲氧苄氨嘧啶-磺胺甲恶唑、环丙沙星、氧氟沙星或另一种氟喹诺酮有反应。青少年女孩被发现有淋病或淋菌性尿道炎应接受针对两种病原体的联合治疗因为双感染的风险是高的。

选择抗生素的管理是淋病和淋菌性不复杂性尿道炎的抗生素是多西环素和阿奇霉素加上头孢曲松。单次肌肉注射头孢曲松与单次阿奇霉素注射通常足以治疗不复杂性淋病。多西环素通常被每天两次使用7天。

**参考文献**


Clausidius I. 尿道炎的青少年。西部医学杂志。2000;172(3):201-205。