

A rare case of vulvovaginitis in a prepubertal child caused by *Streptococcus anginosus*

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Abstract

We report a very rare case of vulvovaginitis in a prepubertal child caused by *Streptococcus anginosus*, a bacteria normally associated with brain abscess. A 5 year old girl presented with a history of vaginal losses and itching. The clinical examination showed a vulvovaginal mild inflammation as well as a white, odorless vaginal loss. Culture identified *Streptococcus anginosus* as the only pathogen responsible for the infection. Microbiological investigation is indicated when mild or severe inflammation or presence of vaginal losses.

Keywords

vulvovaginitis; *streptococcus anginosus*; prepubertal child; hygiene

Introduction

Vulvovaginitis, associating vulvitis and vaginitis, is an infection of the vulvovaginal tissue causing redness, itchiness and discharging. The most common pathogens are *S. pyogenes*, *S. aureus*, and *H. influenzae* [1]. Here is a case report of a 5 year-old girl presenting with a symptomatic vulvovaginitis caused by *Streptococcus anginosus*, a bacteria mostly responsible for brain and liver abscesses and never isolated to be the only pathogen causing a vulvovaginitis.

Case Report

A 5-year old girl was brought by her mother to the family doctor. She had been complaining of white, odorless vulvo-vaginal losses and itching for the past 20 days, but she had been afebrile.

Her mother explained that she tended to wash her daughter again after the girl had washed herself, and that she had been taking baths for the last month.

The general clinical examination showed no fever, her cardiopulmonary auscultation was normal. Her pharynx showed no sign of inflammation.

The gynecological examination showed a red, inflamed vulva, and white vulvovaginal losses. A superficial vaginal smear was taken.

The vaginal smear showed no presence of *Trichomonas vaginalis*. Aerobic culture showed massive presence and multiplication of *Streptococcus anginosus*, as well as the absence of *Neisseria gonorrhoeae*, *Streptococcus B*, *Lactobacillus*, *Mycoplasma* and yeasts. Direct examination showed hyperleucocytosis. Antibiotic sensitive panel showed that the bacteria was sensitive to penicillin, amoxicillin, ceftriaxone, cefotaxime, erythromycin, clindamycin, levofloxacin, tetracyclin, vancomycin and linezolid.

No other findings and clinical manifestations normally associated with bacterial vulvovaginitis, like skin rash, previous pharyngitis or other upper respiratory tract infections were present. The infection was overall non-complicated.

The patient was prescribed with amoxicillin (Clamoxyl® 80 ml 125 mg/5ml) for a 7-day period after which she fully recovered from her symptoms.

Discussion

Vulvovaginitis is the most common gynecologic-based problem for prepubertal children, caused mainly by poor or excessive hygiene and chemical irritants [2]. The main symptoms, redness, itchiness, discharging, soreness and bleeding, caused by the inflammation of the vaginal tissue, are caused by the presence of a pathogen, even if the origin can be non-infectious. The most common aetiological agents responsible for vulvovaginitis in prepubertal children are *Streptococcus pyogenes*, *Staphylococcus aureus*, *Haemophilus influenzae*, and *Candida albicans*. Other studies show that *Escherichia Coli* can also be a frequent pathogen if the vulvovaginitis is associated with urinary tract infection.

Streptococcus anginosus is a group defining some Gram-positive cocci (*S. intermedius*, *S. milleri*) which may be hemolytic or non-hemolytic, mainly belonging to the F group [3], and mostly known to cause systemic abscesses in the brain and liver. They are part of the human bacterial flora in vagina [4].

In this case, as reported from the patient's mother, the possible cause of the vulvovaginitis is the excessive hygiene which might have altered the vulvovaginal commensal flora.

The differential diagnosis for redness, itchiness and vaginal losses includes pinworms, urological diseases, tumors and sexual abuse [5]. If sexual abuse is suspected, immediate referral for assessment is indicated, as well as the identification of pathogens linked to sexually transmitted diseases as *N. Gonorrhoeae*, *C. Trachomatis*.

This is a rare case in which *Streptococcus anginosus* is the only responsible pathogen of the clinical presentation. Moreover, though in most pediatric cases vulvovaginitis is caused by poor hygiene, in this case the cause is the excessive hygiene that caused the pathology. It is important to note that even if most vaginal losses are non-complicated, a deeper investigation through microbial culture is important to assess the patient and optimize the treatment. Even if some other common signs or clinical manifestations are absent, like skin rash or recent upper respiratory tract infections, the microbiological investigation is justified and indicated when presence of vaginal losses or at least mild inflammation.

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