Case Letters

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A rare case of recurrent group A streptococcal vulvovaginitis in a premenopausal woman

Keywords: group A streptococcal, vagina, vaginitis, vulvar, vulvitis, vulvovaginitis

Dear Editors,

Recurrent vulvovaginitis is frustrating for patients and can pose a diagnostic challenge for the clinician. When considering infectious causes, yeast is frequently over-diagnosed by patients and providers alike. Bacterial causes beyond common sexually transmitted infections are rarely considered. A Vermont study of vaginal colonization in over 6,000 patients by group A streptococci (GAS) and group B streptococci showed colonization rates of 0.03% for GAS compared with 20.1% for group B streptococci.[1] Due to its rarity, GAS is likely to be overlooked in adult women but is easily treated once identified. In this clinical case, a woman with severe recurrent vulvovaginitis is incidentally treated for vulvovaginal GAS due to a concurrent strep pharyngitis infection.

A 42-year-old mother without a history of prior vulvar symptoms experienced rapid-onset vulvar pruritus. She self-treated with miconazole 2% cream 100 mg per vagina nightly × 3 nights. This brought 24 hours of mild relief followed by return of symptoms. When continued self-treatment failed, she called nurse triage and was diagnosed over the phone with candida vulvovaginitis and prescribed terconazole 0.4% cream 20 mg per vagina nightly × 7 nights. On the third night of treatment, intolerable vulvar pruritus prompted a visit to the emergency department.

In the emergency department, a sexual history was obtained. The patient reported being in a long-term, monogamous relationship and denied any history of sexually transmitted infections. She reported having intercourse with her partner 24 hours before initial onset of symptoms with no subsequent intercourse. Vulvar examination revealed beefy red erythema and swelling with fissuring in the interlabial sulci. Speculum examination of the vagina showed grayish-white discharge in the posterior fornix without cervical motion tenderness. Studies for chlamydia, gonorrhea, yeast, and bacterial vaginosis were negative (The panel used cannot detect GAS.). The patient was presumptively prescribed metronidazole 0.75% gel 37.5 mg per vagina × 5 nights.

Two days into treatment, the patient's pruritus worsened and she developed a sore throat. Due to recent episodes of strep throat in her children, the patient requested a throat swab for a rapid strep test. This was positive, and the patient was treated per protocol with penicillin 500 mg twice daily × 10 days. Within 24 hours of beginning the penicillin, the patient noted her vulvovaginitis improved. Despite the response to penicillin, GAS was considered an unlikely cause given the patient's age, and no further testing was recommended at that time.

Three weeks later, her sore throat returned, and the vulvar erythema and pruritus recurred following oral sex with her partner. A vulvar swab grew *Streptococcus pyogenes*. In the intervening time, the patient's partner was presumed to be an asymptomatic carrier of strep and treated with penicillin. The patient herself received another course of penicillin during which she reported rapid improvement of symptoms in 24 hours and complete resolution in 10 days, with no return of vulvovaginitis to date.

GAS-induced recurrent vulvovaginitis has been most frequently reported in pediatric patients.[2] There have been few case reports of vulvovaginal GAS in adult women[3,4] and fewer with concurrent GAS pharyngitis (Table 1). In this case, a household with several school-aged children and participation in oral sex were pertinent risk factors. GAS vulvovaginitis typically presents with pain, pruritus, burning, copious watery, yellow, or purulent vaginal discharge, and vulvar erythema and swelling.[4] Other differential diagnoses of vulvovaginitis (inflammation of both the vagina and vulva) include bacterial vaginosis, vulvovaginal candidiasis, trichomoniasis, herpes simplex virus infection, desquamative inflammatory vaginitis, atrophic vaginitis, and lichen planus.[5] Noninfectious vulvar dermatoses such as psoriasis, eczema, and lichen sclerosus can

What is known about this subject in regard to women and their families?

- Infections such as chlamydia, gonorrhea, candidiasis, trichomoniasis, or bacterial vaginosis are commonly diagnosed in adult women with vulvovaginal symptoms and vaginal discharge.
- Group A streptococcal (GAS) vulvovaginitis is typically diagnosed in prepubescent girls but mostly unrecognized and often misdiagnosed in adult women.
- There are few reported GAS vulvovaginitis cases in adult women, the uniqueness of patient history and clinical presentation should be considered.

What is new from this article as messages for women and their families?

- GAS should be considered in the differential for adult women with recurrent vulvovaginitis and negative cultures for chlamydia, gonorrhea, candidiasis, trichomoniasis, and bacterial vaginosis.
- Asymptomatic sexual partners engaging in oral or vaginal sex may be the lane of transmission for GAS vulvovaginitis.
- For patients with recurrent GAS vulvovaginitis after multiple treatment courses, household members should be tested for GAS.

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Table 1.

Reported cases of group A streptococcal vulvovaginitis and pharyngitis

Reported cases	Associated symptoms	Risk factors
Fisk et al.,[6] 2005	Vaginal irritation Sore throat	Oral-genital intercourse GAS isolated in husband's penis GAS isolated in wife's vagina and throat
Tonkovic-Capin et al.,[7] 2005	Copious vaginal discharge Vaginal and perianal pruritus Vaginal edema and erythema	Daughter diagnosed with GAS pharyngitis 1 wk before onset of symptoms
Sobel et al.,[3] 2007	Pruritus Soreness Discharge Severe erythema Swelling of the vestibule	Mother of 3 children Throat culture positive for GAS Husband's perianal and stool culture positive for GAS Identical GAS strains in couple
Meltzer and Schwebke[8] 2008	Lactational amenorrhea Profuse, watery, yellow vaginal discharge Vulvar pain and pruritus	6 mo postpartum 3-y-old son treated for GAS pharyngitis 2 wk prior Husband with an upper respiratory tract infection at time of vaginal intercourse Nasopharyngeal culture positive for GAS in husband

GAS, group A streptococcal; mo, months; wk, weeks; y, years.

be included in this differential, but vaginal involvement would not be expected. Interestingly, in this case, the patient's vaginal involvement was not symptomatic and only identified on speculum examination. It can be challenging, both in practice and in interpreting the literature, when terms for the vulva and vagina are used interchangeably. It is important to differentiate between vulvitis (signs and symptoms limited to the vulva), vaginitis (signs and symptoms limited to the vagina; vaginal discharge being a common sign), and vulvovaginitis (inflammation of both the vulva and vagina).

When women present with acute vulvovaginitis, in addition to testing for more common infectious causes, a physical examination should be done to look for signs of a noninfectious cause, and a swab for an aerobic culture should be considered, guided by history. If a GAS diagnosis is made, treatment with oral penicillin can be curative. Household members and sexual partners should also be considered for treatment to prevent recurrence. This case highlights the importance of considering GAS as a potential cause of recurrent or treatment-resistant vulvovaginitis in premenopausal women.

Conflicts of interest

None.

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Study approval

The author(s) confirm that any aspect of the work covered in this manuscript that has involved human patients has been conducted with the ethical approval of all relevant bodies.

Patient consent

Informed, written consent was received from the patient and confirmed to the journal pre-publication, stating that the patient gave consent for their photos and case history to be published.

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