

Streptococcal vulvovaginitis in adults: Not a rare entity

Sir,

We conducted a study to assess the prevalence, etiological factors and pattern of various vaginal infections in 65 patients who complained of symptomatic and excessive vaginal discharge. Patients with a history of using topical or systemic antifungals and antibiotics during the previous month were excluded from the study. A comprehensive history, clinical examination and relevant investigations were performed to confirm the diagnosis. The laboratory diagnosis of vulvovaginal candidiasis was made based on the identification of yeasts and pseudohyphae on 10% KOH mount, Gram stain, culture and an acidic vaginal pH. Bacterial vaginosis was diagnosed by applying Amsel's criteria and Gram stain to show alterations in the normal vaginal flora. Streptococcal vulvovaginitis was diagnosed on the basis of Gram stain, culture and pH study. Fifty seven patients were found to have vulvovaginitis. Candidiasis

was seen in 37 (56.9%) patients, bacterial vaginosis in 16 (24.6%), and streptococcal vulvovaginitis in 4 (6.1%) of them. Among the remaining eight patients, six had mucorrhea and two had mucopurulent cervicitis. A significant observation was that there were four cases of streptococcal vulvovaginitis in adults. The details are summarized in Table 1.

Adad has compared the prevalence rates of various vaginal infections over four decades and found that there is a reduction in frequency of cervical and vaginal infections by *Trichomonas vaginalis*, with a rise in the frequency of candidiasis.^[1] Our study has comparable findings. The reduction in prevalence of trichomoniasis may be attributed to widespread syndromic management of sexually transmitted diseases and happenstance treatment of cases. Group A streptococcal infection is a cause of vulvovaginitis in

Table 1: Clinical and laboratory profile of patients with streptococcal vulvovaginitis

Case numbers	Age	Sexually active	Parity	Associated co-morbidities	Clinical features	pH	Saline mount examination	10% KOH microscopy test	Whiff	Gram-stain microscopy	Culture
1	18	No	Nullipara	On steroid for MCTD	Pruritus, yellowish white vaginal discharge	>5	No clue cells or motile organisms	No fungal element	Negative	Plenty of pus cells and Gram-positive cocci	Group A beta-hemolytic streptococci
2	24	Yes	Para 2		Erythema, pruritus, yellowish white discharge	>5	No clue cells/motile organisms	No fungal element	Negative	Pus cells and Gram-positive cocci	Group A beta-hemolytic streptococci
3	28	Yes	Para 3		Erythema and swelling of vulva, yellowish white discharge	>5	No clue cells or motile organisms	No fungal element	Negative	Pus cells and Gram-positive cocci	Group A beta-hemolytic streptococci
4	32	Yes	Para 2	Using intra-uterine contraceptive device, pelvic inflammatory disease	Yellowish white discharge per vaginum, erythema, lower abdomen pain, tenderness on per vaginal examination	>5	No clue cell/motile organisms	No fungal element	Negative	Pus cells and Gram-positive cocci	Group A alpha hemolytic streptococci

MCTD: Mixed connective tissue disease, KOH: Potassium hydroxide

Access this article online

Quick Response Code:



Website:

www.ijdvl.com

DOI:

10.4103/0378-6323.168351

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How to cite this article: Chandran V, Sadanandan SM, Seena P, Sobhanakumari K, Kurien G, Mohan V. Streptococcal vulvovaginitis in adults: Not a rare entity. Indian J Dermatol Venereol Leprol 2015;81:655.

Received: September, 2014. **Accepted:** April, 2015.

21% of prepubescent girls. It is uncommon in adults and not well documented.^[2] A personal or family history of skin or respiratory infection secondary to group A *Streptococcus* is an important risk factor.^[2,3] However, none of our patients gave such a history. The fourth case was diagnosed to have pelvic inflammatory disease and culture of the intrauterine contraceptive device revealed the presence of group A alpha hemolytic streptococci, making it the most likely source of infection. The source of infection in the other patients could be asymptomatic carriers among family members who could be harbouring the bacteria in their respiratory or gastrointestinal tract. However, we were unable to do a culture study among family members and partners, which is a limitation of our study.

The first patient was unsuccessfully treated with antifungals several times before being diagnosed with streptococcal vulvovaginitis. As she was allergic to penicillin, we treated her with oral erythromycin and topical clindamycin. The second and third patients were treated with oral amoxicillin and topical clindamycin. All of these patients responded well and showed no signs of relapse after one month of follow up. The fourth patient was screened for other sexually transmitted infections and referred to a gynecologist.

Streptococcal vulvovaginitis in adults may not be rare but is undetected due to lack of awareness or happenstance treatment with antibiotics for common infections. Clinically, most of the cases may be

indistinguishable from vulvovaginal candidiasis or mixed infections, and empirical antifungal treatment is common. Therefore, streptococcal vulvovaginitis has to be considered in the differential diagnosis of any patient with significant vulvovaginal symptoms after other common causes have been ruled out.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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