



Vulvovaginitis

Background: Vulvovaginitis is common, affecting women of all ages. Vulvovaginitis is an inflammation of the vagina and vulva, most often caused by a bacterial, fungal, or parasitic infection. Vulvovaginitis, one of the most common reasons why women visit their gynecologist, causes vaginal discharge, irritation, and itching. Normally, a woman may have a vaginal discharge, the amount and consistency of which varies during the course of the menstrual cycle and the stage of a woman's life. Hence, vaginal discharge is often a normal product of the vagina and cannot always be altered by a physician to suite a woman's desire for less or more.

Pathophysiology

The normal vaginal epithelium cornifies (develops into a thickened layer of epithelial cells) under the influence of estrogen, protecting women against infection. A normal vaginal discharge consists of 1-4 mL of fluid that is white or transparent, thick, and odorless (that is up to 2.5 tablespoons of discharge). This physiologic discharge is formed by sloughing epithelial cells, normal bacteria, and vaginal transudate (intracellular fluid that seeps through – like the moisture in your nose). The discharge may be noticeable during pregnancy, with oral contraceptive pill use, at mid menstrual cycle (close to the time of ovulation) or with a change in one's diet, medication regimen or sexual activity. Like your nose, which can run or drip without an actual infection, the vagina can have some extra drainage without an infectious etiology.

The normal pH of vaginal secretions is 4.0-4.5. The pH is maintained by lactobacillus, which produce hydrogen peroxide; diphtheroids, and Staphylococcus epidermidis. Vaginal pH may increase with age, phase of menstrual cycle, sexual activity, contraception choice, pregnancy, presence of a foreign bodies (diaphragm, contraceptive sponge, forgotten tampon), and use of hygienic products or antibiotics. A change in pH can cause a simple change in discharge – this simple change in discharge is NOT an infection and thus, requires no medical treatment (other than to remove a foreign body – like a forgotten tampon). Summarizing, practically any condition changing the vaginal environment may result in vulvovaginitis.

Childbearing age

A variety of issues have been associated with bacterial vaginosis including the following:

- Pelvic inflammatory disease (when BV is associated with contracting Gonorrhea or Chlamydia)
- Exposure to a new sexual partner, vaginal product, sexual aid/lubricant
- Diabetes mellitus
- Oral contraceptive (OCP) use
- Antibiotic use
- Immunodeficiency
- Tight-fitting undergarments

Skin conditions (ie, eczema, psoriasis, seborrhea) occasionally involve the vagina, and a history of these conditions should be sought.

Irritants such as soaps, baths, spermicides, perfumes, douches, and creams can cause vulvovaginitis. Tight-fitting, synthetic undergarments can increase moisture, exacerbating this condition.

Bacterial vaginosis (BV) is secondary to bacterial overgrowth and not due to tissue inflammation. One of the organisms associated with bacterial vaginosis is Gardnerella vaginalis.

Trichomonas vaginalis (Trich) affects 2-3 million women annually in the United States. The organism also is detected in 30-40% of men who are exposed to women with T vaginalis.

Candidal vulvovaginitis (yeast infection) is considered slightly less common than bacterial vaginosis, yet, 3 out of every 4 women in the United States will have at least 1 bout of vulvovaginal candidiasis (VVC) during their lifetime. Patients with recurrent or severe VVC

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warrant a screening test for diabetes mellitus.

Desquamative inflammatory vaginitis has an unknown etiology, but it can follow a new exposure or repetitive treatment of a presumed “yeast infection” with over the counter and prescription products. This is treated with intravaginal clindamycin cream and/or intravaginal hydrocortisone. Sometimes a short course of oral steroids can be required.

Postmenopausal: After menopause, most women experience some vaginal atrophy as estrogen levels fall. This can lead to symptoms of dryness, burning, itching, pain with intercourse, unusual vaginal discharge/bleeding and odor. Vulvovaginitis related to infection is much less common after menopause. Desquamative inflammatory vaginitis has an unknown etiology, but a Gram stain of culture often reveals streptococci. This is treated with intravaginal clindamycin cream and/or intravaginal hydrocortisone.