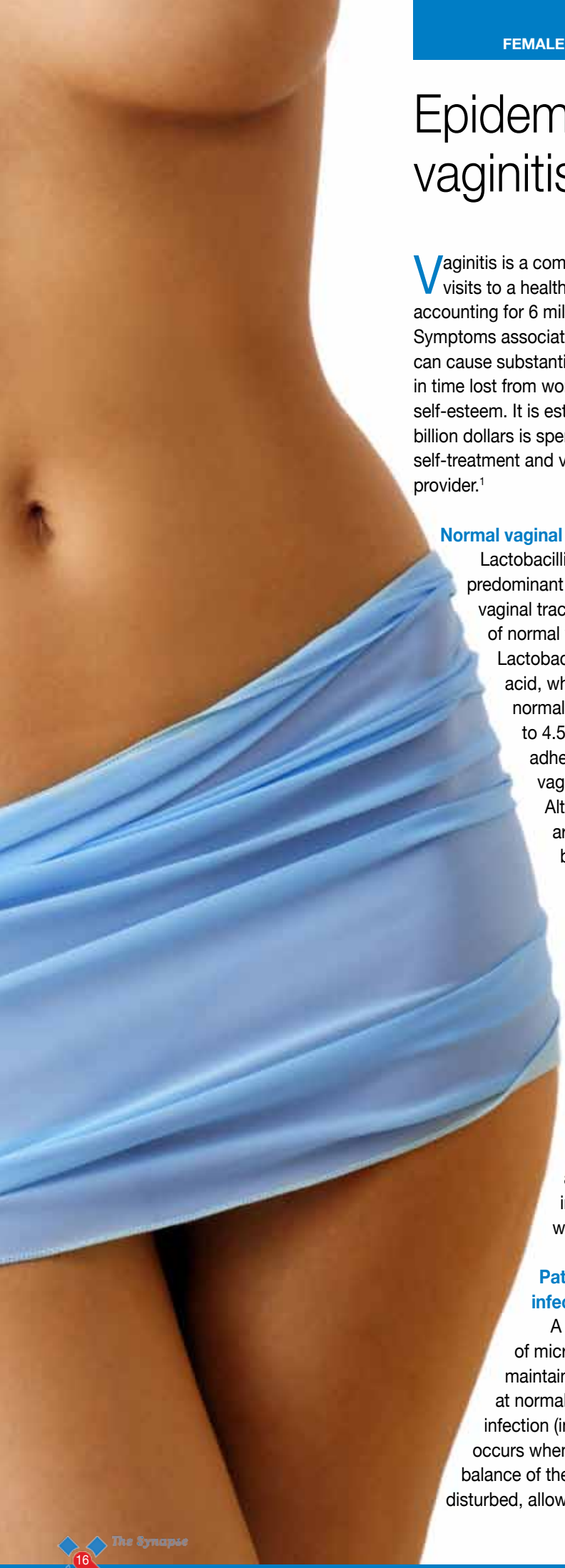

# Epidemiology of mixed vaginitis and its management

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Vaginitis is a common reason for visits to a health care provider, accounting for 6 million visits per year. Symptoms associated with vaginitis can cause substantial distress, resulting in time lost from work and altered self-esteem. It is estimated that over a billion dollars is spent annually on both self-treatment and visits to a medical provider.[1]

## Normal vaginal flora

Lactobacilli are both the predominant bacteria in the vaginal tract and a regulator of normal vaginal flora. Lactobacilli make lactic acid, which maintains the normal vaginal pH of 3.8 to 4.5, and inhibits the adherence of bacteria to vaginal epithelial cells. Although lactobacilli are the predominant bacteria, other bacteria are also present in the vagina, including streptococcal species, gram-negative bacteria, Gardnerella vaginalis, and anaerobes. Candida albicans can also be found in normal flora as a commensal agent in up to 25% of women.

## Pathogenesis of infectious vaginitis

A complex balance of micro-organisms maintains vaginal flora at normal levels. A vaginal infection (infectious vaginitis) occurs when the natural balance of the vaginal flora is disturbed, allowing potentially pathogenic micro-organisms to multiply and prevail.

Infectious vaginitis is accompanied by:

- Signs and symptoms;
- Reduction in the number of lactobacilli;
- Harmful overgrowth of usually present micro-organisms;
- A more or less damaged epithelium.[2]

Infectious vaginitis may also be caused by exogenous infecting bacteria, fungi, parasites and viruses.[3]

## Candidiasis vs mixed infections

Candidiasis is mostly due to Candida albicans and may be associated with diabetes, pregnancy, recent use of broad-spectrum antibiotics, as well as immunosuppression. Surprisingly, there is no good evidence that tight or synthetic clothing increase the risk of candidiasis. The symptoms are characterised by vulvo-vaginal itch, stinging, burning, external dysuria, and superficial dyspareunia. If a discharge is present it is usually white, cheesy or curd-like. It is estimated that up to 75% of all women will have symptomatic Candida albicans vulvo-vaginitis at some point in their lives.

Recent studies have also suggested that up to 10% of female patients present with mixed candidiasis with two varieties of Candida (C. albicans with C. glabrata is the most common combination, in 86% of cases).[4] Whereas C. albicans is still the most common fungus isolated in women with recurrent vulvo-vaginal candidiasis, an increased prevalence of non-albicans species, especially C. glabrata, may be found in up to 15% of women with recurrent infections.[1]

## Management of mixed vaginitis

The management of vaginal discharge is largely syndromic and empirical; it is usually based on naked

eye examination of vaginal discharge which however is unsatisfactory because diagnostic accuracy is lost without any microscopic examination. The modern management of vaginal discharge demands a specific diagnosis which is a combination of naked eye examination together with laboratory analysis. Unfortunately most of the times laboratory assistance in patients with vaginal discharge is only sought after there is therapeutic failure of repeated courses of empirical therapy. This practice not only has a financial and social impact leading to non-compliance on the part of patients, but also contributes to overall emergence of resistance.[5]

## Objectives of treatment

- Eradicate causative pathogen(s) efficiently;
- Relieve rapidly signs and symptoms;
- Preserve protective vaginal lactobacilli and favor the restoration of a normally balanced vaginal ecosystem;
- Obtain a long-lasting cure and prevent relapse. Relapse can occur in up to 40-50% of patients. Besides, the frequency of relapse can even be as high as four times a year in 5-8% of patients;
- Prevent/minimize any side-effects of anti-infective therapy.

The key to proper treatment of vaginal infections is proper diagnosis. This is not always easy since the same symptoms can exist in different forms of vaginitis. Patients can greatly assist their doctor by paying close attention to the specific symptoms which are experienced, as well as the frequency of occurrence, along with a description of the color, consistency, amount, and smell of any abnormal discharge.

Because different types of vaginitis have different causes, the treatment needs to be specific to the type of vaginitis present. It is best to see a doctor before self-treating with over-the-counter medications.

## Recurrent vulvo-vaginal candidiasis

This condition is defined as four or more documented, symptomatic infections per year and this occurs in about 5-8% of otherwise healthy women. The majority of these cases are still caused by the albicans species, with a small proportion caused by the glabrata species. Recurrent candidiasis is thought to be due to persistent colonisation rather than episodes of new infections. Complete eradication of Candida is difficult to achieve, therefore the aim of treatment is to reduce the colonisation of the vagina with Candida to a level where the woman is asymptomatic. Treatment with intravaginal creams taken for a longer period of time, although beneficial, may cause irritation or contact dermatitis. Oral antifungals may be prescribed for longer courses or taken intermittently. In women with recurrent vulvo-vaginal candidiasis, treatment of the male partner is unlikely to be beneficial. There is no evidence that the ingestion or intravaginal use of Lactobacillus Acidophilus is beneficial in the treatment of this recurrent condition, however they are not harmful.

## Other causes of vaginal itching

The commonest cause of non-infectious vaginitis is a contact dermatitis from exposure to irritants such as soaps, perfumes, creams as well as atopic dermatitis where persistent scratching may lead to a chronic lichen simplex. Other causes include lichen sclerosus and less commonly lichen planus. Psoriasis may also be the causative agent, as well as premalignant or malignant conditions of the vulva. Pubic lice, scabies, and viral warts are also common causes of vulval itching while hormonal changes, particularly during menopause and breastfeeding may cause atrophic vulvo-vaginitis.

## Vulvo-vaginal hygiene

The use of strong soaps, bubble baths and antiseptics around the genital area should be discouraged. 'Feminine hygiene' products such as washes, deodorants and powders are rarely appropriate. Vaginal douching in particular is not recommended as it alters the normal vaginal flora and may force bacteria higher into the genital tract.



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