

Noninfectious Vaginitis

Assoc. Prof. PD. Dr. Ljubomir Petricevic

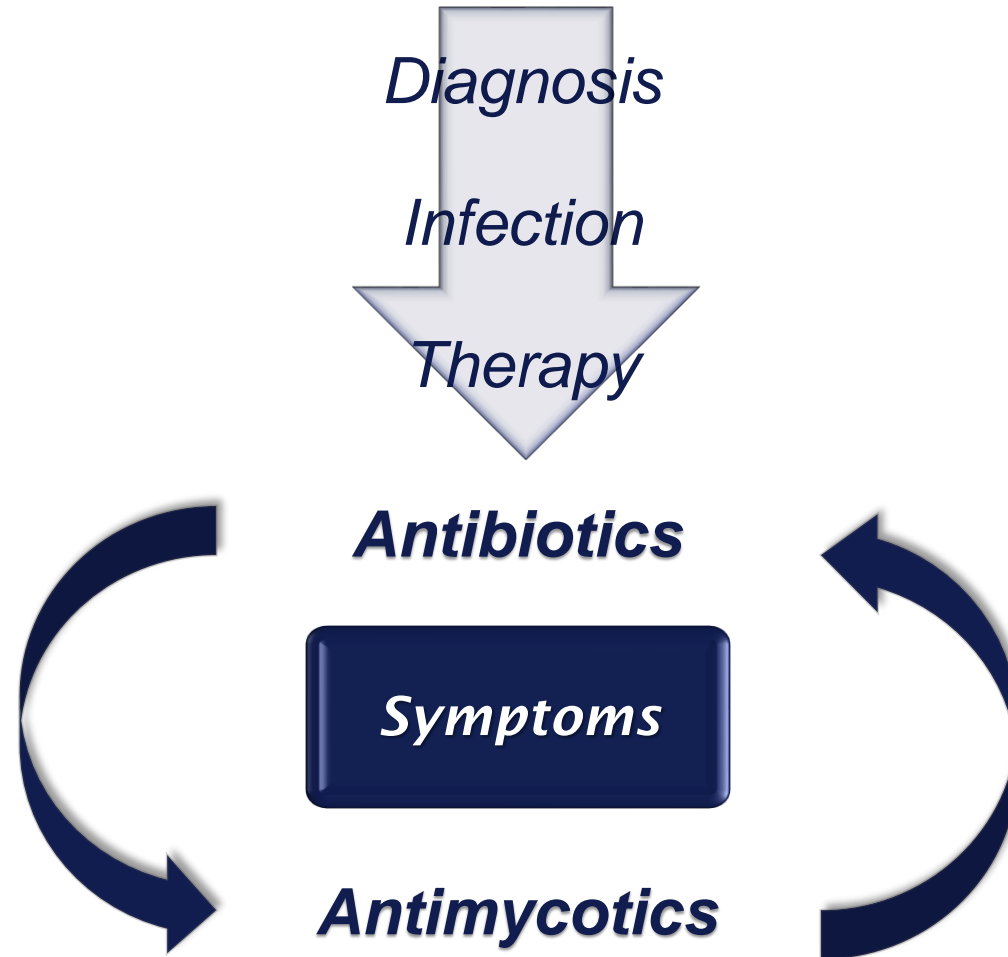
Universitätsklinik für Frauenheilkunde Wien

Vaginitis

- Abnormal vaginal discharge,
- Odour,
- Pruritus,
- Discomfort,
- Pain,
- Dyspareunie

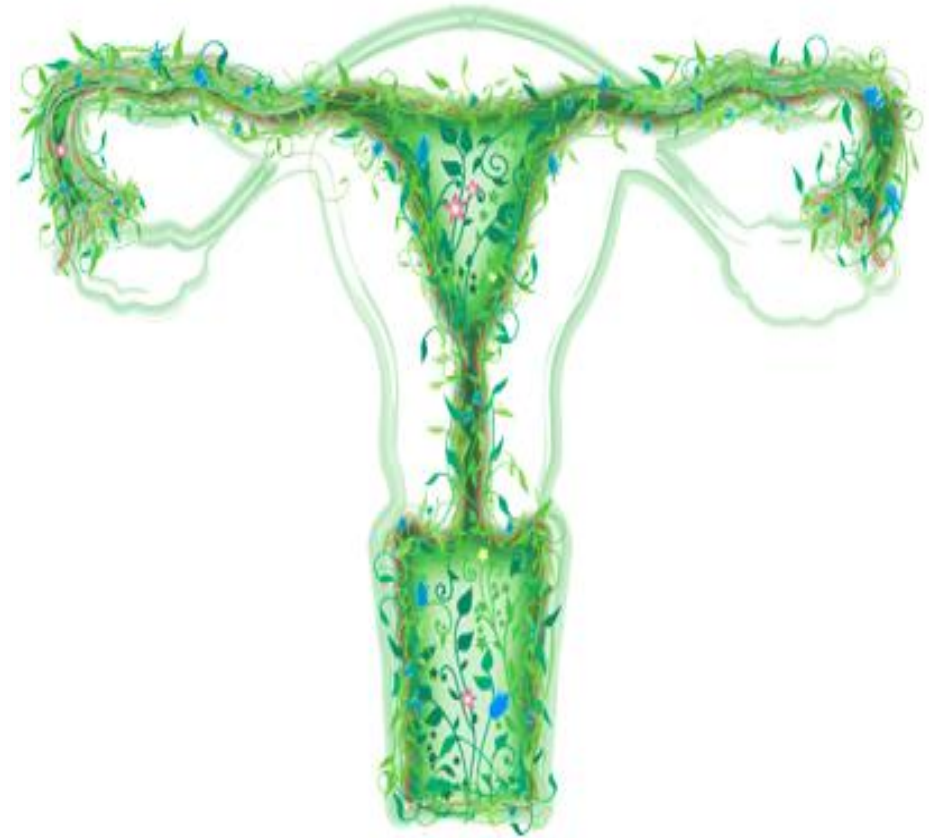


Vaginitis

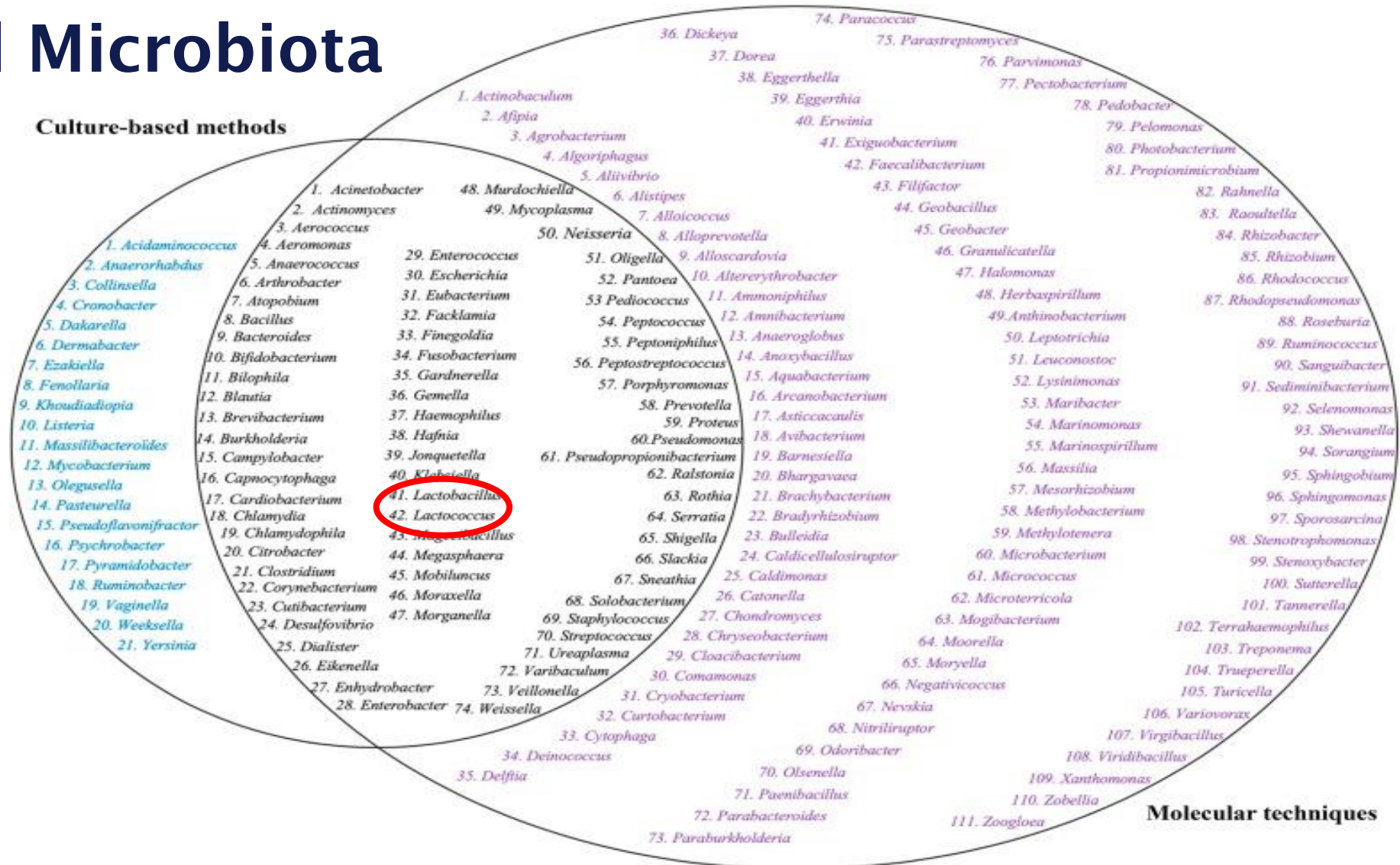


Vaginal Microbiota

- ◆ $1,5-2 \times 10^9$ germs per mm^2 Vaginal epithelium
- ◆ Vaginal Microbiota.
- ◆ Lactobacillary dominance



Vaginal Microbiota



Diopa et al, Human Microbiome Journal, 2019; 11,100051



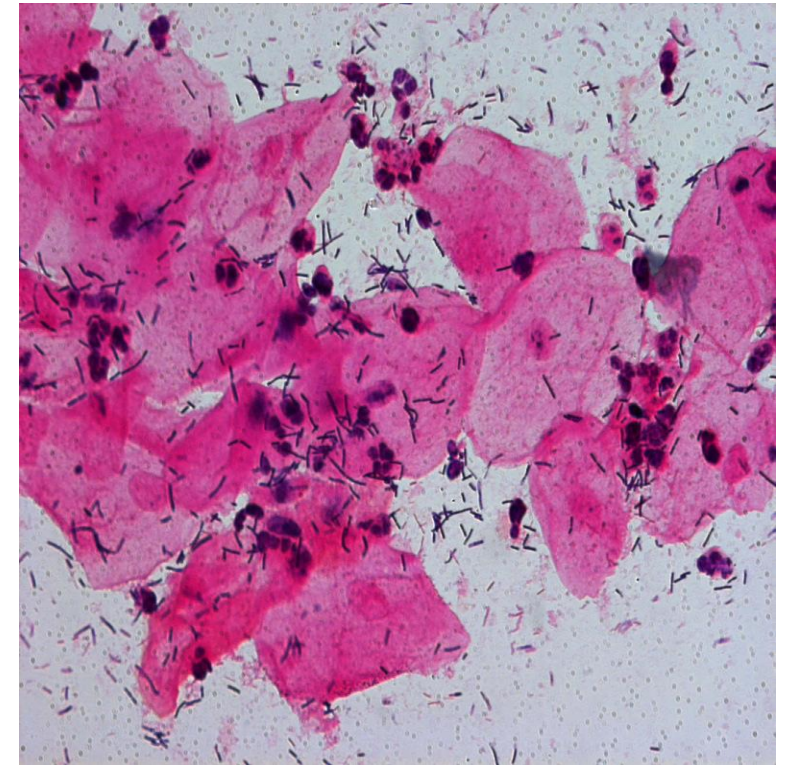
Normal Vaginal Microbiota

Lactobacillus spp. Dominance

- Reinheitsgrad (RG) I:
- Nugent score 0-3
- Normal bacterial flora

Spiegel et al., J Clin Microbiol 1983, 18: 170-177

Nugent et al., J Clin Microbiol 1991, 29: 297-301



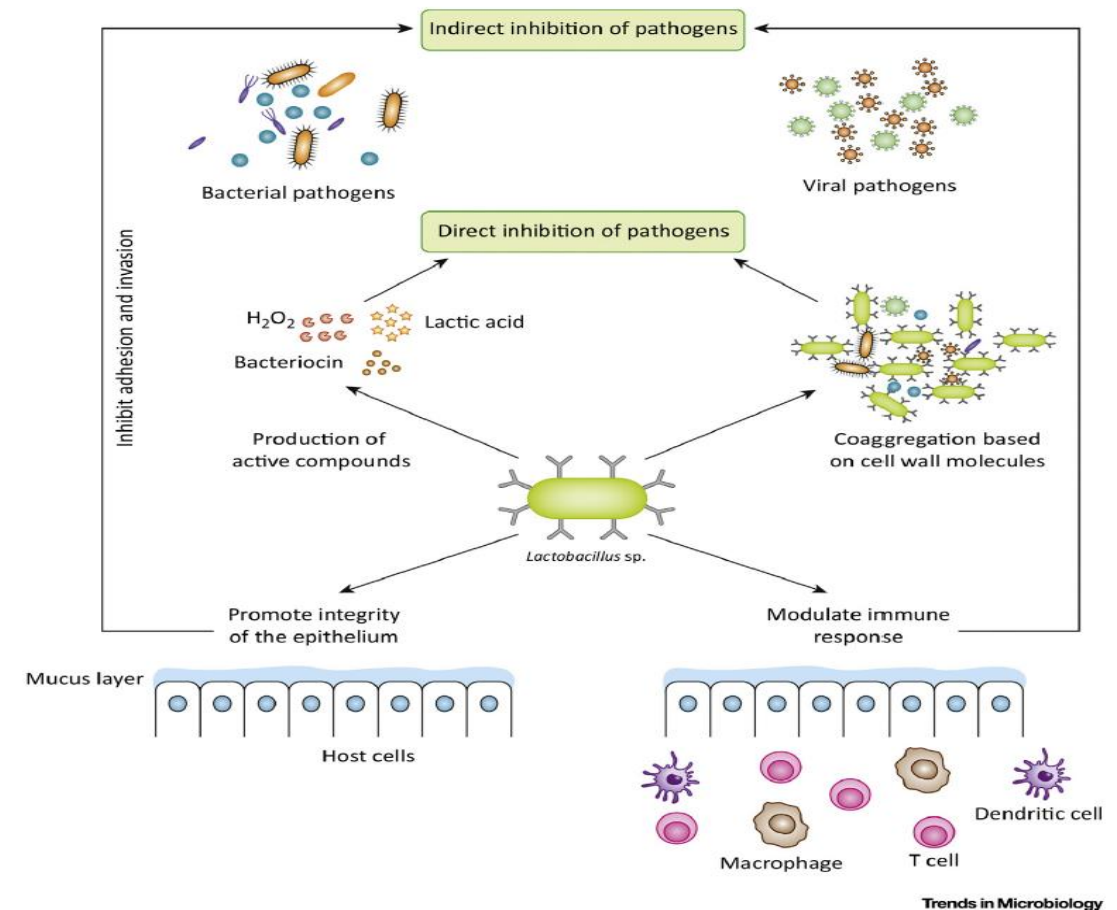
Normal Vaginal Microbiota

3 Mechanisms of protection

- ◆ **↑ Milk acid** **↓ pH (Oestrogen)**
- ◆ **↑ H₂O₂** **↓ pathogen bacteria**
- ◆ **↑ Adherence** **↓ pathogen bacteria**

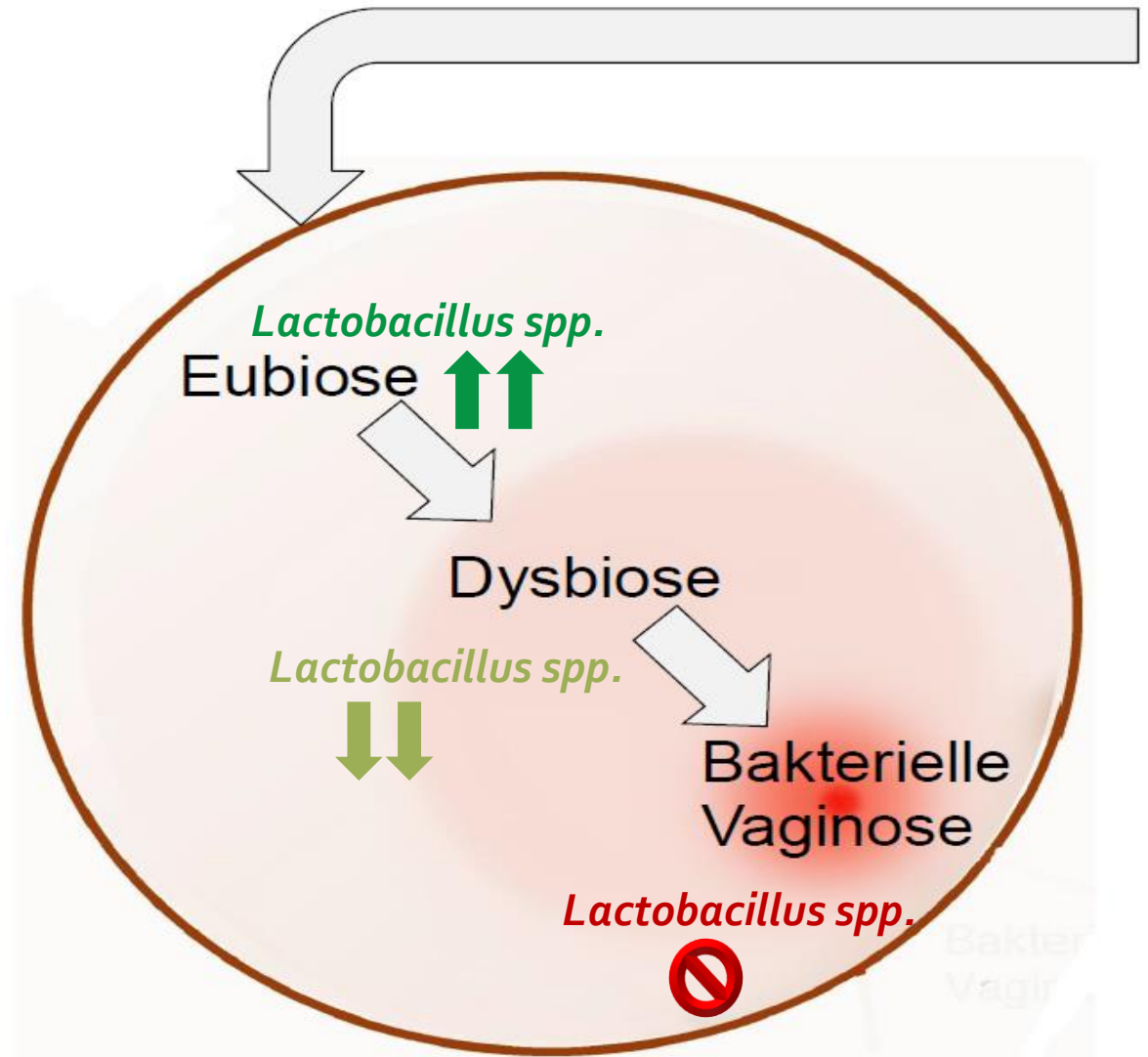
Women and Their Microbes: The Unexpected Friendship

Jessica A. Younes,^{1,*} Elke Lievens,^{2,3} Ruben Hummelen,⁴ Rebecca van der Westen,⁵ Gregor Reid,^{6,7} and Mariya I. Petrova^{2,3,*}

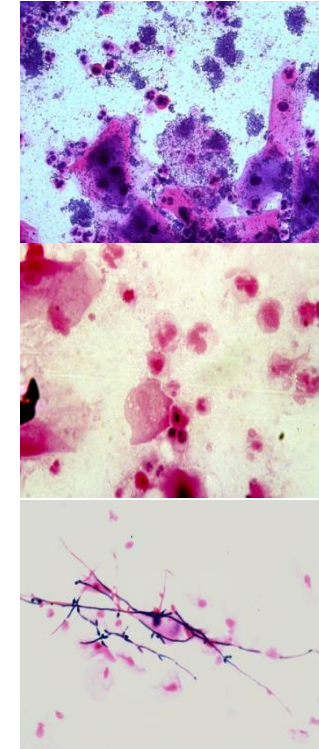
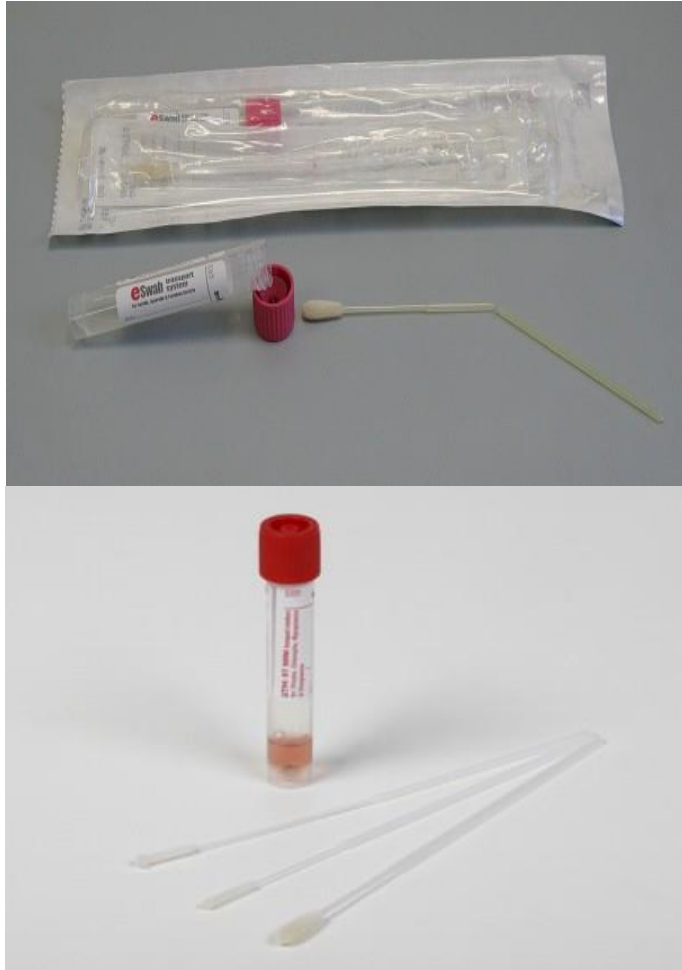


Disturbed Vaginal Microbiota

- ◆ Balance shift of vaginal Microbiota in favour to anaerobe bacteria
- ◆ Increase of pH
- ◆ Infection.



Vaginitis / Vaginosis



Vaginitis / Vaginosis

Untersuchungsmaterial:

Abstrich

Seite: 1 von 2



■ VAGINALFLORA

Obligat:	Lactobacillus sp.	$5 \cdot 10^7$	($10^6 - 10^9$)	Normbereich
	Bacteroides sp.	$< 10^4$	($10^4 - 10^7$)	vermindert
Fakultativ:	Enterococcus sp.	$2 \cdot 10^8$	(max. 10^6)	mäßig vermehrt
	E. coli	$3 \cdot 10^7$	(max. 10^4)	stark vermehrt
	Klebsiella sp.	$3 \cdot 10^4$	(max. 10^4)	Toleranzbereich
	E. coli-Variante haem.	$4 \cdot 10^7$	(max. 10^4)	stark vermehrt
	β-haem. Streptok.	$1 \cdot 10^6$	(max. 10^5)	Grenzbereich
	Staph. aureus	$< 10^4$	(max. 10^4)	Toleranzbereich
	Anderer Aerobe	$< 10^4$	(max. 10^4)	Toleranzbereich
	Gardnerella vaginalis	$< 10^4$	(max. 10^5)	Toleranzbereich

Noninfectious Vaginitis

- antibiotic use,
- foreign body (eg, retained tampon or condom),
- low oestrogen levels (eg, menopause),
- genital care products (eg, vaginal washes or douches),
- pregnancy,
- sexual activity,
- contraceptive choice,
- dermatoses, and systemic medical disorders (eg, rheumatoid arthritis and systemic lupus)
- mechanical, chemical, allergic, or other.

Sexually Transmitted Infections Treatment Guidelines, 2021. MMWR Recomm Rep. 2021;70(4):1. Epub 2021 Jul 23.

Noninfectious Vaginitis

Obtain history:

- Nature of vaginal discharge (quality, color, consistency, and odor)
- Additional symptoms (pruritis, burning, pain, vaginal bleeding, and/or dyspareunia)
- Timing of onset and relationship to sexual activity
- Estrogen status (estrogenized or not)
- Sexual activity and practices, including contraceptive use
- Past and recent vaginal or vulvar treatment



Perform physical examination: ¶

- Visual inspection of external genitalia, from mons pubis to anus (evaluate for evidence of inflammation including erythema and subclitoral and/or labial edema)
- Speculum examination of the vagina and cervix
- Bimanual examination of the pelvis
- Detection of genital malodor



Are there findings that strongly suggest a specific etiology?

Examples include:

- Postmenopausal atrophy
- Pelvic inflammatory disease
- Retained foreign body (tampon, condom)
- Vulvar lesions or dermatoses (eg, warts, lichen planus, erosions/excoriations)
- Vaginal fistula (history of gynecologic surgery or Crohn disease)
- Malignancy (eg, focal mass, lesion, necrosis)

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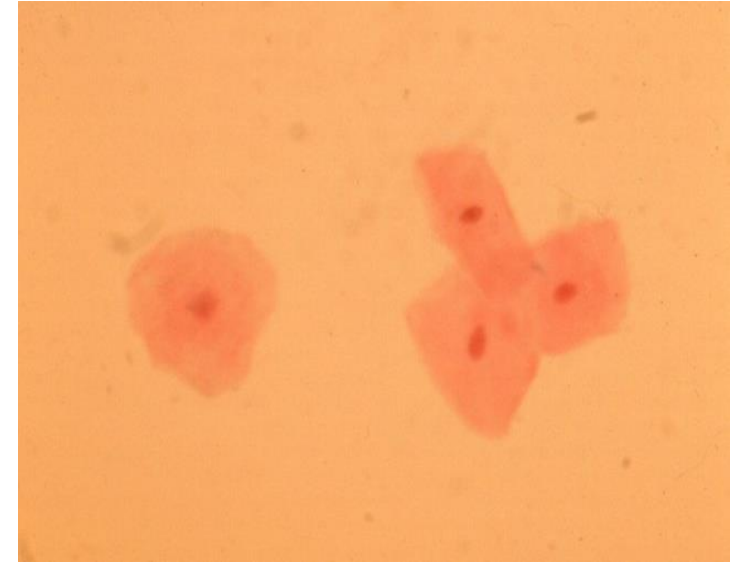
Vaginitis

Dominant symptom	Potential etiologies
Inflammation or irritation	<ul style="list-style-type: none"> •Vulvar dermatitis •Desquamative inflammatory vaginitis
Pruritis (itching)	<ul style="list-style-type: none"> •Infectious <ul style="list-style-type: none"> • Candidiasis, Trichomoniasis, Bacterial vaginosis •Non-infectious <ul style="list-style-type: none"> • Vulvar dermatitis • Vulvar dermatoses (eg, lichen sclerosus) • Cytolytic vaginitis • Malignancy
Pain	<ul style="list-style-type: none"> •Acute onset of discharge and pain <ul style="list-style-type: none"> • PID, Group A Streptococcus, Candidiasis •Serosanguinous discharge and pain <ul style="list-style-type: none"> • Fallopian tube carcinoma •Chronic vaginal pain <ul style="list-style-type: none"> • Vulvar pain of unknown etiology (vulvodynia) • Vaginismus • Myofascial pelvic pain
Vulvar lesions	<ul style="list-style-type: none"> •Red lesions (eg, atopic dermatitis, lichen simplex chronicus, psoriasis) •White lesions (eg, lichen sclerosus, squamous intraepithelial lesions) •Black, brown, and/or blue lesions (eg, hyperpigmentation, nevi) •Yellow, skin-colored, and/or edematous lesions (eg, folliculitis, furunculosis) •Vesicles, bullae, erosions, and ulcers (eg, HSV, herpes zoster, impetigo)
Persistent genital malodor	<ul style="list-style-type: none"> •Neglected foreign body (eg, retained tampon or condom) •Infectious <ul style="list-style-type: none"> • Bacterial vaginosis • Trichomoniasis • Infectious ulcer • Pelvic inflammatory disease •Hydradenitis suppurativa •Chronic constipation •Urinary incontinence •Fecal incontinence (accidental bowel leakage) •Poor hygiene •Malignant ulcer •Excessive genital perspiration and local bacterial colonization

Courtesy of Jack Sobel, MD. Graphic 141751
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Noninfectious Vaginitis

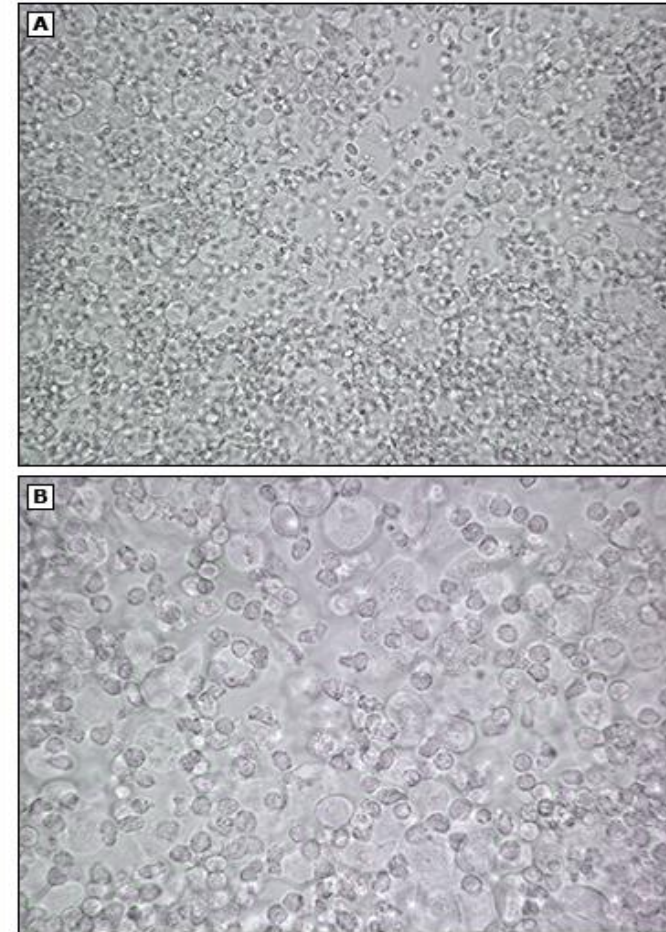
- **Intermediate vaginal Microbiota**
- Absence of vaginal Lactobacilli
- Reinheitsgrad (RG) II (RG 0)
- Nugent score 4
- Th: probiotics vaginal or oral



Noninfectious Vaginitis

- **Desquamative Inflammatory vaginitis (DIV)**
- inflammatory vaginitis of noninfectious aetiology
- Mechanisms: oestrogen deficiency, a toxic reaction to *Staphylococcus aureus*, an immunologic abnormality,
- Dg: pH >4.5 Increased number of parabasal and inflammatory cells, leukocyte to epithelial cell
- Th: 2% clindamycin, or 10% hydrocortisone cream,

Parabasal cells

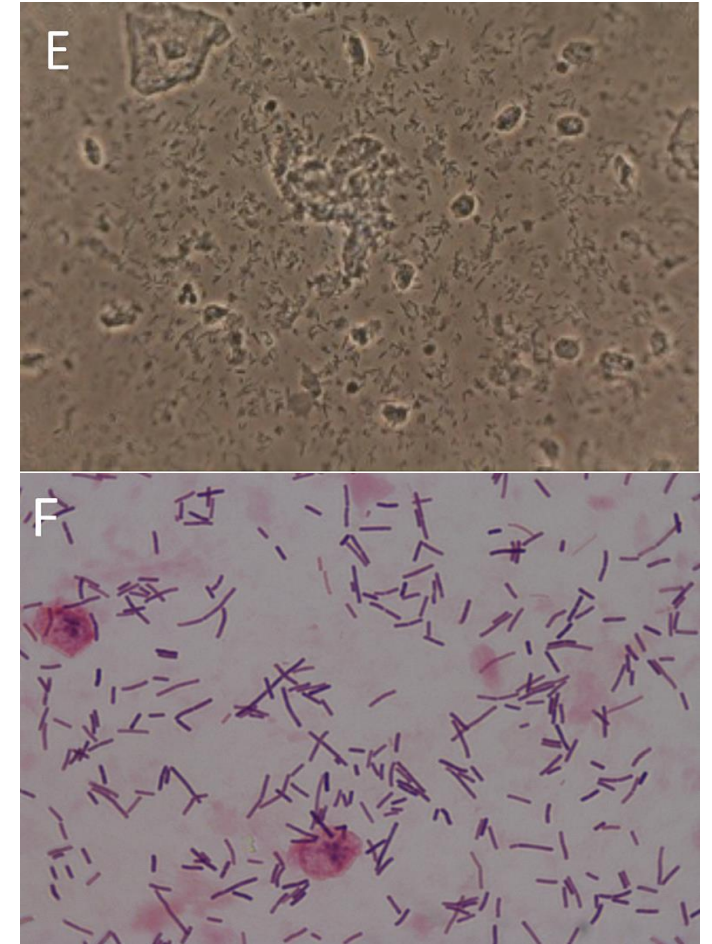


Low (A) and high (B) power microscopy of vaginal discharge reveals parabasal cells and a marked increase in inflammatory cells (primarily polymorphonuclear leukocytes).

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Noninfectious Vaginitis

- **Cytolytic vaginosis**
- syndrome of vaginal hyperacidity due to overgrowth of lactobacilli,
- cyclical increase in symptoms during the luteal phase
- Dg: white vaginal discharge, pH 3.5-4.5, Gram stain showing large numbers of lactobacilli, evidence of cytolysis (bare nuclei, shreds of cytoplasm)
- Th: sodium bicarbonate douches



PLoS ONE 18(1): e0280954.

Noninfectious Vaginitis



- 40 percent of patients with genital symptoms do not have a specific cause identified on initial diagnostic evaluation
- Avoid empiric therapy
- Secondary approach
- Repeat evaluation when symptoms are present



Noninfectious Vaginitis

- Detailed secondary history:
 - Acuity and timing of symptoms,
 - Associated symptoms,
 - Sexual practices,
 - Medication history,
 - Hygienic practices,
 - Surgical history
- Special populations:
 - prepubertal children,
 - menopausal individuals,
 - those receiving tamoxifen therapy,
 - persons with recurrent symptoms.



Noninfectious Vaginitis

- Solution:
- Individuals whose initial evaluation confirms a diagnosis then receive targeted treatment.
- STI, Infections, recurrent colonisation
- Desquamative Inflammatory vaginitis
- Cytolytic vaginosis
- Dermatoses
- Genitourinary syndrome of menopause (GSM)
- Those who remain without a diagnosis, or whose symptoms recur, then go through a more detailed evaluation process.

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