



e0011 2024.04.03

VAGINAL MICROBIOTA: TREATMENT OPTIONS FOR VAGINAL DYSBIOSIS • Study guide

# FEMOFLOR®

VAGINAL MICROBIOTA:  
TREATMENT OPTIONS  
FOR VAGINAL DYSBIOSIS

FEDERAL STATE INSTITUTION OF HIGHER EDUCATION  
OF THE MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION  
«URAL STATE MEDICAL UNIVERSITY»

DEPARTMENT OF MEDICAL MICROBIOLOGY AND CLINICAL  
LABORATORY DIAGNOSTICS  
DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

# **VAGINAL MICROBIOTA: TREATMENT OPTIONS FOR VAGINAL DYSBIOSIS**

Study guide

Voroshilina E.S.  
Plotko E.E.,  
Islamidi D.K.  
Zornikov D.L.  
Petrov V.M.

Yekaterinburg, Russia  
2024

Vaginal microbiota: treatment options for vaginal dysbiosis: Study guide / edited by Voroshilina E.S., Doctor of Medical Sciences, Professor, Head of the Department of Medical Microbiology and Clinical Laboratory Diagnostics, Ural State Medical University — Yekaterinburg: USMU, 2024. 160 pp.

The study guide for the management of patients with vaginal dysbiosis and vaginal inflammatory diseases associated with opportunistic microorganisms. Specific recommendations for the treatment of different types of vaginal dysbiosis and the treatment of vaginal inflammatory diseases associated with opportunistic microbiota are provided.

**CONTRIBUTORS:**

**Voroshilina E.S.**, Doctor of Medical Sciences, Professor, Head of the Department of Medical Microbiology and Clinical Laboratory Diagnostics, Ural State Medical University (Yekaterinburg).

**Plotko E.E.**, Doctor of Medical Sciences, Chief Physician, «Garmonia» Medical Center (Yekaterinburg).

**Islamidi D.K.**, Candidate of Medical Sciences, Associate Professor of Department of Obstetrics and Gynecology, Ural State Medical University (Yekaterinburg).

**Zornikov D.L.**, Candidate of Medical Sciences, Associate Professor at the Department of Medical Microbiology and Clinical Laboratory Diagnostics, Ural State Medical University (Yekaterinburg).

**Petrov V.M.**, Candidate of Medical Sciences, Associate Professor at the Department of Medical Microbiology and Clinical Laboratory Diagnostics, Ural State Medical University (Yekaterinburg).

**Editor-in-chief:** Voroshilina E.S., Doctor of Medical Sciences, Professor, Head of the Department of Medical Microbiology and Clinical Laboratory Diagnostics, Ural State Medical University (Yekaterinburg).

**Reviewer:** Chistyakova G.N., Doctor of Medical Sciences, Professor, Head of the Department of Immunology, Microbiology, Pathomorphology, and Cytodiagnosics of FSBI «Ural Research Institute of Maternity and Childhood» of the Ministry of Health of Russia.

Reviewed and recommended for publication by  
the Scientific Council of the Central Research Laboratory  
of Ural State Medical University

The ideas about the etiology of the vaginal inflammatory diseases have changed significantly in recent decades. Along with sexually transmitted obligate pathogens (*Chlamydia trachomatis*, *Trichomonas vaginalis*, *Neisseria gonorrhoeae* and *Mycoplasma genitalium*), an important role of opportunistic microorganisms has been proven. For this reason, the diagnostics of female urogenital tract infections should also include the quantitative assessment of various opportunistic microorganisms inhabiting the vagina, such as enterobacteria, obligate anaerobes, mycoplasmas, yeast-like fungi, etc. Mixed infections, when vaginal dysbiosis is combined with the presence of sexually transmitted pathogens or increased quantities of genital mycoplasmas or yeast-like fungi, are detected in many patients. In these cases, the choice of a treatment is not always obvious due to different susceptibility of the etiologically significant microorganisms to antimicrobial drugs, and the need of normal vaginal microbiota restoration for prevention of recurrences. Difficulties may occur with treatment of pregnant women and women during lactation.

Empiric antibiotic treatment does not always demonstrate a desirable effect and sometimes may worsen the existing disease. For the comprehensive diagnostics in these patients, the detailed laboratory examination is required. The most informative test for routine vaginal microbiota assessment is Femoflor® 16 real-time PCR test.

This study guide provides algorithms for the management of patients with vaginitis and vaginal dysbiosis depending on the results of Femoflor® test.

# CONTENTS

<b>SECTION 1. ABSOLUTE NORMOCENOSIS</b> .....	<b>10</b>
1. Absolute normocenosis .....	12
2. Absolute normocenosis with presence of anaerobes .....	13
<b>SECTION 2. CONDITIONAL NORMOCENOSIS</b> .....	<b>14</b>
<b>Section 2.1.</b> Management of patients with vaginitis associated with opportunistic genital mycoplasmas .....	15
3. Conditional normocenosis associated with <i>Ureaplasma spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	16
4. Conditional normocenosis associated with <i>M. hominis</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	18
5. Conditional normocenosis associated with <i>M. hominis</i> and <i>Ureaplasma spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	20
<b>Section 2.2.</b> Management of patients with vaginitis, associated with <i>Candida spp.</i> .....	23
6. Conditional normocenosis associated with <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	24
7. <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample; severely decreased total bacterial load .....	26
<b>Section 2.3.</b> Management of patients with vaginitis, associated with opportunistic genital mycoplasmas, <i>Candida spp.</i> .....	29
8. Conditional normocenosis associated with <i>Ureaplasma spp.</i> and <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	30
<b>SECTION 3. MANAGEMENT OF PATIENTS WITH VAGINITIS, ASSOCIATED WITH THE PREDOMINANCE OF OBLIGATE ANAEROBIC BACTERIA IN VAGINAL MICROBIOTA</b> .....	<b>32</b>
<b>Section 3.1.</b> Management of patients with moderate anaerobic dysbiosis .....	35
9. Moderate anaerobic dysbiosis .....	36
10. Moderate anaerobic dysbiosis associated with <i>Atopobium vaginae</i> .....	38
11. Moderate anaerobic dysbiosis; <i>Ureaplasma spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	40
12. Moderate anaerobic dysbiosis; <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	42
13. Moderate anaerobic dysbiosis; <i>Ureaplasma spp.</i> and <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	44

14. Moderate anaerobic dysbiosis associated with of <i>Atopobium vaginae</i> ; <i>Ureaplasma spp.</i> , <i>M. hominis</i> and <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	46
<b>Section 3.2.</b> Management of patients with severe anaerobic dysbiosis .....	48
15. Severe anaerobic dysbiosis .....	48
16. Severe anaerobic dysbiosis associated with <i>Atopobium vaginae</i> .....	50
17. Severe anaerobic dysbiosis; <i>Ureaplasma spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	52
18. Severe anaerobic dysbiosis; <i>M. hominis</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	54
19. Severe anaerobic dysbiosis; <i>Ureaplasma spp.</i> and <i>M. hominis</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	56
20. Severe anaerobic dysbiosis; <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	58
21. Severe anaerobic dysbiosis; <i>Ureaplasma spp.</i> and <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	60
22. Severe anaerobic dysbiosis; <i>M. hominis</i> and <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	62
23. Severe anaerobic dysbiosis; <i>Ureaplasma spp.</i> , <i>M. hominis</i> and <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	64
24. Severe anaerobic dysbiosis associated with <i>Atopobium vaginae</i> ; <i>Ureaplasma spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	66
25. Severe anaerobic dysbiosis associated with <i>Atopobium vaginae</i> ; <i>M. hominis</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	68
26. Severe anaerobic dysbiosis associated with <i>Atopobium vaginae</i> ; <i>Ureaplasma spp.</i> and <i>M. hominis</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	70
27. Severe anaerobic dysbiosis associated with <i>Atopobium vaginae</i> ; <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	72
28. Severe anaerobic dysbiosis associated with <i>Atopobium vaginae</i> ; <i>Ureaplasma spp.</i> and <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	74
29. Severe anaerobic dysbiosis associated with <i>Atopobium vaginae</i> ; <i>Ureaplasma spp.</i> , <i>M. hominis</i> and <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	76
30. Severe anaerobic dysbiosis associated with of <i>Atopobium vaginae</i> ; with <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	78

## CONTENTS

---

### SECTION 4. MANAGEMENT OF PATIENTS WITH VAGINITIS, ASSOCIATED WITH THE PREDOMINANCE OF FACULTATIVE ANAEROBIC BACTERIA IN VAGINAL MICROBIOTA ..... 80

<b>Section 4.1.</b> Management of patients with moderate aerobic dysbiosis .....	83
31. Moderate aerobic dysbiosis associated with predominance of <i>Enterobacteriaceae</i> , <i>Streptococcus spp.</i> and <i>Staphylococcus spp.</i> .....	84
32. Moderate aerobic dysbiosis associated with predominance of <i>Streptococcus spp.</i> .....	86
<b>Section 4.2.</b> Management of patients with severe dysbiosis .....	88
33. Severe aerobic dysbiosis associated with predominance of <i>Streptococcus spp.</i> .....	88
34. Severe aerobic dysbiosis associated with predominance of <i>Staphylococcus spp.</i> .....	90
35. Severe aerobic dysbiosis associated with predominance of <i>Enterobacteriaceae</i> .....	92
36. Severe aerobic dysbiosis associated with predominance of <i>Streptococcus spp.</i> and <i>Staphylococcus spp.</i> .....	94
37. Severe aerobic dysbiosis associated with predominance of <i>Enterobacteriaceae</i> and <i>Staphylococcus spp.</i> .....	96
38. Severe aerobic dysbiosis associated with predominance of <i>Enterobacteriaceae</i> and <i>Streptococcus spp.</i> .....	98
39. Severe aerobic dysbiosis associated with predominance of <i>Streptococcus spp.</i> ; <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	100
40. Severe aerobic dysbiosis associated with predominance of <i>Enterobacteriaceae</i> and <i>Streptococcus spp.</i> ; <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	102
41. Severe aerobic dysbiosis associated with predominance of <i>Enterobacteriaceae</i> and <i>Streptococcus spp.</i> ; <i>Ureaplasma spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	104
42. Severe aerobic dysbiosis associated with predominance of <i>Enterobacteriaceae</i> and <i>Streptococcus spp.</i> ; <i>Ureaplasma spp.</i> and <i>M. hominis</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	106
43. Severe aerobic dysbiosis associated with predominance of <i>Enterobacteriaceae</i> and <i>Staphylococcus spp.</i> ; <i>Ureaplasma spp.</i> and <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	108

### SECTION 5. MANAGEMENT OF PATIENTS WITH VAGINITIS, ASSOCIATED WITH DYSBIOSIS OF MIXED (AEROBIC-ANAEROBIC) ETIOLOGY ..... 110

<b>Section 5.1.</b> Management of patients with moderate mixed dysbiosis .....	112
44. Moderate mixed dysbiosis associated with predominance of <i>Streptococcus spp.</i> and obligate anaerobes .....	112
45. Moderate mixed dysbiosis, decreased total bacterial load; <i>Ureaplasma spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	114
46. Moderate mixed dysbiosis; <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	116
<b>Section 5.2.</b> Management of patients with severe mixed dysbioses .....	118
47. Severe mixed dysbiosis associated with predominance of obligate anaerobes and <i>Staphylococcus spp.</i> .....	118
48. Severe mixed dysbiosis associated with predominance of obligate anaerobes, <i>Enterobacteriaceae</i> and <i>Streptococcus spp.</i> .....	120
49. Severe mixed dysbiosis associated, with predominance of obligate anaerobes and <i>Enterobacteriaceae</i> ; <i>Ureaplasma spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	122
50. Severe mixed dysbiosis associated, with predominance of obligate anaerobes, <i>Enterobacteriaceae</i> and <i>Streptococcus spp.</i> ; <i>Ureaplasma spp.</i> and <i>M. hominis</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	124
51. Severe mixed dysbiosis associated, with predominance of obligate anaerobes and <i>Enterobacteriaceae</i> ; <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	126
52. Severe mixed dysbiosis associated, with <i>Atopobium vaginae</i> .....	128
53. Severe mixed dysbiosis associated, with predominance of obligate anaerobes and <i>Enterobacteriaceae</i> ; <i>Ureaplasma spp.</i> and <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	130
54. Severe mixed dysbiosis, decreased total bacterial load .....	132

# CONTENTS

<b>SECTION 6. MANAGEMENT OF PATIENTS WITH SEXUALLY TRANSMITTED INFECTIONS</b> .....	<b>134</b>
<b>Section 6.1.</b> Treatment of infections caused by <i>Chlamydia trachomatis</i> .....	135
55. <i>Chlamydia trachomatis</i> positive; the proportion of lactobacilli <80% of the total bacterial load (meets the criteria of moderate dysbiosis) .....	136
56. <i>Chlamydia trachomatis</i> positive; the proportion of lactobacilli <80% of the total bacterial load (meets the criteria of moderate dysbiosis); <i>Candida spp.</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	138
<b>Section 6.2.</b> Treatment of infections caused by <i>Trichomonas vaginalis</i> .....	141
57. <i>Trichomonas vaginalis</i> positive; the proportion of lactobacilli >80% of the total bacterial load (meets the criteria of normocenosis) .....	142
<b>Section 6.3.</b> Treatment of infections caused by <i>Mycoplasma genitalium</i> ....	144
58. <i>M. genitalium</i> positive; the proportion of lactobacilli >80% of the total bacterial load (meets the criteria of normocenosis) .....	146
59. <i>M. genitalium</i> positive; the proportion of lactobacilli <80% of the total bacterial load (meets the criteria of moderate dysbiosis) .....	148
60. <i>M. genitalium</i> positive; severe anaerobic dysbiosis associated with <i>Atopobium vaginae</i> ; <i>M. hominis</i> in amounts greater than 10 <sup>4</sup> GE/sample .....	150
61. <i>M. genitalium</i> positive; severe aerobic dysbiosis .....	152
<b>SECTION 7. RESTORATION OF NORMAL MICROBIOTA (LACTOBACILLI) AT THE SECOND STAGE OF DYSBIOSIS CORRECTION</b> .....	<b>154</b>
RECOMMENDED LITERATURE .....	158
LIST OF ABBREVIATIONS .....	160

## EVALUATION OF NORMAL MICROBIOTA

The proportion of normal microbiota corresponds to the norm  
**NORMOCENOSIS**



The proportion of normal microbiota is decreased  
**DYSBIOSIS**



## EVALUATION OF OPPORTUNISTIC MICROBIOTA

*Candida spp.*, *Ureaplasma spp.* and *Mycoplasma hominis* numbers assessment

Below threshold values

Above threshold values

Assessment of the proportion of anaerobic bacteria

Above threshold values

Assessment of the proportion of aerobic bacteria

Above threshold values

RESTORATION OF NORMAL MICROBIOME

OBLIGATE PATHOGENS

MIXED DYSBIOSIS

AEROBIC DYSBIOSIS

ANAEROBIC DYSBIOSIS

CONDITIONAL NORMOCENOSIS

ABSOLUTE NORMOCENOSIS

# SECTION 1

## ABSOLUTE NORMOCENOSIS

---

### SECTION 1.

---

The criterion of normocenosis is the predominance of lactobacilli in the vaginal microbiota: greater than 80% of the total bacterial load (TBL).

**Absolute normocenosis** is a state of vaginal microbiota characterized by the predominance of lactobacilli (greater than 80% of TBL), while opportunistic microorganisms (*Ureaplasma spp.*, *Mycoplasma hominis*, *Candida spp.*) are not detected or are present in quantities less than  $10^4$  GE/sample. This pattern reflects the typical state of the normal vaginal biotope. The variant is typical for clinically healthy women with normal vaginal microscopy (predominance of lactobacilli, single white blood cells (WBC), normal squamous epithelial cells (EC), 1:1 ratio of WBC to EC, no blastospores and pseudogyphae of yeast-like fungi, no clue cells).

The combination of **absolute normocenosis** with an intermediate smear type (reduced or absent lactobacilli, 1:1 ratio of WBC to EC, no blastospores and pseudogyphae of yeast-like fungi, no clue cells) can be considered normal in healthy, asymptomatic women of reproductive age and does not require treatment.

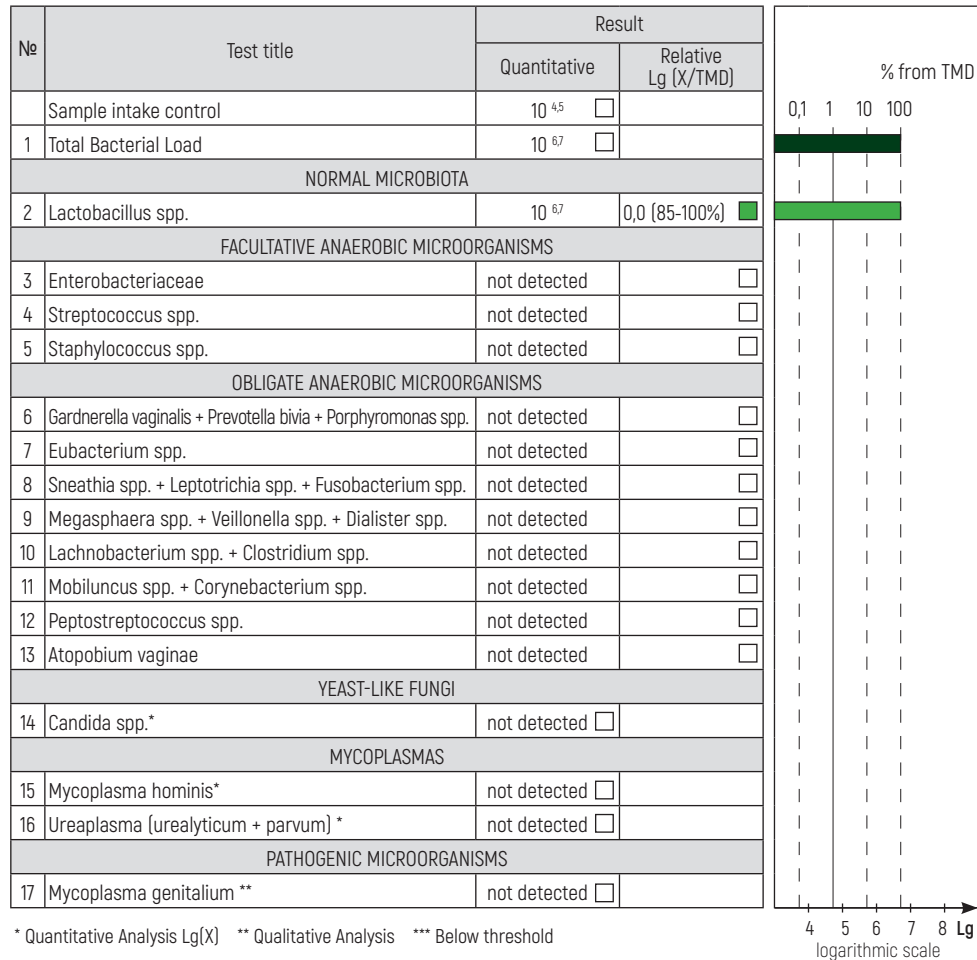


**In a symptomatic patient**, it is recommended to further examine the patient to exclude sexually transmitted infection (STI) agents, viruses, or extragenital pathology.

***Absolute normocenosis does not require antimicrobial therapy!***

# 1. Absolute normocenosis

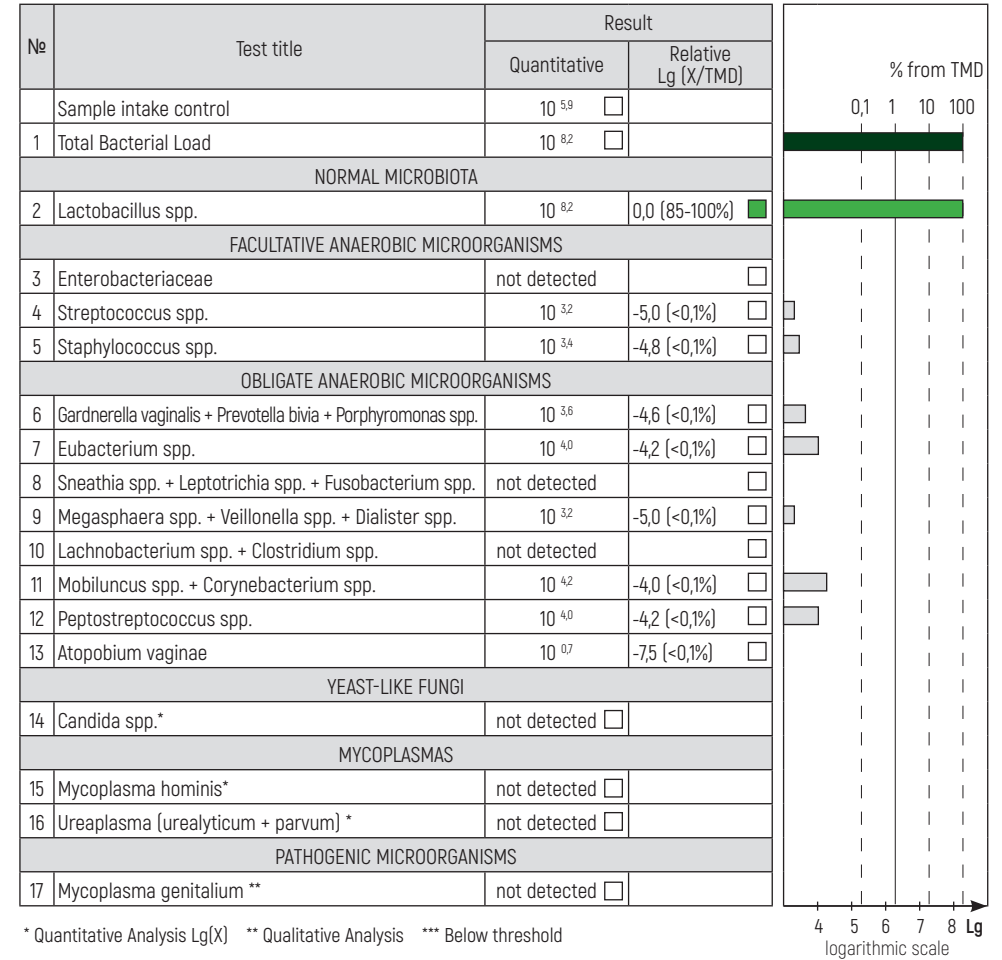
Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
ABSOLUTE NORMOCENOSIS

# 2. Absolute normocenosis with presence of anaerobes

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
ABSOLUTE NORMOCENOSIS



# SECTION 2

## CONDITIONAL NORMOCENOSIS

---

### SECTION 2.1. MANAGEMENT OF PATIENTS WITH VAGINITIS ASSOCIATED WITH OPPORTUNISTIC GENITAL MYCOPLASMAS

---

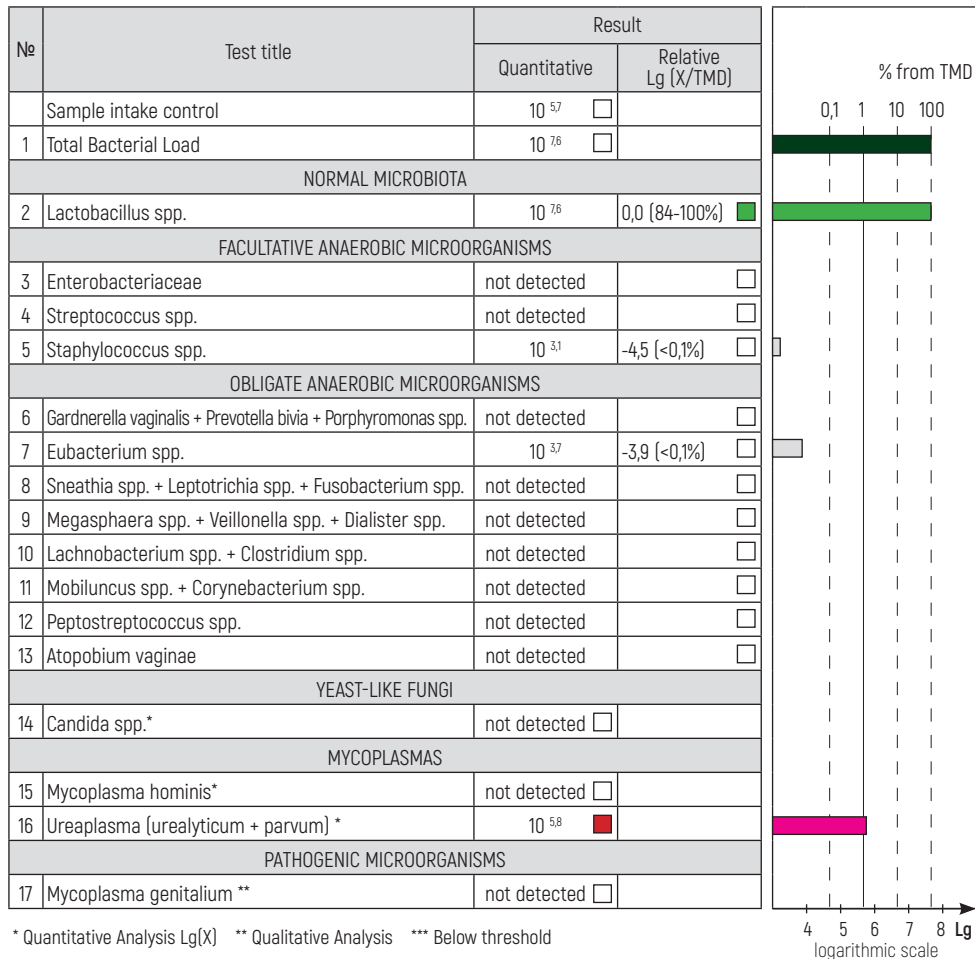
Genital mycoplasmas (*Ureaplasma parvum*, *Ureaplasma urealyticum*, *M. hominis*) are opportunistic microorganisms frequently present in normal microbiota of the urogenital tract.

**Conditional normocenosis** is a state of the vaginal microbiota characterized by the predominance of lactobacilli (greater than 80% of TBL) when amounts of associated opportunistic microorganisms (*Ureaplasma spp.*, *M. hominis*, *Candida spp.*) are greater than  $10^4$  GE/sample.

**Treatment is not indicated when *M. hominis* and/or *Ureaplasma spp.* are detected in amounts less than  $10^4$  GE/sample, and there are no symptoms and signs and/or laboratory evidence of urogenital tract inflammation.**

### 3. Conditional normocenosis associated with *Ureaplasma spp.* in amounts greater than $10^4$ GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
CONDITIONAL NORMOCENOSIS

Treatment is indicated when *Ureaplasma spp.* is detected in amounts greater than  $10^4$  GE/sample and:

- Clinical or laboratory evidence of the urogenital tract inflammation;
- Bad obstetric history (infertility, miscarriage, perinatal losses);
- Planning for pregnancy.

Before starting therapy it is necessary to exclude STI: *C. trachomatis*, *N. gonorrhoeae*, *T. vaginalis*, *M. genitalium*!!!!



#### SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

**NB!** The drug is not approved for use during pregnancy and lactation.

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.



#### SPECIAL CONSIDERATIONS: PREGNANCY

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

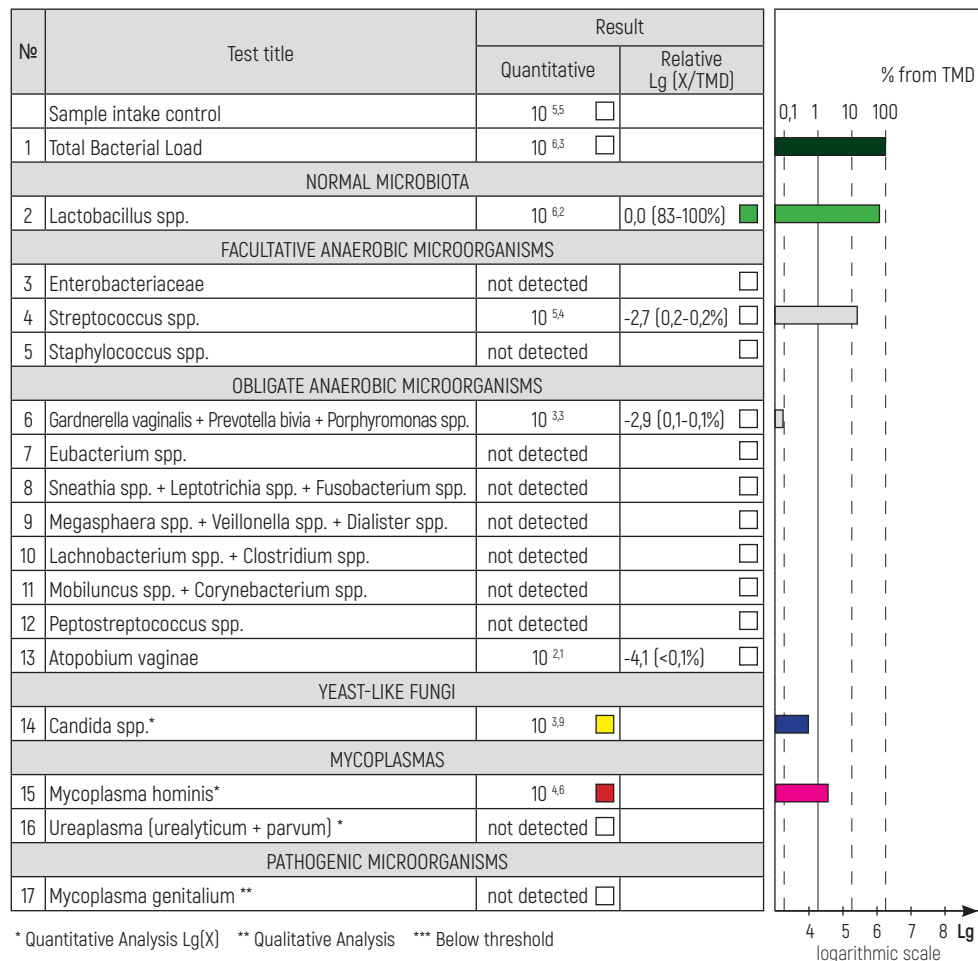
**NB!** It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 4. Conditional normocenosis associated with *M. hominis* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
CONDITIONAL NORMOCENOSIS

Treatment is indicated when *M. hominis* is detected in amounts greater than 10<sup>4</sup> GE/sample and:

- clinical or laboratory evidence of the urogenital tract inflammation;
- bad obstetric history (infertility, miscarriage, perinatal losses);
- pregnancy planning.

Before starting therapy it is necessary to exclude STI: *C. trachomatis*, *N. gonorrhoeae*, *T. vaginalis*, *M. genitalium*!!!!



### SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

**NB!** The drug is not approved for use during pregnancy and lactation.

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.



### SPECIAL CONSIDERATIONS: PREGNANCY

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

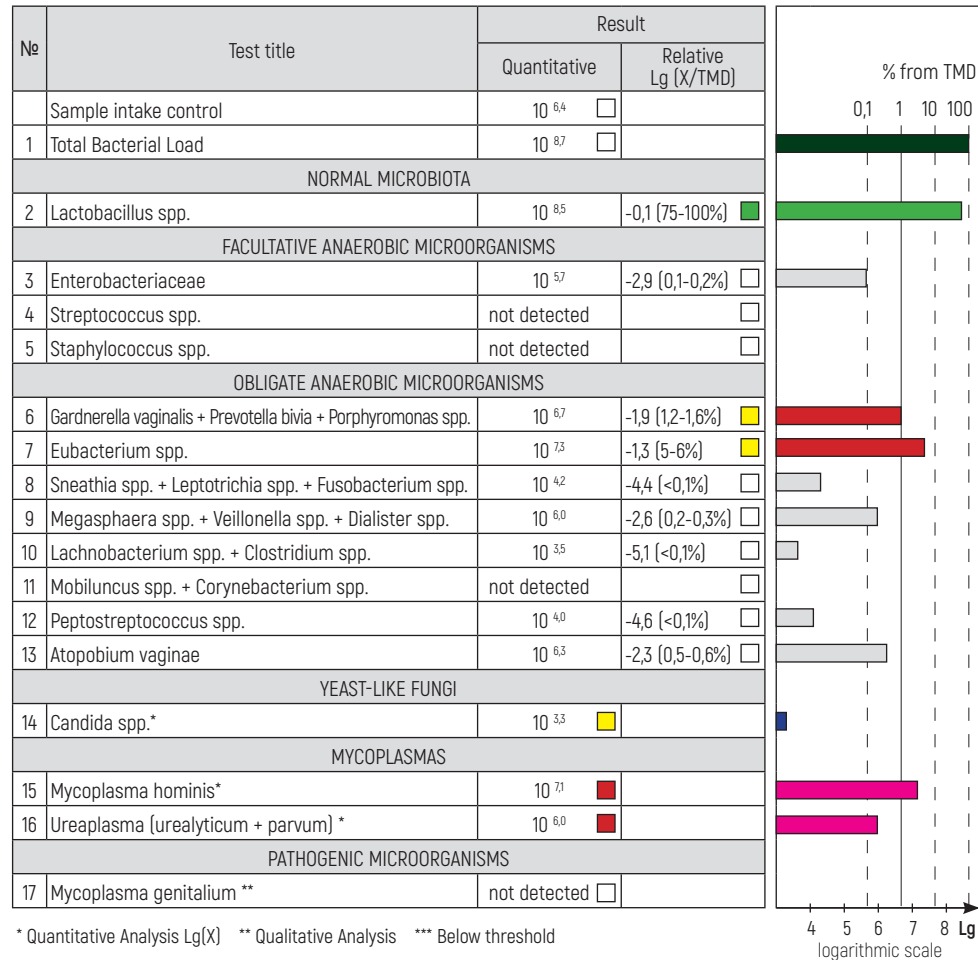
**NB!** It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 5. Conditional normocenosis associated with *M. hominis* and *Ureaplasma* spp. in amounts greater than 10<sup>4</sup> GE/sample

### Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
CONDITIONAL NORMOCENOSIS

Treatment is indicated in case of:

- clinical or laboratory evidence of the urogenital tract inflammation;
- bad obstetric history (infertility, miscarriage, perinatal losses);
- pregnancy planning.

Before starting therapy it is necessary to exclude STI: *C. trachomatis*, *N. gonorrhoeae*, *T. vaginalis*, *M. genitalium*!!!!



### SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

**NB! The drug is not approved for use during pregnancy and lactation.**

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.



### SPECIAL CONSIDERATIONS: PREGNANCY

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

**NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# SECTION 2

## CONDITIONAL NORMOCENOSIS

---

### SECTION 2.2. MANAGEMENT OF PATIENTS WITH VAGINITIS, ASSOCIATED WITH *CANDIDA SPP.*

---

*Candida spp.* are opportunistic yeast-like fungi that can be present in normal genital microbiota.

**Conditional normocenosis** is a state of the vaginal microbiota characterized by the predominance of lactobacilli (the proportion of lactobacilli greater than 80% of TBL) in the presence of associated opportunistic microorganisms (*Candida spp.*) in amounts greater than  $10^4$  GE/sample.

**Vulvovaginal candidiasis (VVC)** is an infectious disease caused by *Candida spp.* that affects the vulvar skin and vaginal mucosa. In women, the disease is characterized by external dysuria and vulvar pruritus, pain, swelling, and redness.

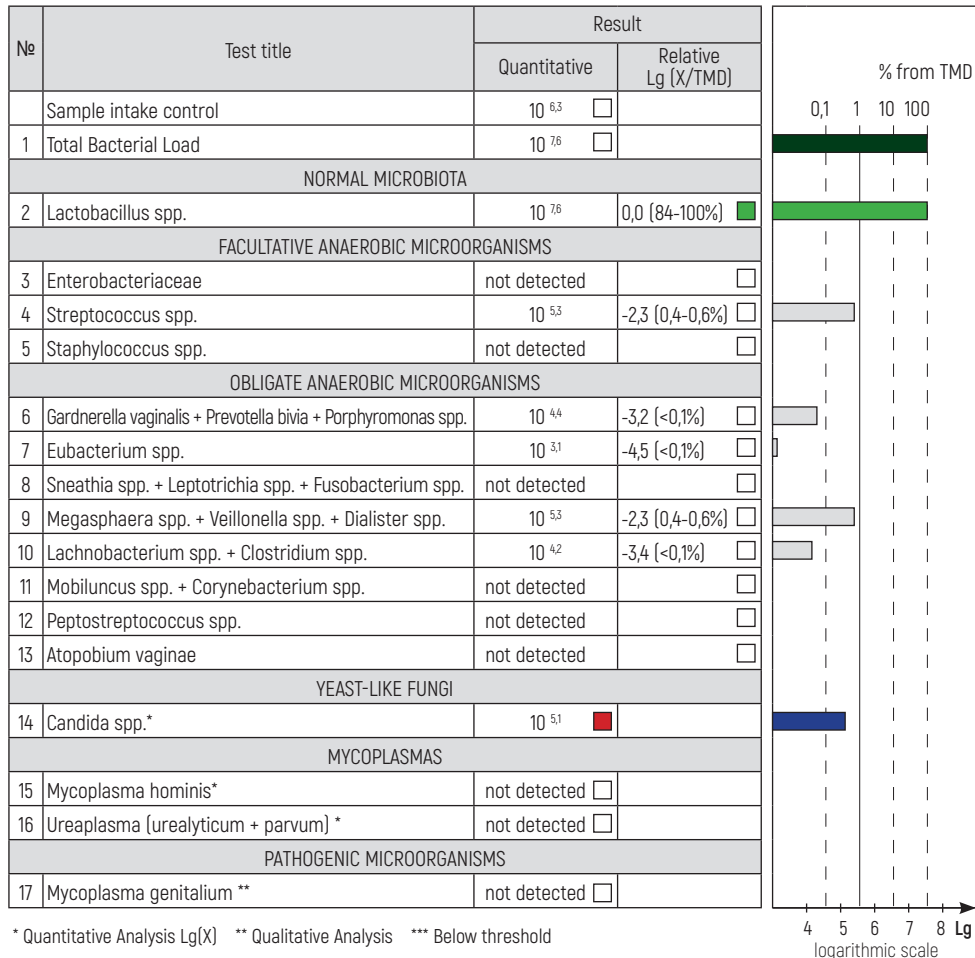


**Indication for treatment:** women with symptoms and signs of VVC with positive laboratory tests for *Candida spp.*

**Treatment is not indicated for asymptomatic carriers (because approximately 10–20% of women harbor *Candida spp.* and other yeasts in the vagina) and for sexual partners of women with VVC, except for those with balanitis and/or balanopostitis.**

## 6. Conditional normocenosis associated with *Candida spp.* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



### Conclusion:

CONDITIONAL NORMOCENOSIS

DETECTED: *Candida spp.* (exceeds the clinically significant threshold value)

**Indication for treatment:** women with symptoms and signs of VVC and positive laboratory tests for *Candida spp.*

### Recommended regimens for vulvovaginal candidiasis:



#### TOPICAL TREATMENT

(one of the suggested medications):

«**Natamycin**», 100 mg vaginal suppositories — daily, 6 days.

«**Clotrimazole**», vaginal tablet 200 mg — daily (at bedtime), 3 days.

«**Clotrimazole**», 1% cream 5 g — intravaginally daily (at bedtime), 7-14 days.

«**Itraconazole**», 200 mg vaginal tablet — daily (at bedtime), 10 days.

«**Miconazole**», vaginal suppositories 100 mg — daily (at bedtime), 7 days.

«**Butoconazole**», 2% cream 5 g — intravaginally in a single application (at bedtime)

«**Sertaconazole**», vaginal suppositories 300 mg — intravaginally in a single application.



#### SYSTEMIC THERAPY

(one of the suggested medications):

«**Fluconazole**» 150 mg — orally in a single dose.

«**Itraconazole**» 200 mg — orally, daily, 3 days.



#### SPECIAL CONSIDERATIONS: PREGNANCY

**Topical treatment** (one of the suggested medications):

«**Clotrimazole**», vaginal tablet 200 mg — daily (at bedtime), 3 days.

«**Clotrimazole**», 1% cream 5 g — intravaginally daily (at bedtime), 7 days.

**NB! Drugs are approved for use from the 2nd trimester of pregnancy.**

«**Natamycin**», vaginal suppositories 100 mg — daily, 3-6 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.**

## 7. *Candida spp.* in amounts greater than 10<sup>4</sup> GE/sample severely decreased total bacterial load

COMPLICATED CASE

Example of Femoflor® 16 result form generated after testing vaginal sample

№	Test title	Result		% from TMD
		Quantitative	Relative Lg [X/TMD]	
	Sample intake control	10 <sup>4.9</sup>	<input type="checkbox"/>	
1	Total Bacterial Load	10 <sup>4.2</sup>	<input checked="" type="checkbox"/>	
NORMAL MICROBIOTA				
2	Lactobacillus spp.	10 <sup>3.2</sup>	-0,5 (30-41%)	<input checked="" type="checkbox"/>
FACULTATIVE ANAEROBIC MICROORGANISMS				
3	Enterobacteriaceae	not detected	<input type="checkbox"/>	
4	Streptococcus spp.	10 <sup>3.1</sup>	-0,6 (24-32%)	<input checked="" type="checkbox"/>
5	Staphylococcus spp.	not detected	<input type="checkbox"/>	
OBLIGATE ANAEROBIC MICROORGANISMS				
6	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	not detected	<input type="checkbox"/>	
7	Eubacterium spp.	10 <sup>3.2</sup>	-0,5 (30-41%)	<input checked="" type="checkbox"/>
8	Sneathia spp. + Leptotrichia spp. + Fusobacterium spp.	not detected	<input type="checkbox"/>	
9	Megasphaera spp. + Veillonella spp. + Dialister spp.	not detected	<input type="checkbox"/>	
10	Lachnobacterium spp. + Clostridium spp.	not detected	<input type="checkbox"/>	
11	Mobiluncus spp. + Corynebacterium spp.	not detected	<input type="checkbox"/>	
12	Peptostreptococcus spp.	not detected	<input type="checkbox"/>	
13	Atopobium vaginae	10 <sup>1.6</sup>	-2,1 (0,8-1,0%)	<input type="checkbox"/>
YEAST-LIKE FUNGI				
14	<i>Candida spp.</i> *	10 <sup>5.7</sup>	<input checked="" type="checkbox"/>	
MYCOPLASMAS				
15	<i>Mycoplasma hominis</i> *	not detected	<input type="checkbox"/>	
16	<i>Ureaplasma (urealyticum + parvum)</i> *	not detected	<input type="checkbox"/>	
PATHOGENIC MICROORGANISMS				
17	<i>Mycoplasma genitalium</i> **	not detected	<input type="checkbox"/>	

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

logarithmic scale

### Conclusion:

The value «Total Bacterial Load» is below the threshold, the conclusion on the test results cannot be generated automatically. For more accurate results, the test should be repeated with a new vaginal sample from the patient

COMPLICATED CASE

In this case, the presence of *Candida spp.* in amount greater than 10<sup>4</sup> GE/sample is combined with a pronounced decrease of TBL. This can be a result of previous antibiotic therapy. A long-term restoration of normal microbiota is required. The use of oral forms of probiotics is preferable in order to avoid excessive acidification of the vagina by topical treatment, which provides favorable conditions for *Candida spp.* growth.

### Recommended regimens for vulvovaginal candidiasis:



#### TOPICAL TREATMENT

(one of the suggested medications):

«**Natamycin**», 100 mg vaginal suppositories — daily, 6 days.

«**Clotrimazole**», vaginal tablet 200 mg — daily (at bedtime), 3 days.

«**Clotrimazole**», 1% cream 5 g — intravaginally daily (at bedtime), 7-14 days.

«**Itraconazole**», 200 mg vaginal tablet — daily (at bedtime), 10 days.

«**Miconazole**», vaginal suppositories 100 mg — daily (at bedtime), 7 days.

«**Butoconazole**», 2% cream 5 g — intravaginally in a single application (at bedtime)

«**Sertaconazole**», vaginal suppositories 300 mg — intravaginally in a single application.



#### SYSTEMIC THERAPY

(one of the suggested medications):

«**Fluconazole**» 150 mg — orally in a single dose.

«**Itraconazole**» 200 mg — orally, daily, 3 days.



#### SPECIAL CONSIDERATIONS: PREGNANCY

**Topical treatment** (one of the suggested medications):

«**Clotrimazole**», vaginal tablet 200 mg — daily (at bedtime), 3 days.

«**Clotrimazole**», 1% cream 5 g — intravaginally daily (at bedtime), 7 days.

**NB! Drugs are approved for use from the 2nd trimester of pregnancy.**

«**Natamycin**», vaginal suppositories 100 mg — daily, 3-6 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.**

# SECTION 2

## CONDITIONAL NORMOCENOSIS

---

### SECTION 2.3. MANAGEMENT OF PATIENTS WITH VAGINITIIS, ASSOCIATED WITH OPPORTUNISTIC GENITAL MYCOPLASMAS, CANDIDA SPP.

---

**Conditional normocenosis of mixed etiology** is a state of the vaginal microbiota characterized by the predominance of lactobacilli (greater than 80% of TBL) and identification of both *Candida spp.* and opportunistic mycoplasmas (*Ureaplasma spp.*, *M. hominis*) in amounts greater than  $10^4$  GE/sample.



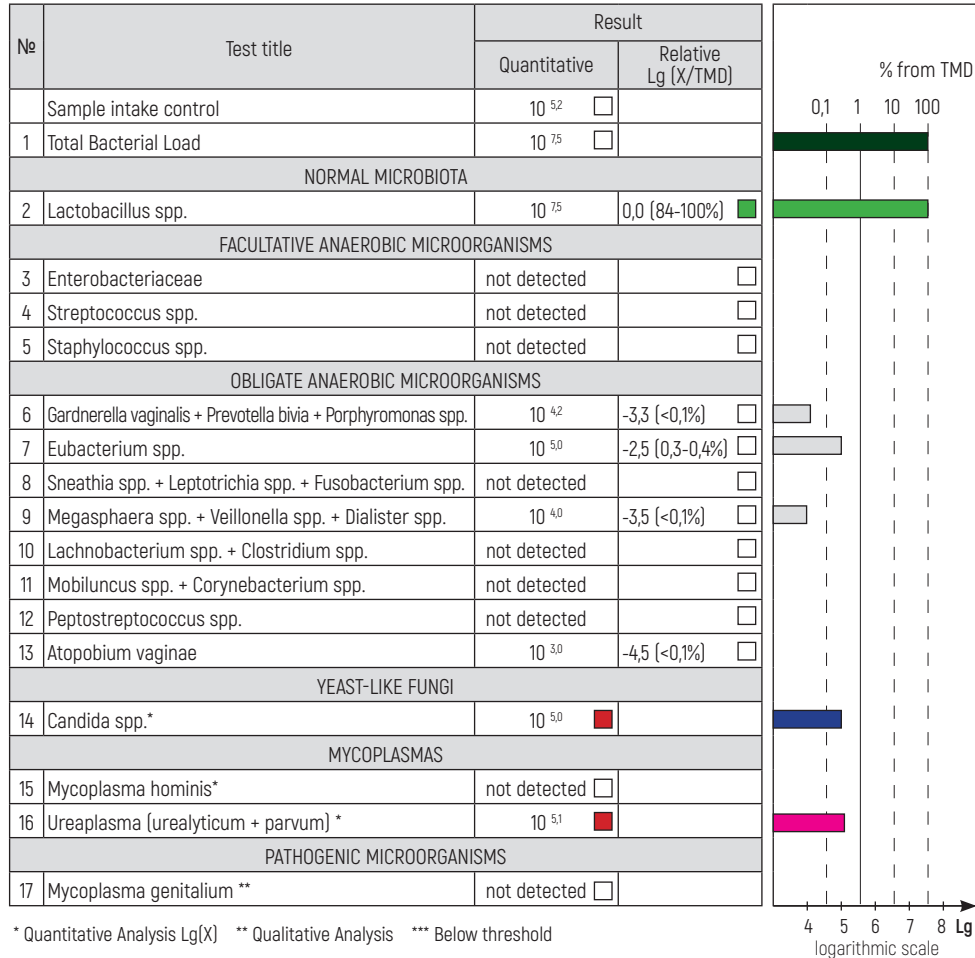
#### Indications for treatment:

- clinical or laboratory evidence of the genital tract inflammation;
- bad obstetric history (infertility, miscarriage, perinatal losses);
- pregnancy planning.



## 8. Conditional normocenosis associated with *Ureaplasma spp.* and *Candida spp.* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



### Conclusion:

CONDITIONAL NORMOCENOSIS

DETECTED: Candida spp. (exceeds the clinically significant threshold value)

For patients with clinical presentation and/or laboratory signs of vaginitis, complex treatment is indicated: oral antimicrobial treatment (to suppress *Ureaplasma spp.*) and antifungal treatment (to suppress *Candida spp.*).



### Treatment options for *Ureaplasma spp.*:

**SYSTEMIC THERAPY** (one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.



### SPECIAL CONSIDERATIONS: PREGNANCY

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.



### Treatment options for *Candida spp.*:

**TOPICAL TREATMENT** (one of the suggested medications):

«**Natamycin**», 100 mg vaginal suppositories — daily, 6 days.

«**Clotrimazole**», vaginal tablet 200 mg — daily (at bedtime), 3 days.

«**Clotrimazole**», 1% cream 5 g — intravaginally daily (at bedtime), 7-14 days.

«**Itraconazole**», 200 mg vaginal tablet — daily (at bedtime), 10 days.

«**Miconazole**», vaginal suppositories 100 mg — daily (at bedtime), 7 days.

«**Butoconazole**», 2% cream 5 g — intravaginally in a single application (at bedtime).

«**Sertaconazole**», vaginal suppositories 300 mg — intravaginally in a single application.



**SYSTEMIC THERAPY** (one of the suggested medications):

«**Fluconazole**» 150 mg — orally in a single dose.

«**Itraconazole**» 200 mg — orally, daily, 3 days.



### SPECIAL CONSIDERATIONS: PREGNANCY

**Topical treatment** (one of the suggested medications):

«**Natamycin**», vaginal suppositories 100 mg — daily, 3-6 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

*NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# SECTION 3

## ANAEROBIC DYSBIOSIS

### SECTION 3. MANAGEMENT OF PATIENTS WITH VAGINITIS, ASSOCIATED WITH THE PREDOMINANCE OF OBLIGATE ANAEROBIC BACTERIA IN VAGINAL MICROBIOTA

The normal vaginal microbiota can contain obligate anaerobic bacteria in small amounts. Some of them can cause serious inflammatory disorders of the female reproductive tract.

**Anaerobic dysbiosis** is a state of the vaginal microbiota characterized by the predominance of obligate anaerobic bacteria (anaerobes) with a corresponding decrease in the proportion of *Lactobacillus spp.*

**Depending on proportion of lactobacilli of TBL the following variants of anaerobic dysbiosis are distinguished:**

- **severe anaerobic dysbiosis** — proportion of *Lactobacillus spp.* <20% of TBL;
- **moderate anaerobic dysbiosis** — proportion of *Lactobacillus spp.* is 20-80% of TBL.

The clinical presentation corresponding to anaerobic dysbiosis according to the Femoflor test is **bacterial vaginosis (BV)**. In this case, a dysbiotic or intermediate vaginal smear type is detected by microscopy; in cases of mixed infections an inflammatory vaginal smear type is detected.



**Indications for treatment:** reproductive age women with severe anaerobic dysbiosis require treatment regardless of clinical presentation. Patients with moderate anaerobic dysbiosis require treatment if they have bad obstetric history and/or signs and symptoms of the urogenital tract inflammatory disorders. In some cases moderate dysbiosis can be considered as a normal state of vaginal microbiota or as a transient condition that does not require treatment.

**The purpose of therapy** is clinical recovery and restoration of lactobacilli-dominated vaginal microbiota.

**Treatment of anaerobic dysbiosis and related clinical presentation is carried out in two stages:**

- The reduction of the amounts and proportions of obligate anaerobes is required at the first stage;
- The restoration of lactobacilli population at the second stage is essential to prevent BV recurrence.

See pages 155-156 for possible medications and schemes of treatment.

**Management of sex partners: routine treatment of sex partners is not recommended, but it could be beneficial for patients with recurrent BV.**



**Recurrence prevention:**

An adequate treatment of the disease is necessary to prevent recurrent anaerobic dysbiosis (bacterial vaginosis). Using a different (not previously used) treatment regimen is recommended for women who have a recurrence.

**The consultation of a gastroenterologist is strongly recommended!**

**Pregnancy and lactation.** Treatment is recommended for all pregnant women with symptomatic and asymptomatic BV.

**SECTION 3.1.  
MANAGEMENT OF PATIENTS WITH MODERATE  
ANAEROBIC DYSBIOSIS**

---

Treatment is indicated for patients with moderate dysbiosis considering their medical history, pregnancy planning or preparation for vaginal surgical treatment. In other cases, moderate dysbiosis may be considered normal or a transient condition that does not require treatment.

If treatment is required, the use of topical antiseptics, nonpharmacological methods (vaginal irrigation with drug solutions cavitated by low-frequency ultrasound) is preferable. Personalized treatment options should be based on the need to restore vaginal pH, the lactobacilli population, function and trophism of the vaginal epithelium.

To maintain an acidic environment in the vagina, over-the-counter lactic acid containing products (suppository, douche, gel) may be used. Their formulation and product name may be different depending on a country.

***NB! Medications that acidify the vaginal environment are not recommended in case of infections combined with Candida spp. and while planning natural child conception.***

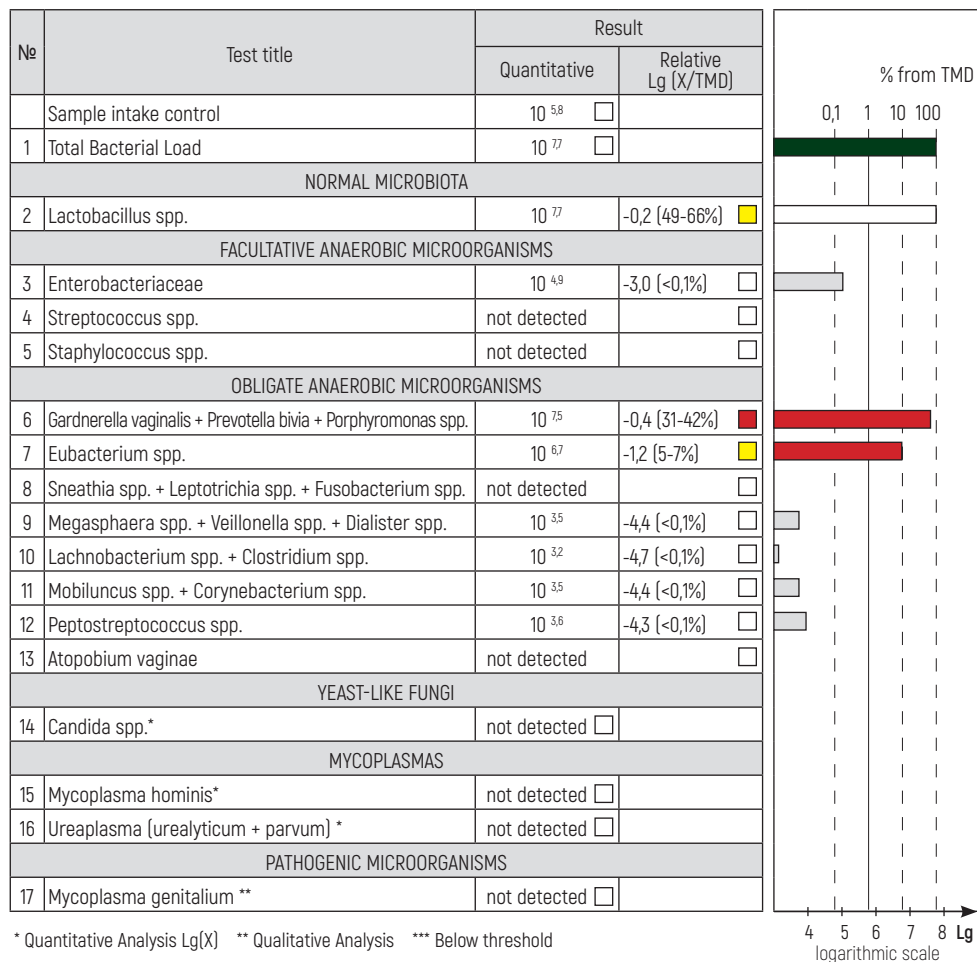
The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

See pages 155-156 for possible medications and schemes of treatment.

For women with estrogen deficiency intravaginal treatment with estriol containing products is recommended to restore the function and trophism of the vaginal epithelium.

## 9. Moderate anaerobic dysbiosis

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
MODERATE ANAEROBIC DYSBIOSIS

If antimicrobial therapy is required in the first stage of treatment, topical treatment is preferable.



### TOPICAL TREATMENT

(one of the suggested medications):

«**Metronidazole**», 0.75% gel 5.0 g — intravaginally daily (at bedtime), 5 days.

«**Clindamycin**», vaginal suppositories 100 mg — 1 suppository daily (at bedtime), 3 days.

**NB!** These drugs are not approved for use during pregnancy and lactation.



### SPECIAL CONSIDERATIONS: PREGNANCY

(one of the suggested medications):

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

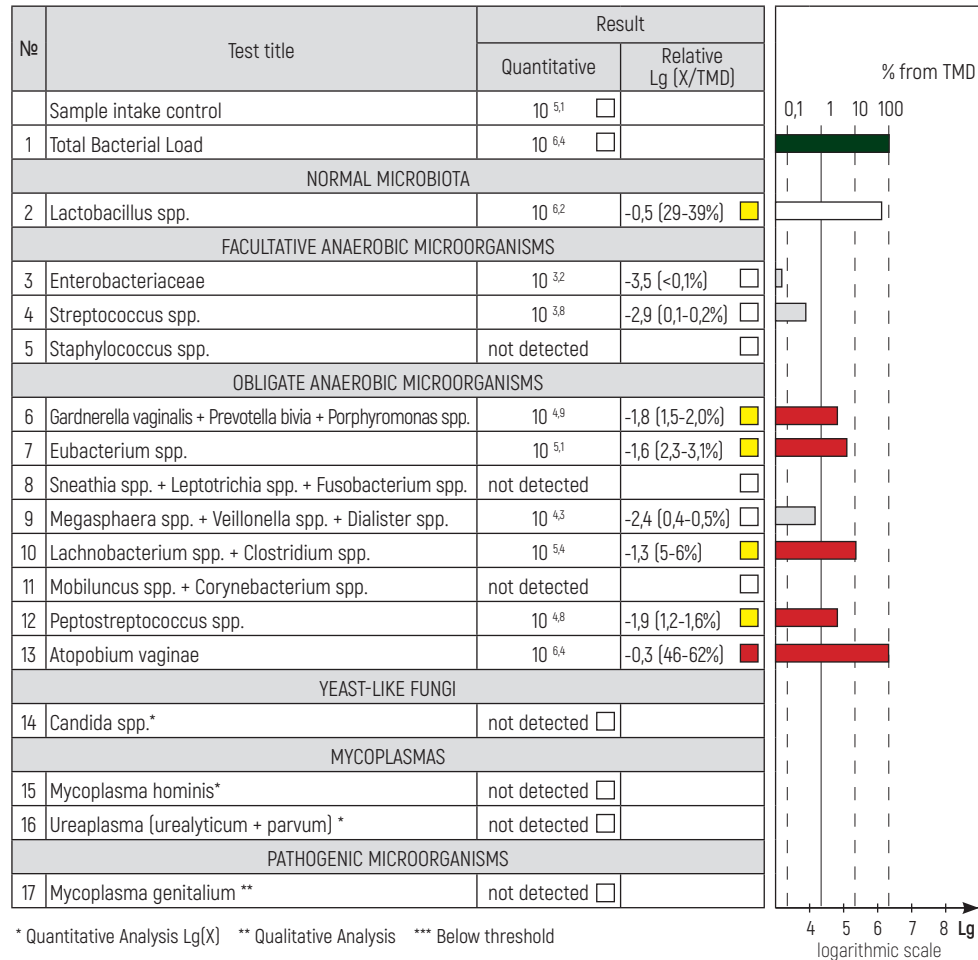
**NB!** According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# 10. Moderate anaerobic dysbiosis associated with *Atopobium vaginae*

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
MODERATE ANAEROBIC DYSBIOSIS

If antimicrobial therapy is required in the first stage of treatment, topical treatment is preferable.



## TOPICAL TREATMENT

(one of the suggested medications):

«Clindamycin», 2% cream 5.0 g — intravaginally once a day (at night), 7 days.

«Clindamycin», vaginal suppositories 100 mg — intravaginally once a day (at night), 3 days.

**NB!** The drugs are not approved in the first trimester of pregnancy and during lactation.

«Macmiror complex», vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository daily (at bedtime), 8 days.

«Macmiror complex», cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

**NB!** The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.



## SPECIAL CONSIDERATIONS: PREGNANCY

(one of the suggested medications):

«Hexicon», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB!** According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 11. Moderate anaerobic dysbiosis; *Ureaplasma* spp. in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample

№	Test title	Result		%
		Quantitative	Relative Lg (X/TMD)	
	Sample intake control	10 <sup>4.9</sup>	<input type="checkbox"/>	
1	Total Bacterial Load	10 <sup>6.6</sup>	<input type="checkbox"/>	
NORMAL MICROBIOTA				
2	Lactobacillus spp.	10 <sup>6.3</sup>	-0,4 (32-44%)	<input checked="" type="checkbox"/>
FACULTATIVE ANAEROBIC MICROORGANISMS				
3	Enterobacteriaceae	10 <sup>3.5</sup>	-3,2 (<0,1%)	<input type="checkbox"/>
4	Streptococcus spp.	not detected		<input type="checkbox"/>
5	Staphylococcus spp.	not detected		<input type="checkbox"/>
OBLIGATE ANAEROBIC MICROORGANISMS				
6	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	10 <sup>6.4</sup>	-0,3 (41-55%)	<input checked="" type="checkbox"/>
7	Eubacterium spp.	10 <sup>5.8</sup>	-0,9 (10-14%)	<input checked="" type="checkbox"/>
8	Sneathia spp. + Leptotrichia spp. + Fusobacterium spp.	not detected		<input type="checkbox"/>
9	Megasphaera spp. + Veillonella spp. + Dialister spp.	not detected		<input type="checkbox"/>
10	Lachnobacterium spp. + Clostridium spp.	not detected		<input type="checkbox"/>
11	Mobiluncus spp. + Corynebacterium spp.	not detected		<input type="checkbox"/>
12	Peptostreptococcus spp.	not detected		<input type="checkbox"/>
13	Atopobium vaginae	not detected		<input type="checkbox"/>
YEAST-LIKE FUNGI				
14	Candida spp.*	not detected		<input type="checkbox"/>
MYCOPLASMAS				
15	Mycoplasma hominis*	not detected		<input type="checkbox"/>
16	Ureaplasma (urealyticum + parvum) *	10 <sup>4.9</sup>		<input checked="" type="checkbox"/>
PATHOGENIC MICROORGANISMS				
17	Mycoplasma genitalium **	not detected		<input type="checkbox"/>

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

**Conclusion:**  
MODERATE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma* spp.) and topical treatment (to suppress anaerobic bacteria).



### SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*



### TOPICAL TREATMENT

(one of the suggested medications):

«**Metronidazole**», 0.75% gel 5.0 g — intravaginally daily (at bedtime), 5 days.

«**Clindamycin**», vaginal suppositories 100 mg — intravaginally daily (at bedtime), 3 days.



### SPECIAL CONSIDERATIONS: PREGNANCY

#### Systemic therapy:

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*

#### Topical treatment (one of the suggested medications):

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

*NB! According to the official instructions, the drugs are allowed to use during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 12. Moderate anaerobic dysbiosis; *Candida spp.* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample

№	Test title	Result		
		Quantitative	Relative Lg (X/TMD)	
	Sample intake control	10 <sup>6.8</sup>	<input type="checkbox"/>	
1	Total Bacterial Load	10 <sup>7.7</sup>	<input type="checkbox"/>	
NORMAL MICROBIOTA				
2	Lactobacillus spp.	10 <sup>7.3</sup>	-0,3 (39-53%)	<input checked="" type="checkbox"/>
FACULTATIVE ANAEROBIC MICROORGANISMS				
3	Enterobacteriaceae	not detected		<input type="checkbox"/>
4	Streptococcus spp.	not detected		<input type="checkbox"/>
5	Staphylococcus spp.	10 <sup>3.3</sup>	-4,3 (<0,1%)	<input type="checkbox"/>
OBLIGATE ANAEROBIC MICROORGANISMS				
6	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	10 <sup>7.2</sup>	-0,4 (31-42%)	<input checked="" type="checkbox"/>
7	Eubacterium spp.	10 <sup>6.8</sup>	-0,8 (12-17%)	<input checked="" type="checkbox"/>
8	Sneathia spp. + Leptotrichia spp. + Fusobacterium spp.	not detected		<input type="checkbox"/>
9	Megasphaera spp. + Veillonella spp. + Dialister spp.	10 <sup>6.0</sup>	-1,6 (2,0-2,7%)	<input checked="" type="checkbox"/>
10	Lachnobacterium spp. + Clostridium spp.	not detected		<input type="checkbox"/>
11	Mobiluncus spp. + Corynebacterium spp.	not detected		<input type="checkbox"/>
12	Peptostreptococcus spp.	not detected		<input type="checkbox"/>
13	Atopobium vaginae	10 <sup>1.5</sup>	-6,1 (<0,1%)	<input type="checkbox"/>
YEAST-LIKE FUNGI				
14	Candida spp.*	10 <sup>5.6</sup>		<input checked="" type="checkbox"/>
MYCOPLASMAS				
15	Mycoplasma hominis*	not detected		<input type="checkbox"/>
16	Ureaplasma (urealyticum + parvum) *	not detected		<input type="checkbox"/>
PATHOGENIC MICROORGANISMS				
17	Mycoplasma genitalium **	not detected		<input type="checkbox"/>

% from TMD

0,1 1 10 100

4 5 6 7 8 Lg

logarithmic scale

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

**Conclusion:**  
MODERATE ANAEROBIC DYSBIOSIS

If antimicrobial therapy is required in the first stage of treatment, topical treatment is preferable.



### TOPICAL TREATMENT

(one of the suggested medications):

«**Gynomax**», vaginal suppositories (tinidazole 150 mg, thioconazole 100 mg) — 1 suppository daily (at bedtime), 7 days, or 1 suppository twice a day, 3 days.

«**Clion D 100**» (metronidazole 100 mg, miconazole nitrate 100 mg) — 1 vaginal tablet daily (at bedtime), 10 days.

«**Neo-Penotran**» (metronidazole 500 mg, miconazole nitrate 100 mg) — 1 vaginal suppository twice a day, 7 days. For recurrent vaginitis — 1 vaginal suppository twice a day, 14 days.

«**Neo-Penotran Forte**» (metronidazole 750 mg, miconazole nitrate 200 mg) — 1 vaginal suppository daily (at bedtime), 7 days.

«**Clindacin B prolong**» (butoconazole nitrate 2 g, clindamycin phosphate 2 g) — 1 full applicator intravaginally daily (at bedtime), 3 days.

**NB!** These drugs are not approved for use in the first trimester of pregnancy and during lactation.



### SPECIAL CONSIDERATIONS: PREGNANCY

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB!** According to the official instructions, the drug is allowed to use during the entire period of pregnancy and lactation.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# 13. Moderate anaerobic dysbiosis; *Ureaplasma spp.* and *Candida spp.* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample

№	Test title	Result		
		Quantitative	Relative Lg (X/TMD)	
	Sample intake control	10 <sup>6.9</sup>	<input type="checkbox"/>	
1	Total Bacterial Load	10 <sup>7.1</sup>	<input type="checkbox"/>	
NORMAL MICROBIOTA				
2	Lactobacillus spp.	10 <sup>6.7</sup>	-0,6 [24-32%]	<input checked="" type="checkbox"/>
FACULTATIVE ANAEROBIC MICROORGANISMS				
3	Enterobacteriaceae	not detected		<input type="checkbox"/>
4	Streptococcus spp.	not detected		<input type="checkbox"/>
5	Staphylococcus spp.	not detected		<input type="checkbox"/>
OBLIGATE ANAEROBIC MICROORGANISMS				
6	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	10 <sup>7.0</sup>	-0,3 [47-64%]	<input checked="" type="checkbox"/>
7	Eubacterium spp.	10 <sup>6.5</sup>	-1,0 [9-13%]	<input checked="" type="checkbox"/>
8	Sneathia spp. + Leptotrichia spp. + Fusobacterium spp.	not detected		<input type="checkbox"/>
9	Megasphaera spp. + Veillonella spp. + Dialister spp.	10 <sup>6.0</sup>	-1,3 [5-6%]	<input checked="" type="checkbox"/>
10	Lachnobacterium spp. + Clostridium spp.	not detected		<input type="checkbox"/>
11	Mobiluncus spp. + Corynebacterium spp.	not detected		<input type="checkbox"/>
12	Peptostreptococcus spp.	not detected		<input type="checkbox"/>
13	Atopobium vaginae	10 <sup>1.0</sup>	-6,3 (<0,1%)	<input type="checkbox"/>
YEAST-LIKE FUNGI				
14	Candida spp.*	10 <sup>6.2</sup>		<input checked="" type="checkbox"/>
MYCOPLASMAS				
15	Mycoplasma hominis*	not detected		<input type="checkbox"/>
16	Ureaplasma (urealyticum + parvum) *	10 <sup>4.5</sup>		<input checked="" type="checkbox"/>
PATHOGENIC MICROORGANISMS				
17	Mycoplasma genitalium **	not detected		<input type="checkbox"/>

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

**Conclusion:**  
MODERATE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.*) and topical treatment (to suppress anaerobic bacteria and *Candida spp.*).



**SYSTEMIC THERAPY** (one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.  
*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



**TOPICAL TREATMENT** (one of the suggested medications):

«**Gynomax**», vaginal suppositories (tinidazole 150 mg, thioconazole 100 mg) — 1 suppository daily (at bedtime), 7 days, or 1 suppository twice a day, 3 days.

«**Clion D 100**» (metronidazole 100 mg, miconazole nitrate 100 mg) — 1 vaginal tablet daily (at bedtime), 10 days.

«**Neo-Penotran**» (metronidazole 500 mg, miconazole nitrate 100 mg) — 1 vaginal suppository twice a day, 7 days.

For recurrent vaginitis — 1 vaginal suppository twice a day, 14 days.

«**Neo-Penotran Forte**» (metronidazole 750 mg, miconazole nitrate 200 mg) — 1 vaginal suppository daily (at bedtime), 7 days.

«**Clindacin B prolong**» (butoconazole nitrate 2 g, clindamycin phosphate 2 g) — 1 full applicator intravaginally daily (at bedtime), 3 days.

*NB! These drugs are not approved for use in the first trimester of pregnancy and during lactation.*



**SPECIAL CONSIDERATIONS: PREGNANCY**

**Systemic therapy:**

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*

**Topical treatment:**

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

*NB! According to the official instructions, the drug approved for use during the entire period of pregnancy and lactation.*

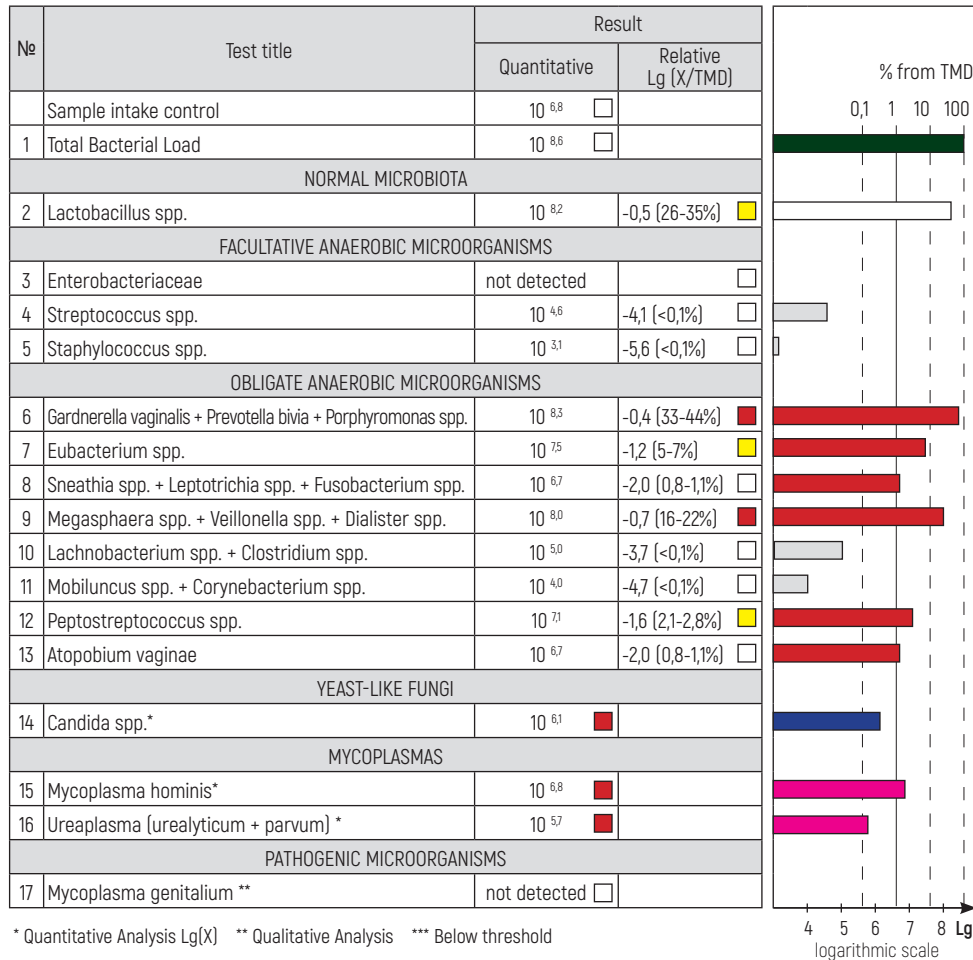
The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.



# 14. Moderate anaerobic dysbiosis associated with *Atopobium vaginae*; *Ureaplasma spp.*, *M. hominis* and *Candida spp.* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
MODERATE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.*) and topical treatment (to suppress anaerobic bacteria, including *A. vaginae*, and *Candida spp.*).



**SYSTEMIC THERAPY** (one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.  
*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



**TOPICAL TREATMENT** (one of the suggested medications):

«**Macmiror complex**», vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository daily (at bedtime), 8 days.

«**Macmiror complex**», cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

*NB! The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.*

«**Clindacin B prolong**» (butoconazole nitrate 2 g, clindamycin phosphate 2 g) — 1 full applicator daily (at bedtime), 3 days.

*NB! The drug is not approved for use in the first trimester of pregnancy and during lactation.*



**SPECIAL CONSIDERATIONS: PREGNANCY**

**Systemic therapy:**

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*

**Topical treatment:**

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

*NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.*

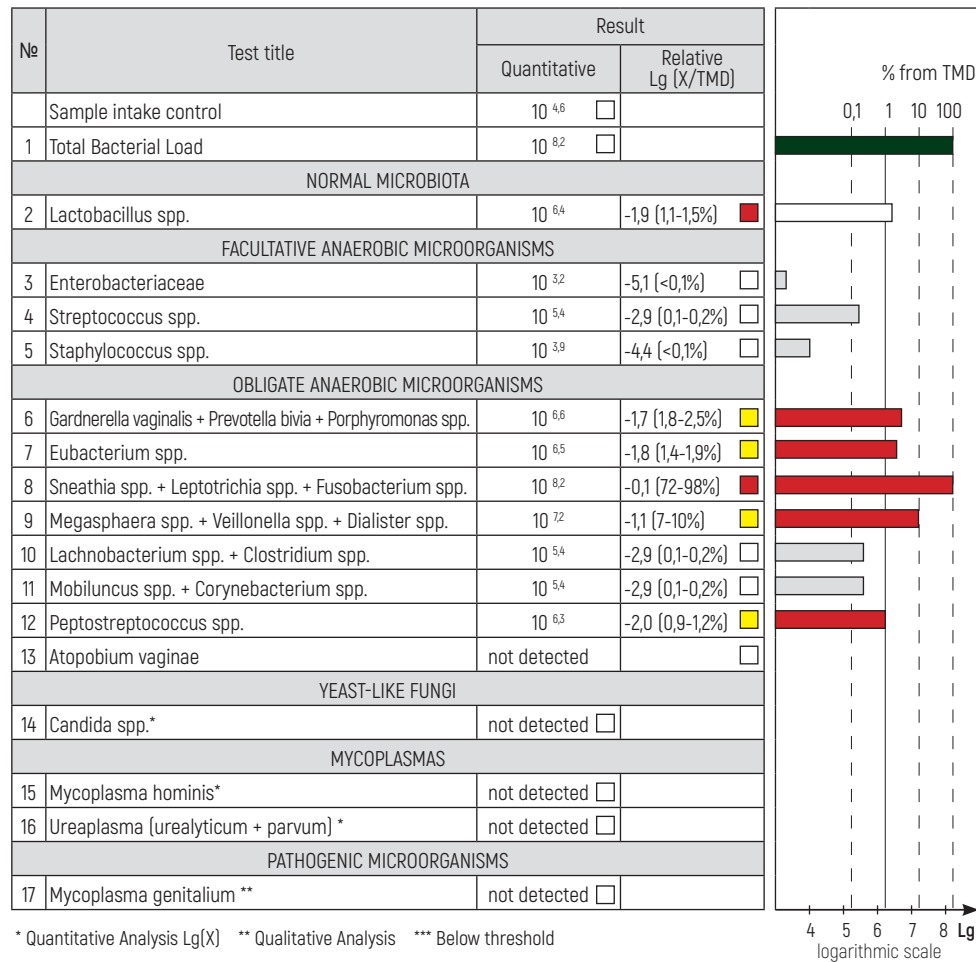
The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

■ See pages 155-156 for possible medications and schemes of treatment.

**SECTION 3.2.**  
**MANAGEMENT OF PATIENTS WITH SEVERE ANAEROBIC DYSBIOSIS**

**15. Severe anaerobic dysbiosis**

Example of Femoflor® 16 result form generated after testing vaginal sample



\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS



**TOPICAL TREATMENT**

(one of the suggested medications):

«**Metronidazole**», 0.75% gel 5.0 g — intravaginally daily (at bedtime), 5 days.

«**Clindamycin**», vaginal suppositories 100 mg — intravaginally once a day (at night), 3 days.

**NB!** These drugs are not approved for use in the first trimester of pregnancy and during lactation.



**SYSTEMIC THERAPY**

(one of the suggested medications):

«**Metronidazole**» 500 mg — orally 2 times a day, 7 days.

«**Tinidazole**» 2.0 g — orally once a day, 3 days.

«**Tinidazole**» 1.0 g — orally once a day, 5 days.

**NB!** These drugs are not approved for use in the first trimester of pregnancy and during lactation.



**SPECIAL CONSIDERATIONS: PREGNANCY**

(one of the suggested medications):

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

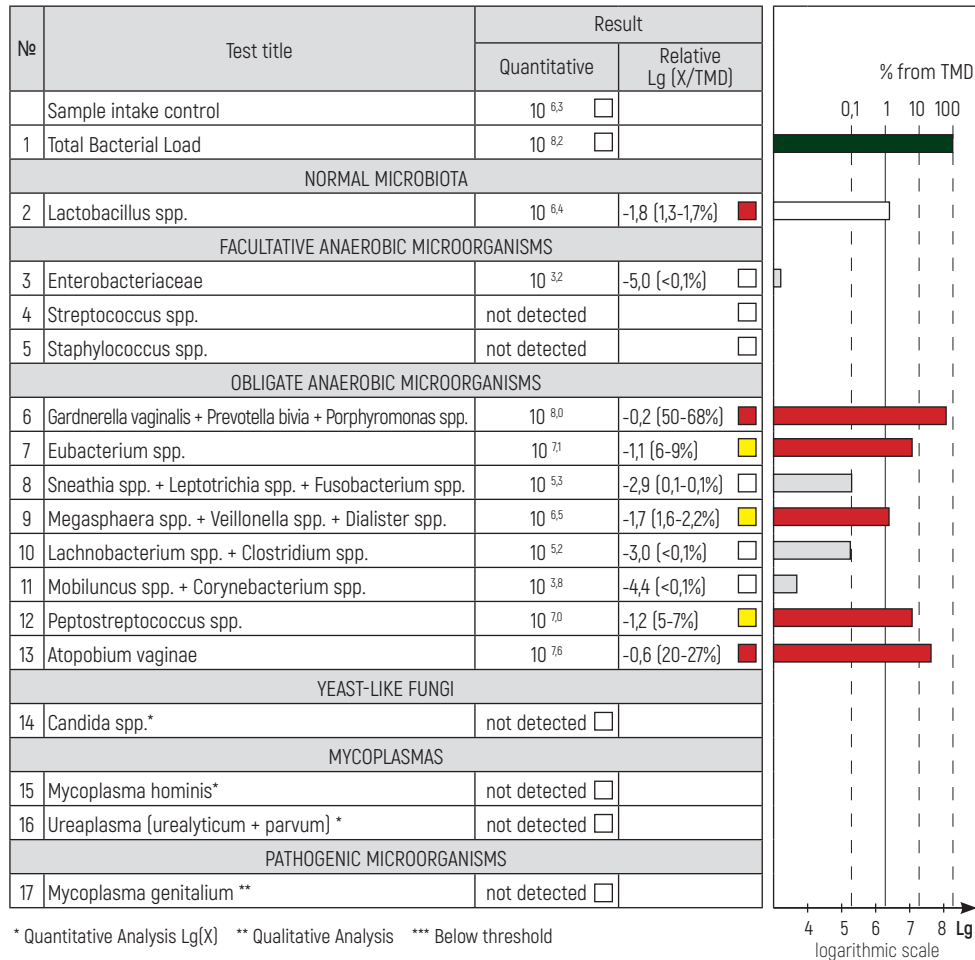
**NB!** According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# 16. Severe anaerobic dysbiosis associated with *Atopobium vaginae*

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS



## TOPICAL TREATMENT

(one of the suggested medications):

«Clindamycin», 2% cream 5.0 g — intravaginally once a day (at night), 7 days.

«Clindamycin», ovuli 100 mg — intravaginally once a day (at night), 3 days.

**NB!** The drugs are contraindicated in the first trimester of pregnancy and during breastfeeding.

«Macmiror complex», vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository at night, 8 days.

«Macmiror complex», cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

**NB!** The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during breastfeeding because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.



## SYSTEMIC THERAPY:

«Macmiror» (nifuratel 200 mg) — orally 1 tablet 3 times a day, 7 days.

**NB!** Use in pregnancy is possible only under strict indications, when the estimated benefit to the mother exceeds the potential risk to the fetus, since nifuratel penetrates the placental barrier.



## SPECIAL CONSIDERATIONS: PREGNANCY

(one of the suggested medications):

«Hexicon», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

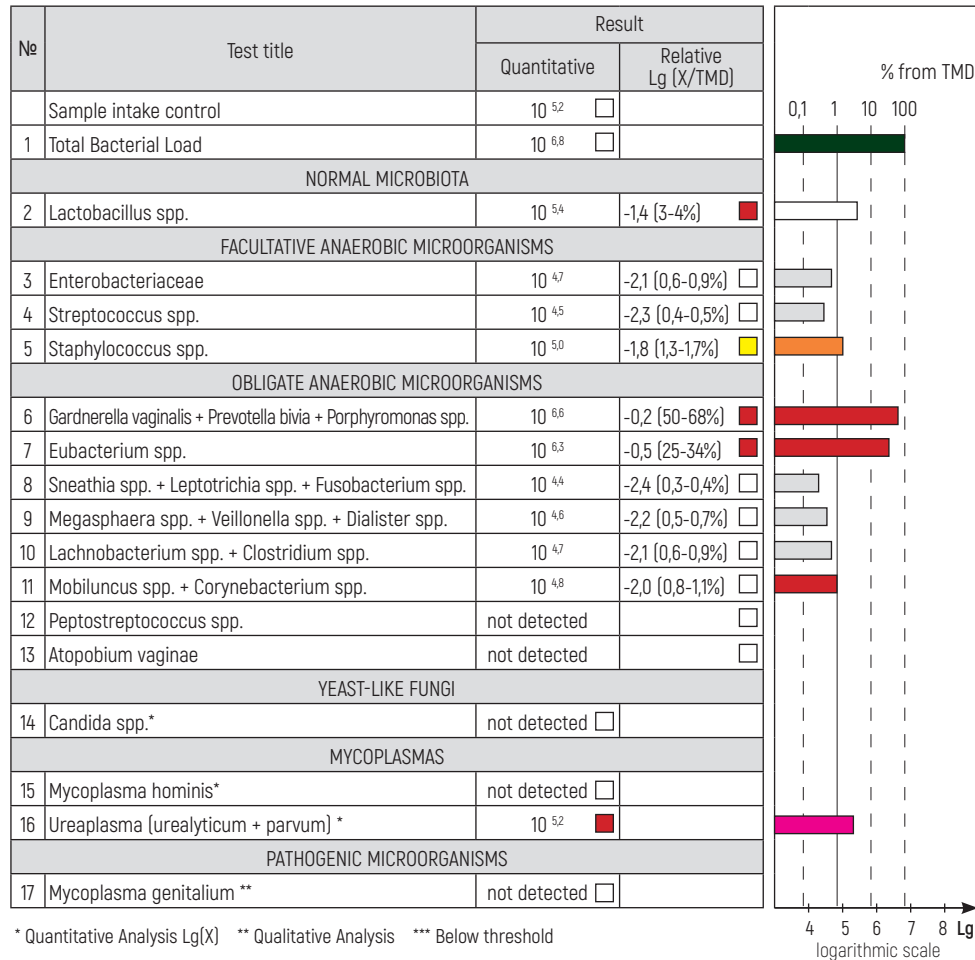
**NB!** According to the official instructions, these drugs are allowed during the entire period of pregnancy and lactation.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# 17. Severe anaerobic dysbiosis; *Ureaplasma spp.* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.*) and topical treatment (to suppress anaerobic bacteria).



## SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



## TOPICAL TREATMENT

(one of the suggested medications):

«**Metronidazole**», gel 0.75% 5.0 g — intravaginally daily (at bedtime), 5 days.

«**Clindamycin**», vaginal suppositories 100 mg — intravaginally daily (at bedtime), 3 days.

*NB! These drugs are not approved for use in the first trimester of pregnancy and during lactation.*



## SPECIAL CONSIDERATIONS: PREGNANCY

### Systemic therapy:

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*

### Topical treatment:

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

*NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# 18. Severe anaerobic dysbiosis; *M. hominis* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample

№	Test title	Result		
		Quantitative	Relative Lg (X/TMD)	
	Sample intake control	10 <sup>6.4</sup>	<input type="checkbox"/>	
1	Total Bacterial Load	10 <sup>7.5</sup>	<input type="checkbox"/>	
NORMAL MICROBIOTA				
2	Lactobacillus spp.	not detected	<input type="checkbox"/>	■
FACULTATIVE ANAEROBIC MICROORGANISMS				
3	Enterobacteriaceae	not detected	<input type="checkbox"/>	
4	Streptococcus spp.	not detected	<input type="checkbox"/>	
5	Staphylococcus spp.	not detected	<input type="checkbox"/>	
OBLIGATE ANAEROBIC MICROORGANISMS				
6	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	10 <sup>7.5</sup>	-0,1 (66-90%)	■
7	Eubacterium spp.	10 <sup>6.9</sup>	-0,7 (17-23%)	■
8	Sneathia spp. + Leptotrichia spp. + Fusobacterium spp.	not detected	<input type="checkbox"/>	
9	Megasphaera spp. + Veillonella spp. + Dialister spp.	not detected	<input type="checkbox"/>	
10	Lachnobacterium spp. + Clostridium spp.	not detected	<input type="checkbox"/>	
11	Mobiluncus spp. + Corynebacterium spp.	10 <sup>3.5</sup>	-4,1 (<0,1%)	■
12	Peptostreptococcus spp.	not detected	<input type="checkbox"/>	
13	Atopobium vaginae	not detected	<input type="checkbox"/>	
YEAST-LIKE FUNGI				
14	Candida spp.*	not detected	<input type="checkbox"/>	
MYCOPLASMAS				
15	Mycoplasma hominis*	10 <sup>6.0</sup>	■	■
16	Ureaplasma (urealyticum + parvum) *	not detected	<input type="checkbox"/>	
PATHOGENIC MICROORGANISMS				
17	Mycoplasma genitalium **	not detected	<input type="checkbox"/>	

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *M. hominis*) and topical treatment (to suppress anaerobic bacteria).



## SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.  
*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*



## TOPICAL TREATMENT

(one of the suggested medications):

«**Metronidazole**», 0.75% gel 5.0 g — intravaginally once a day (at night), 5 days.

«**Clindamycin**», vaginal suppositories 100 mg — intravaginally once a day (at night), 3 days.

*NB! These drugs are not approved for use in the first trimester of pregnancy and during lactation.*



## SPECIAL CONSIDERATIONS: PREGNANCY

### Systemic therapy:

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*

### Topical treatment:

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

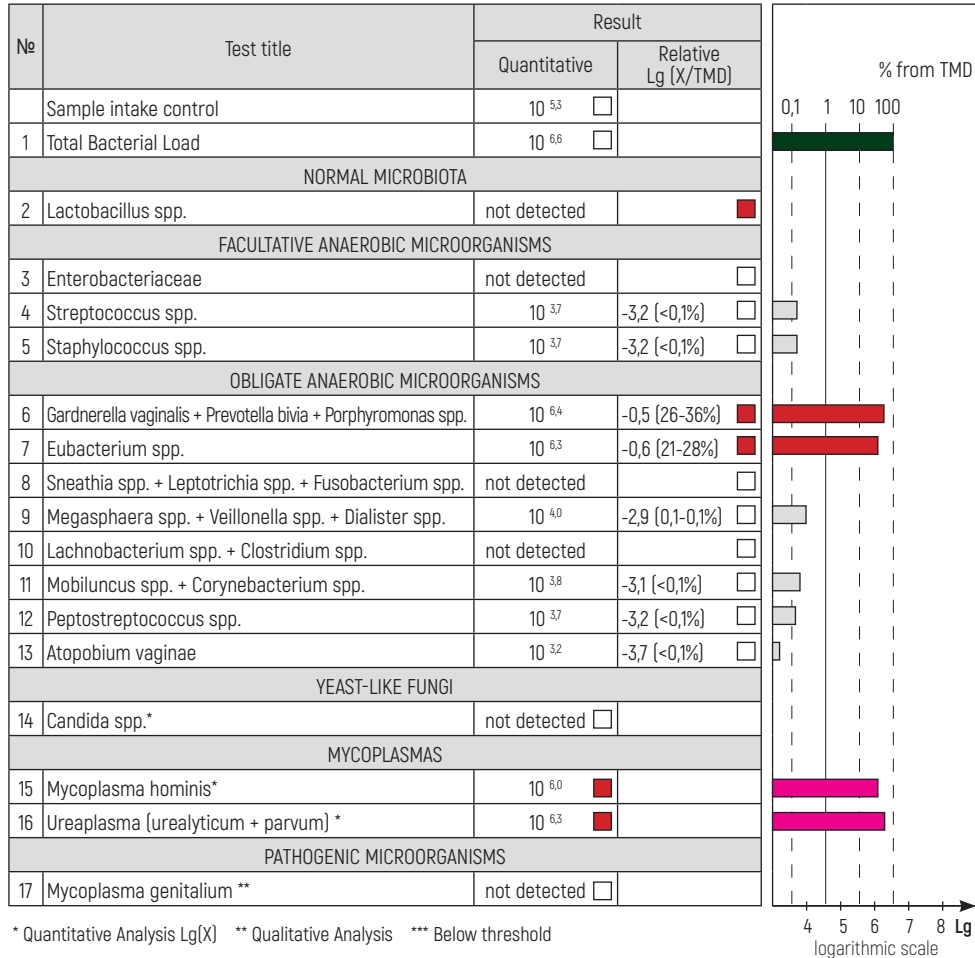
*NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# 19. Severe anaerobic dysbiosis; *Ureaplasma spp.* and *M. hominis* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.*, *M. hominis*) and topical treatment (to suppress anaerobic bacteria).



## SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



## TOPICAL TREATMENT

(one of the suggested medications):

«**Metronidazole**», 0.75% gel 5.0 g — intravaginally once a day (at night), 5 days.

«**Clindamycin**», vaginal suppositories 100 mg — intravaginally once a day (at night), 3 days.

*NB! These drugs are not approved for use in the first trimester of pregnancy and during lactation.*



## SPECIAL CONSIDERATIONS: PREGNANCY

### Systemic therapy:

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*

### Topical treatment:

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

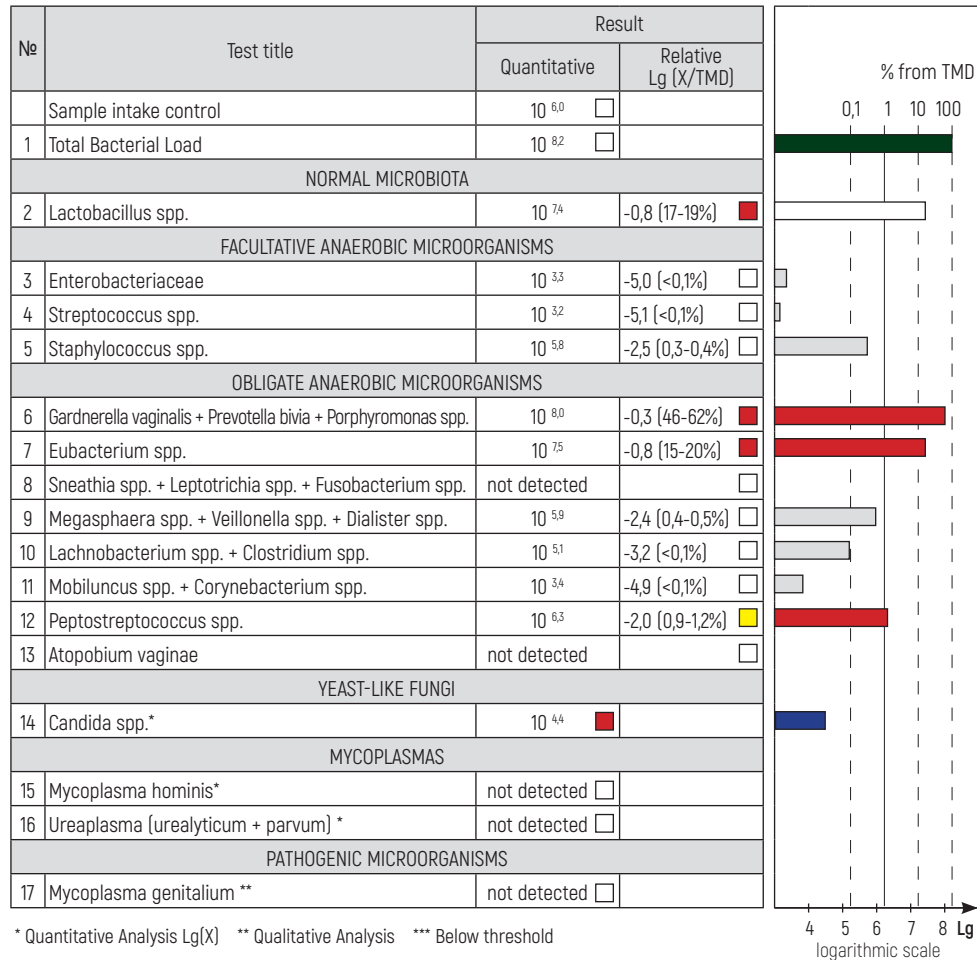
*NB! According to the official instructions, these drugs are allowed during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 20. Severe anaerobic dysbiosis; *Candida spp.* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS



### TOPICAL TREATMENT

(one of the suggested medications):

«**Gynomax**», vaginal suppositories (tinidazole 150 mg, thioconazole 100 mg) — 1 suppository daily (at bedtime), 7 days, or 1 suppository twice a day, 3 days.

«**Clion D 100**» (metronidazole 100 mg, miconazole nitrate 100 mg) — 1 vaginal tablet daily (at bedtime), 10 days.

«**Neo-Penotran**» (metronidazole 500 mg, miconazole nitrate 100 mg) — 1 vaginal suppository twice a day, 7 days. For recurrent vaginitis — 1 vaginal suppository twice a day, 14 days.

«**Neo-Penotran Forte**» (metronidazole 750 mg, miconazole nitrate 200 mg) — 1 vaginal suppository daily (at bedtime), 7 days.

«**Clindacin B prolong**» (butoconazole nitrate 2 g, clindamycin phosphate 2 g) — 1 full applicator intravaginally daily (at bedtime), 3 days.

**NB! These drugs are not approved for use in the first trimester of pregnancy and during lactation.**



### SPECIAL CONSIDERATIONS: PREGNANCY

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

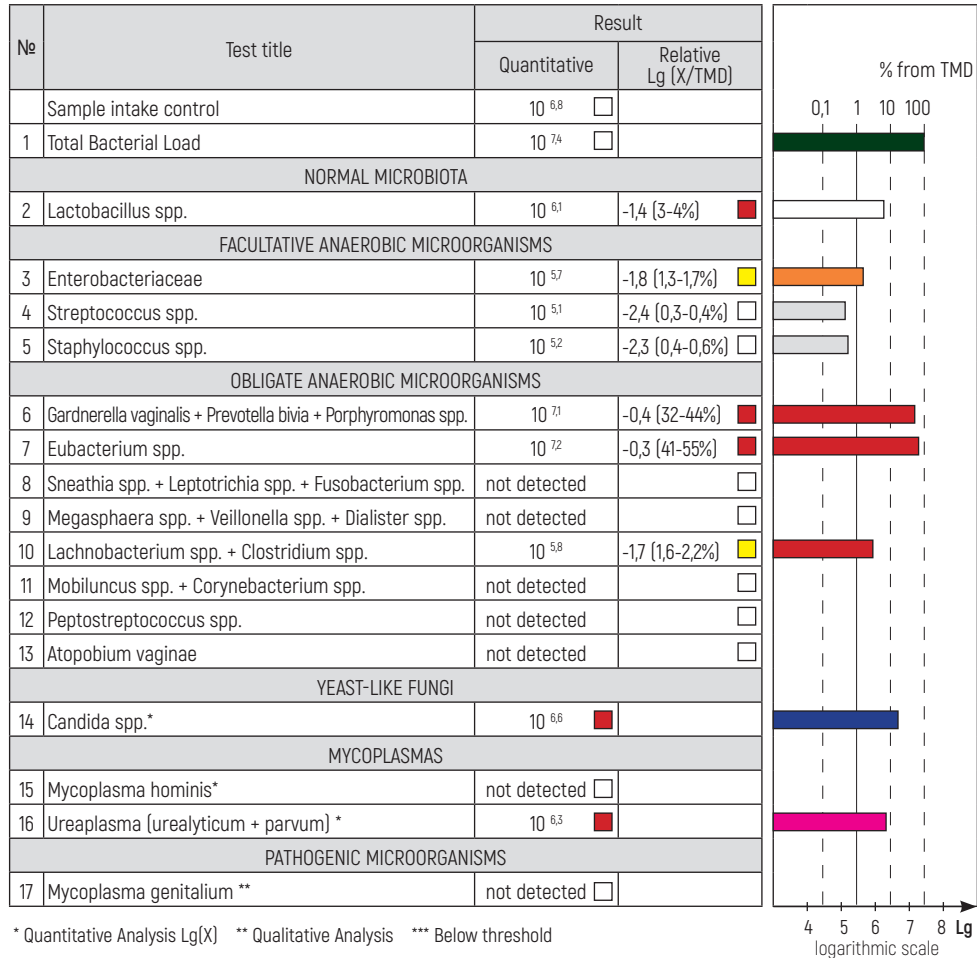
**NB! According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 21. Severe anaerobic dysbiosis; *Ureaplasma spp.* and *Candida spp.* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.*) and topical treatment (to suppress anaerobic bacteria and *Candida spp.*)



**SYSTEMIC THERAPY** (one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



**TOPICAL TREATMENT** (one of the suggested medications):

«**Gynomax**», vaginal suppositories (tinidazole 150 mg, thioconazole 100 mg) — 1 suppository daily (at bedtime), 7 days, or 1 suppository twice a day, 3 days.

«**Clion D 100**» (metronidazole 100 mg, miconazole nitrate 100 mg) — 1 vaginal tablet daily (at bedtime), 10 days.

«**Neo-Penotran**» (metronidazole 500 mg, miconazole nitrate 100 mg) — 1 vaginal suppository twice a day, 7 days. For recurrent vaginitis — 1 vaginal suppository twice a day, 14 days.

«**Neo-Penotran Forte**» (metronidazole 750 mg, miconazole nitrate 200 mg) — 1 vaginal suppository daily (at bedtime), 7 days.

«**Clindacin B prolong**» (butoconazole nitrate 2 g, clindamycin phosphate 2 g) — 1 full applicator intravaginally daily (at bedtime), 3 days.

*NB! These drugs are not approved for use in the first trimester of pregnancy and during lactation.*



**SPECIAL CONSIDERATIONS: PREGNANCY**

**Systemic therapy:**

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*

**Topical treatment:**

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

*NB! According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.*

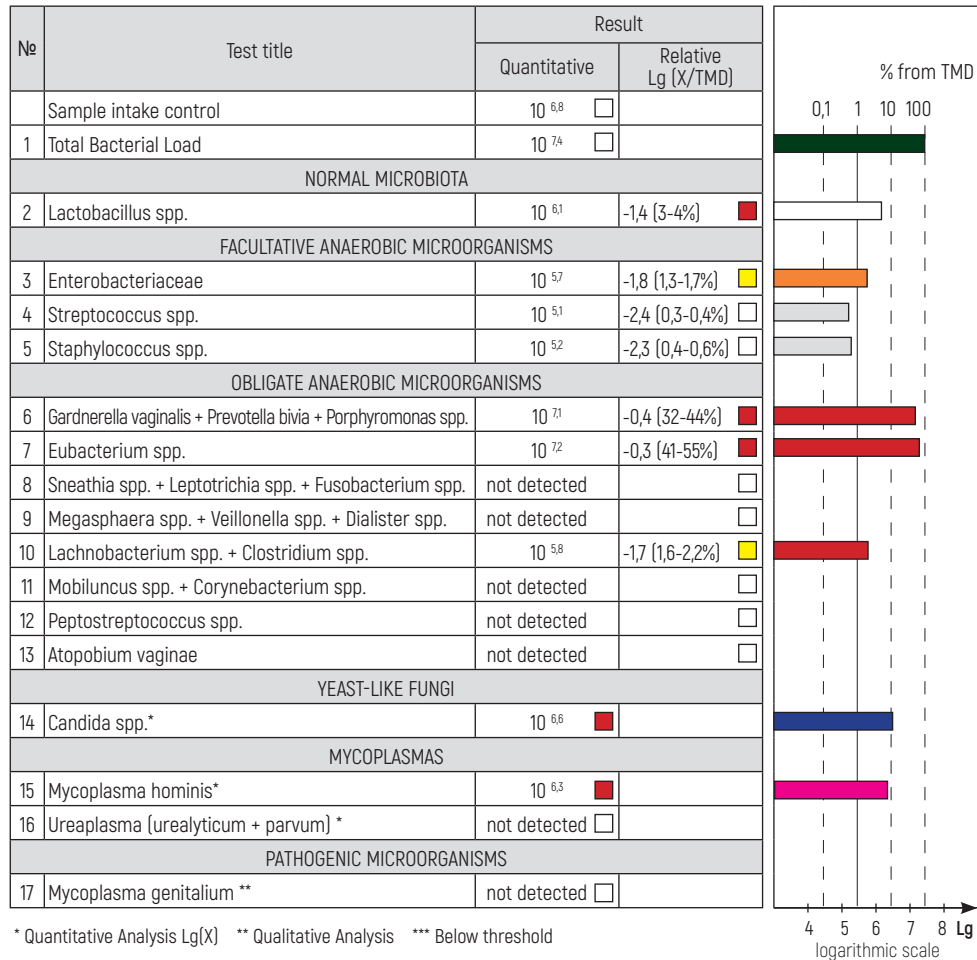
The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.



## 22. Severe anaerobic dysbiosis; *M. hominis* and *Candida* spp. in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *M. hominis*) and topical treatment (to suppress anaerobic bacteria and *Candida* spp.)



**SYSTEMIC THERAPY** (one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



**TOPICAL TREATMENT** (one of the suggested medications):

«**Gynomax**», vaginal suppositories (tinidazole 150 mg, thioconazole 100 mg) — 1 suppository daily (at bedtime), 7 days, or 1 suppository twice a day, 3 days.

«**Clion D 100**» (metronidazole 100 mg, miconazole nitrate 100 mg) — 1 vaginal tablet daily (at bedtime), 10 days.

«**Neo-Penotran**» (metronidazole 500 mg, miconazole nitrate 100 mg) — 1 vaginal suppository twice a day, 7 days. For recurrent vaginitis — 1 vaginal suppository twice a day, 14 days.

«**Neo-Penotran Forte**» (metronidazole 750 mg, miconazole nitrate 200 mg) — 1 vaginal suppository daily (at bedtime), 7 days.

«**Clindacin B prolong**» (butoconazole nitrate 2 g, clindamycin phosphate 2 g) — 1 full applicator intravaginally daily (at bedtime), 3 days.

*NB! These drugs are not approved for use in the first trimester of pregnancy and during lactation.*



**SPECIAL CONSIDERATIONS: PREGNANCY**

**Systemic therapy:**

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*

**Topical treatment:**

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

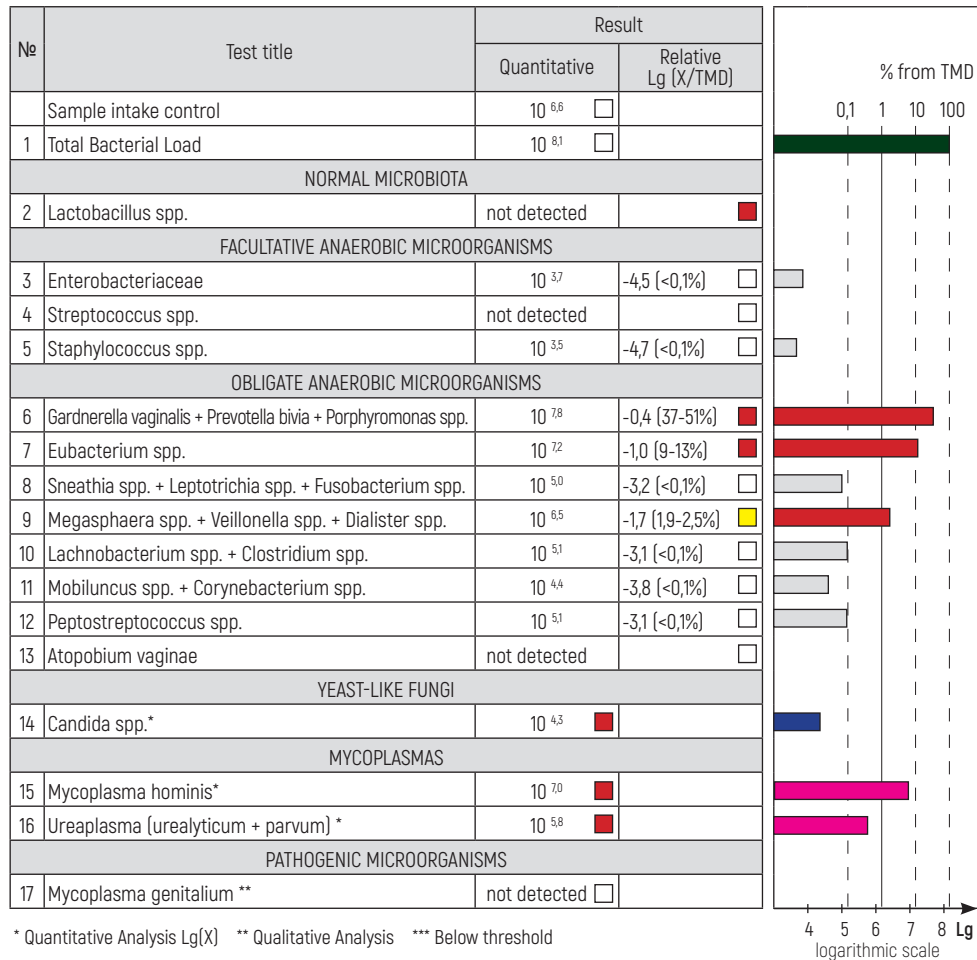
*NB! According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 23. Severe anaerobic dysbiosis; *Ureaplasma spp.*, *M. hominis* and *Candida spp.* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.*, *M. hominis*) and topical treatment (to suppress anaerobic bacteria and *Candida spp.*)



**SYSTEMIC THERAPY** (one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.  
*NB! The drug is not approved for use during pregnancy and lactation.*  
**«Josamycin»** 500 mg — orally 3 times a day, 10 days.  
*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



**TOPICAL TREATMENT** (one of the suggested medications):

**«Gynomax»**, vaginal suppositories (tinidazole 150 mg, thioconazole 100 mg) — 1 suppository daily (at bedtime), 7 days, or 1 suppository twice a day, 3 days.  
**«Clion D 100»** (metronidazole 100 mg, miconazole nitrate 100 mg) — 1 vaginal tablet daily (at bedtime), 10 days.  
**«Neo-Penotran»** (metronidazole 500 mg, miconazole nitrate 100 mg) — 1 vaginal suppository twice a day, 7 days. For recurrent vaginitis — 1 vaginal suppository twice a day, 14 days.  
**«Neo-Penotran Forte»** (metronidazole 750 mg, miconazole nitrate 200 mg) — 1 vaginal suppository daily (at bedtime), 7 days.  
**«Clindacin B prolong»** (butoconazole nitrate 2 g, clindamycin phosphate 2 g) — 1 full applicator intravaginally daily (at bedtime), 3 days.  
*NB! These drugs are not approved for use in the first trimester of pregnancy and during lactation.*



**SPECIAL CONSIDERATIONS: PREGNANCY**

**Systemic therapy:**

**«Josamycin»** 500 mg — orally 3 times a day, 10 days.  
*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*

**Topical treatment:**

**«Fluomizin»**, vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

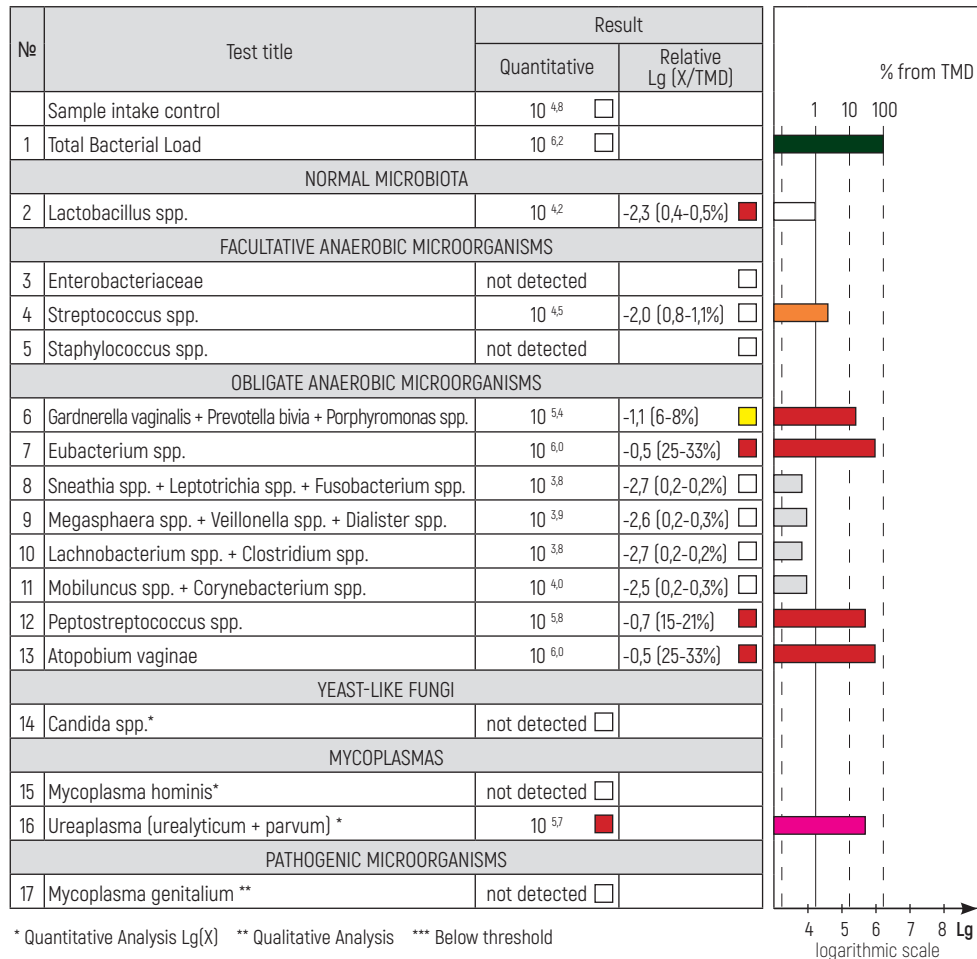
*NB! According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

■ See pages 155-156 for possible medications and schemes of treatment.

## 24. Severe anaerobic dysbiosis associated with *Atopobium vaginae*; *Ureaplasma spp.* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.*) and topical treatment (to suppress anaerobic bacteria, including *A. vaginae*).



**SYSTEMIC THERAPY** (one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



**TOPICAL TREATMENT** (one of the suggested medications):

«**Clindamycin**», 2% cream 5.0 g — intravaginally once a day (at night), 7 days.

«**Clindamycin**», vaginal suppositories 100 mg — intravaginally daily (at bedtime), 3 days.

*NB! These drugs are not approved in the first trimester of pregnancy and during lactation.*

«**Macmiror complex**», vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository daily (at bedtime), 8 days.

«**Macmiror complex**», cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

*NB! The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.*



**SPECIAL CONSIDERATIONS: PREGNANCY**

**Systemic therapy:**

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*

**Topical treatment:**

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

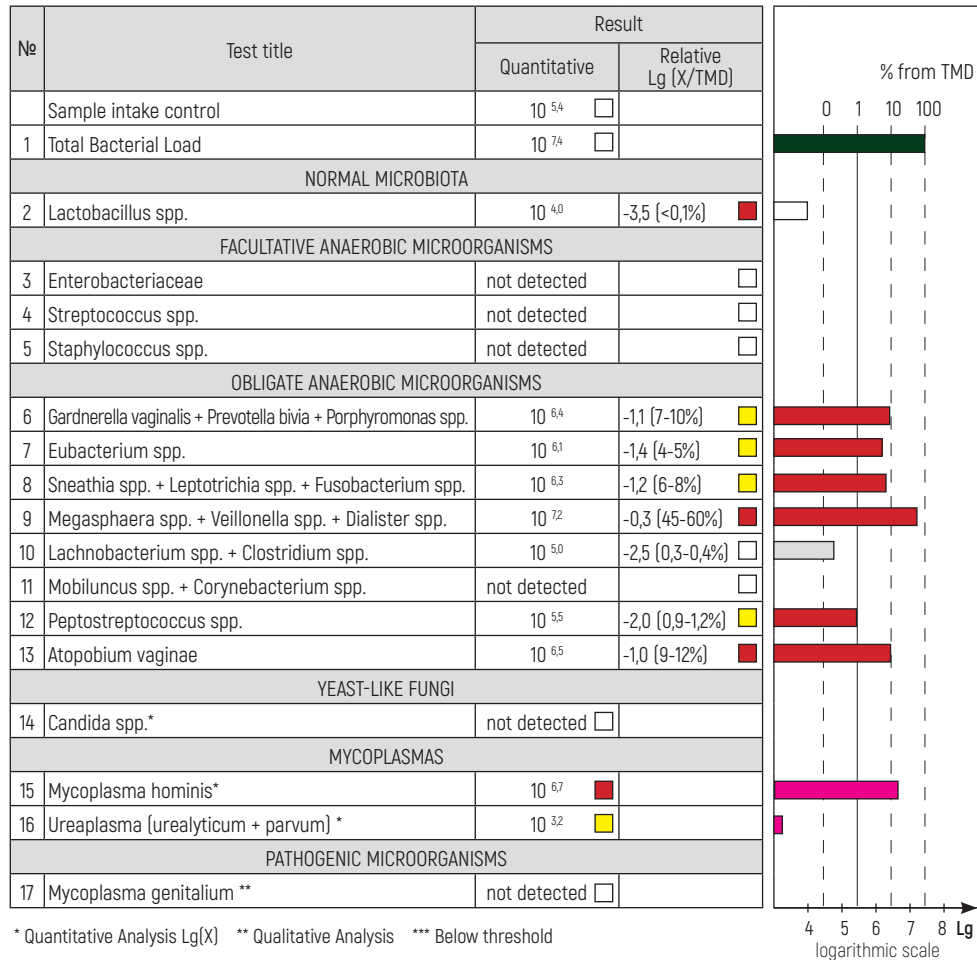
*NB! According to the official instructions, these drugs are allowed during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

■ See pages 155-156 for possible medications and schemes of treatment.

## 25. Severe anaerobic dysbiosis associated with *Atopobium vaginae*; *M. hominis* in amounts greater than $10^4$ GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *M. hominis*) and topical treatment (to suppress anaerobic bacteria, including *A. vaginae*).



**SYSTEMIC THERAPY** (one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



**TOPICAL TREATMENT** (one of the suggested medications):

«**Clindamycin**», 2% cream 5.0 g — intravaginally once a day (at night), 7 days.

«**Clindamycin**», vaginal suppositories 100 mg — intravaginally daily (at bedtime), 3 days.

*NB! These drugs are not approved in the first trimester of pregnancy and during lactation.*

«**Macmiror complex**», vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository daily (at bedtime), 8 days.

«**Macmiror complex**», cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

*NB! The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.*



**SPECIAL CONSIDERATIONS: PREGNANCY**

**Systemic therapy:**

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*

**Topical treatment:**

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

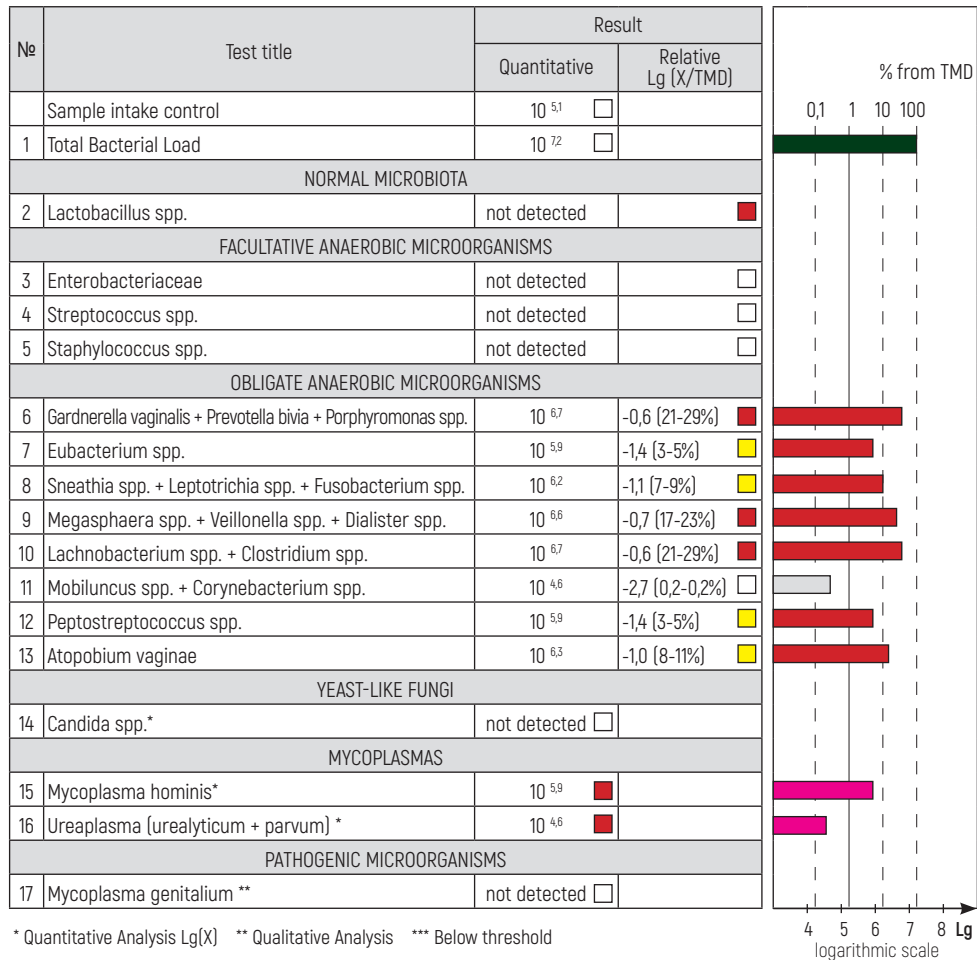
*NB! According to the official instructions, these drugs are allowed during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

■ See pages 155-156 for possible medications and schemes of treatment.

## 26. Severe anaerobic dysbiosis associated with *Atopobium vaginae*; *Ureaplasma spp.* and *M. hominis* in amounts greater than $10^4$ GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.*, *M. hominis*) and topical treatment (to suppress anaerobic bacteria, including *A. vaginae*).



**SYSTEMIC THERAPY** (one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



**TOPICAL TREATMENT** (one of the suggested medications):

«**Clindamycin**», 2% cream 5.0 g — intravaginally once a day (at night), 7 days.

«**Clindamycin**», vaginal suppositories 100 mg — intravaginally daily (at bedtime), 3 days.

*NB! These drugs are not approved in the first trimester of pregnancy and during lactation.*

«**Macmiror complex**», vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository daily (at bedtime), 8 days.

«**Macmiror complex**», cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

*NB! The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.*



**SPECIAL CONSIDERATIONS: PREGNANCY**

**Systemic therapy:**

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*

**Topical treatment:**

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

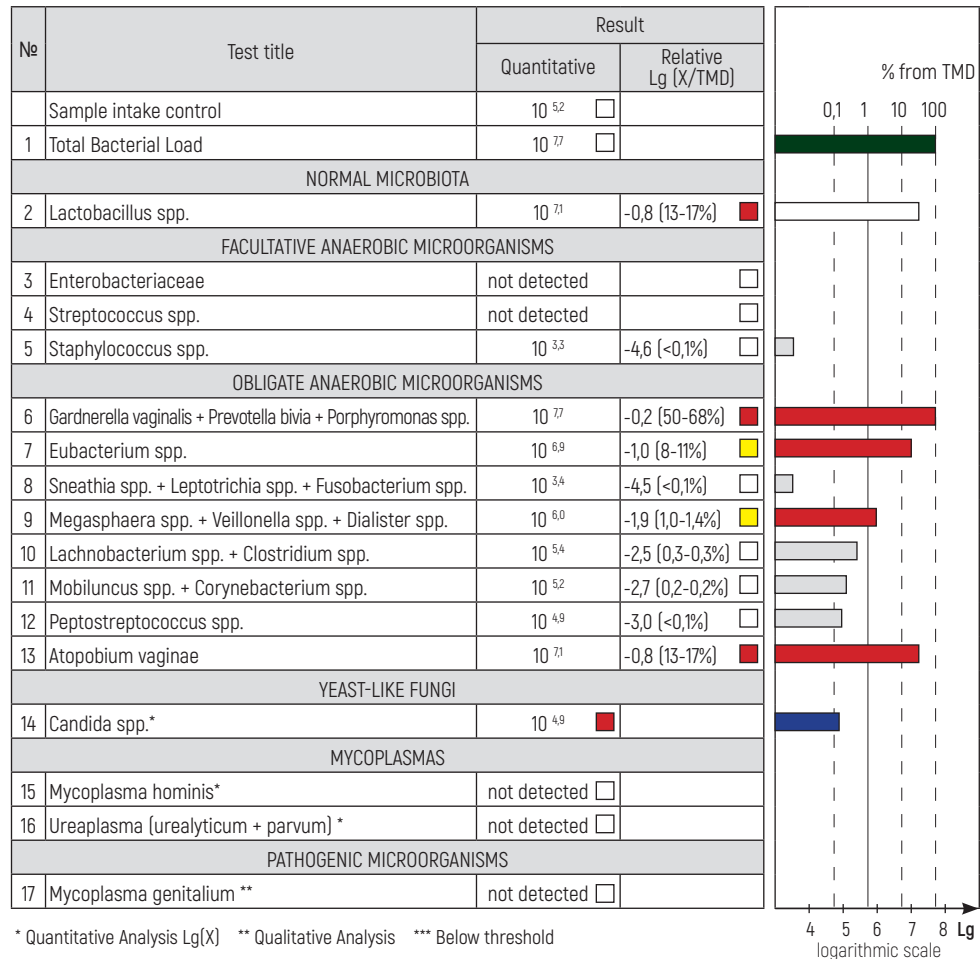
*NB! According to the official instructions, these drugs are allowed during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

■ See pages 155-156 for possible medications and schemes of treatment.

## 27. Severe anaerobic dysbiosis associated with *Atopobium vaginae*; *Candida* spp. in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS



### TOPICAL TREATMENT

(one of the suggested medications):

«**Macmiror complex**», vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository daily (at bedtime), 8 days.

«**Macmiror complex**», cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

**NB!** The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.

«**Clindacin B prolong**» (butoconazole nitrate 2 g, clindamycin phosphate 2 g) — 1 full applicator intravaginally daily (at bedtime), 3 days.

**NB!** The drug is not approved for use in the first trimester of pregnancy and during lactation.



### SYSTEMIC THERAPY:

«**Macmiror**» (nifuratel 200 mg) — orally 1 tablet 3 times a day after meal, 7 days.

**NB!** The drug is contraindicated in pregnancy and during breastfeeding.



### SPECIAL CONSIDERATIONS: PREGNANCY

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

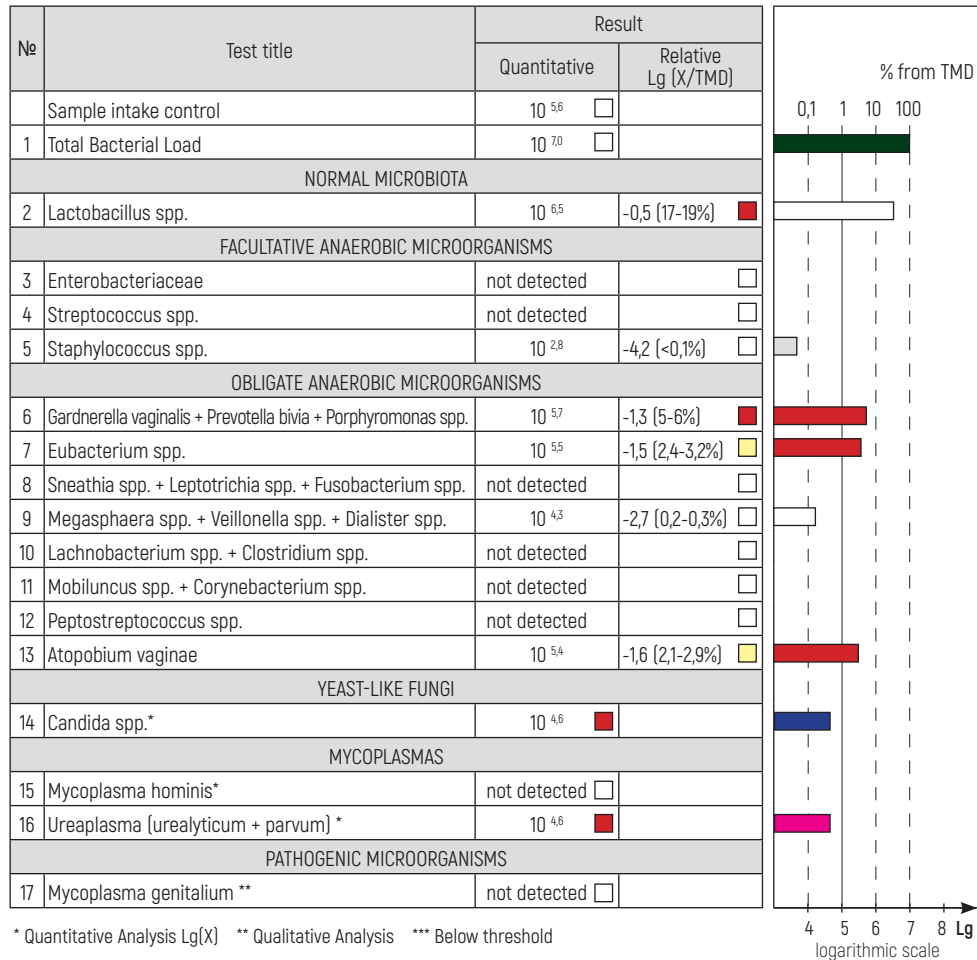
**NB!** According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

■ See pages 155-156 for possible medications and schemes of treatment.

## 28. Severe anaerobic dysbiosis associated with *Atopobium vaginae*; *Ureaplasma spp.* and *Candida spp.* in amounts greater than $10^4$ GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.*) and topical treatment (to suppress anaerobic bacteria, including *A. vaginae* and *Candida spp.*)



### SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.  
*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



### TOPICAL TREATMENT

(one of the suggested medications):

«**Macmiror complex**», vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository daily (at bedtime), 8 days.

«**Macmiror complex**», cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

*NB! The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.*

«**Clindacin B prolong**» (butoconazole nitrate 2 g, clindamycin phosphate 2 g) — 1 full applicator intravaginally daily (at bedtime), 3 days.

*NB! The drug is not approved for use in the first trimester of pregnancy and during lactation.*



### SPECIAL CONSIDERATIONS: PREGNANCY

#### Systemic therapy:

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*

#### Topical treatment:

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

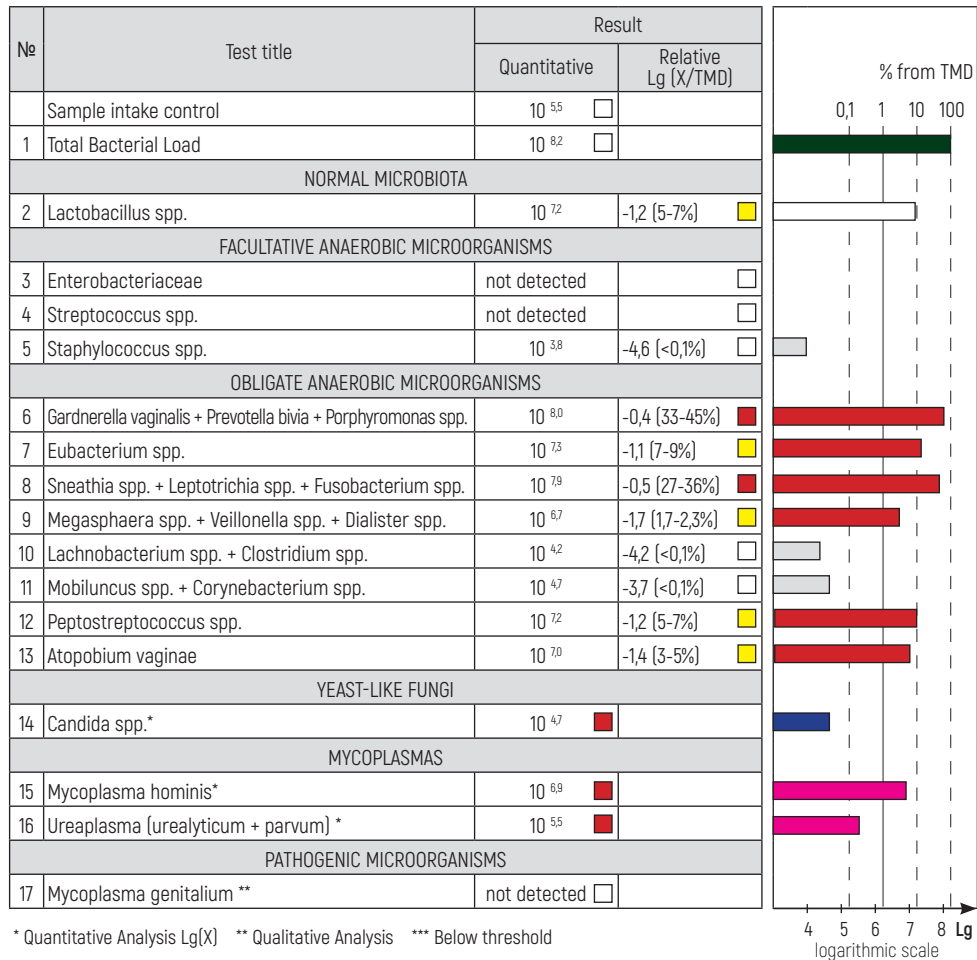
*NB! According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 29. Severe anaerobic dysbiosis associated with *Atopobium vaginae*; *Ureaplasma spp.*, *M. hominis* and *Candida spp.* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.*, *M. hominis*) and topical treatment (to suppress anaerobic bacteria, including *A. vaginae* and *Candida spp.*)



**SYSTEMIC THERAPY** (one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.  
*NB! The drug is not approved for use during pregnancy and lactation.*

**«Josamycin»** 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



**TOPICAL TREATMENT** (one of the suggested medications):

**«Macmiror complex»**, vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository daily (at bedtime), 8 days.

**«Macmiror complex»**, cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

*NB! The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.*

**«Clindacin B prolong»** (butoconazole nitrate 2 g, clindamycin phosphate 2 g) — 1 full applicator intravaginally daily (at bedtime), 3 days.

*NB! The drug is not approved for use in the first trimester of pregnancy and during lactation.*



**SPECIAL CONSIDERATIONS: PREGNANCY**

**Systemic therapy:**

**«Josamycin»** 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment may be postponed until after delivery!*

**Topical treatment:**

**«Fluomizin»**, vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

*NB! According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

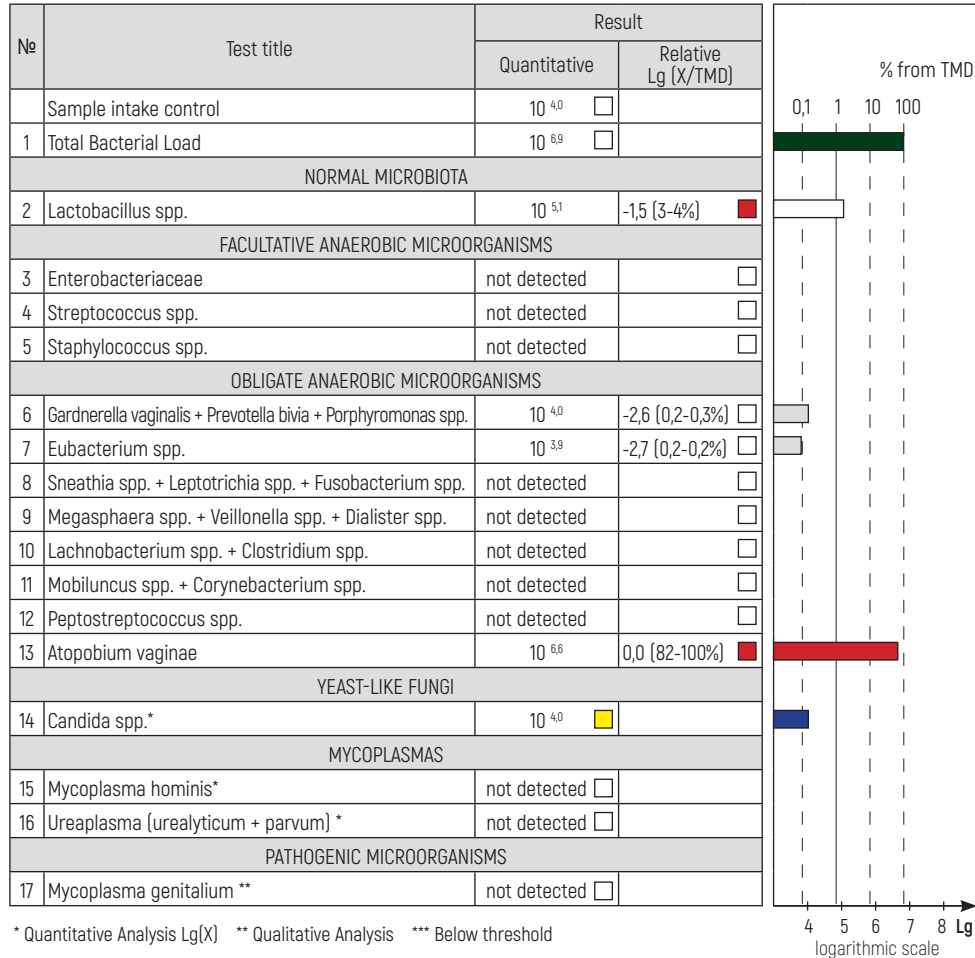
- See pages 155-156 for possible medications and schemes of treatment.



# 30. Severe anaerobic dysbiosis associated with *Atopobium vaginae*; *Candida spp.* in amounts greater than $10^4$ GE/sample

COMPLICATED CASE

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE ANAEROBIC DYSBIOSIS

COMPLICATED CASE

The vaginal microbiota of this patient is predominated by *A. vaginae* and *Candida spp.*, it could be caused by repeated courses of antibiotics. The second stage of treatment requires long-term restoration of normal vaginal microbiota.



## TOPICAL TREATMENT

(one of the suggested medications):

«**Macmiror complex**», vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository daily (at bedtime), 8 days.

«**Macmiror complex**», cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

**NB!** The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.

«**Clindacin B prolong**» (butoconazole nitrate 2 g, clindamycin phosphate 2 g) — 1 full applicator intravaginally daily (at bedtime), 3 days.

**NB!** The drug is not approved for use in the first trimester of pregnancy and during lactation.



## SYSTEMIC THERAPY:

«**Macmiror**» (nifuratel 200 mg) — orally 1 tablet 3 times a day after meals, 7 days.

**NB!** The drug is contraindicated in pregnancy and during breastfeeding.



## SPECIAL CONSIDERATIONS: PREGNANCY

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB!** According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

ANAEROBIC DYSBIOSIS

# SECTION 4

## AEROBIC DYSBIOSIS

### SECTION 4. MANAGEMENT OF PATIENTS WITH VAGINITIS ASSOCIATED WITH THE PREVALENCE OF FACULTATIVE ANAEROBIC BACTERIA IN VAGINAL MICROBIOTA

The normal vaginal microbiota can contain small amounts of facultative anaerobic bacteria: gram-negative (the family *Enterobacteriaceae*) and gram-positive bacteria (the genera *Streptococcus* and *Staphylococcus*). Some of them can cause serious infectious and inflammatory diseases of the reproductive tract.

**Aerobic dysbiosis** is a state of the vaginal microbiota characterized by the predominance of facultative anaerobes (aerobes) with a corresponding decrease in the proportion of *Lactobacillus spp.*

**Depending on the degree of severity the following variants are distinguished:**

- **severe aerobic dysbiosis** — the proportion of *Lactobacillus spp.* <20% of TBL;
- **moderate aerobic dysbiosis** — the proportion of *Lactobacillus spp.* is 20-80% of TBL.

The clinical presentation corresponding to aerobic dysbiosis according to Femoflor® test is **aerobic vaginitis (AV)**. It is characterized by signs and symptoms of vaginal, exocervical and vulvar mucosal inflammation (hyperemia, mucosal erosions, complaints on burning, itching, irritation or discharge). In this case an inflammatory vaginal smear type is detected by microscopy.



**Indications for treatment of AB:** all women with AV require treatment. Depending on the predominant group of bacteria (*Enterobacteriaceae*, *Streptococcus spp.*, *Staphylococcus spp.*) and the presence/absence of associated opportunistic microorganisms (*Ureaplasma spp.*, *M. hominis*, *Candida spp.*) the treatment can be different.

**Treatment of aerobic dysbiosis and related clinical presentation is carried out in two stages.**

- The reduction of the amounts and proportions of aerobic bacteria is required at the first stage;
- The restoration of lactobacilli population at the second stage is essential to prevent AV recurrence.

See pages 155-156 for possible medications and schemes of treatment.

**Management of sex partners:** routine treatment of sex partners is not recommended, but it could be beneficial for patients with recurrent AV.



**Recurrence prevention:**

An adequate treatment of the disease is necessary to prevent recurrent aerobic dysbiosis (aerobic vaginitis). Using a different (not previously used) treatment regimen is recommended for women who have a recurrence.

***It is necessary to consult a gastroenterologist!***

**The consultation of a gastroenterologist is strongly recommended!**

**Pregnancy and lactation.** Treatment is recommended for all pregnant women with symptomatic and asymptomatic AV.

## SECTION 4.1. MANAGEMENT OF PATIENTS WITH MODERATE AEROBIC DYSBIOSIS

Treatment is indicated for patients with moderate dysbiosis considering their medical history, pregnancy planning or preparation for vaginal surgical treatment. In other cases, moderate dysbiosis may be considered normal or a transient condition that does not require treatment.

If treatment is required, the use of topical antiseptics, non-pharmacological methods (vaginal irrigation with drug solutions cavitated by low-frequency ultrasound) is preferable. Personalized treatment options should be based on the need to restore vaginal pH, the lactobacilli population, function and trophism of the vaginal epithelium.

To maintain an acidic environment in the vagina, over-the-counter lactic acid containing products (suppository, douche, gel) may be used. Their formulation and product name may be different depending on a country.

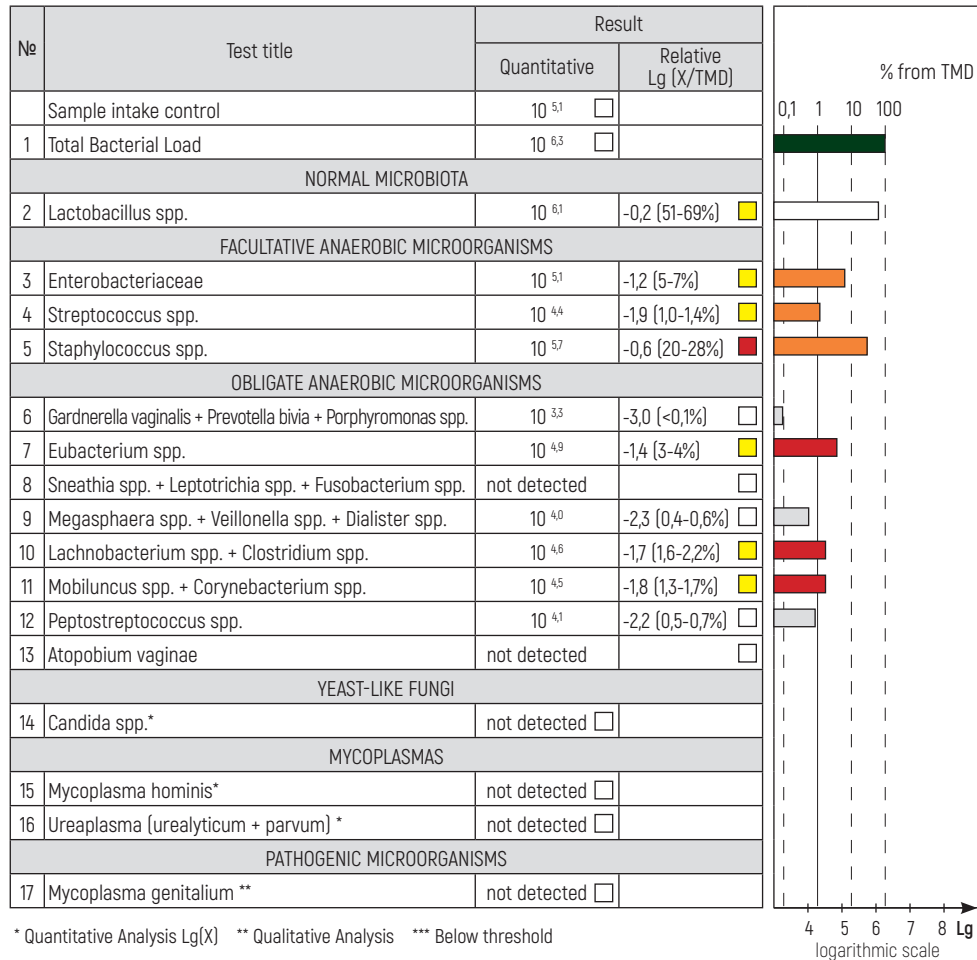
***NB! Medications that acidify the vaginal environment are not recommended in case of infections combined with Candida spp. and while planning natural child conception.***

To restore the population of lactobacilli, probiotic drugs for topical or oral administration can be used (see section on correction of severe anaerobic dysbiosis).

For women with estrogen deficiency intravaginal treatment with estriol containing products is recommended to restore the function and trophism of the vaginal epithelium.

## 31. Moderate aerobic dysbiosis associated with predominance of *Enterobacteriaceae*, *Streptococcus* spp. and *Staphylococcus* spp.

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
MODERATE AEROBIC DYSBIOSIS

If antimicrobial therapy is required in the first stage of treatment, topical treatment is preferable.



### TOPICAL TREATMENT

(one of the suggested medications):

«**Polygynax**», vaginal suppositories (neomycin sulfate 35,000 IU, nystatin 100,000 IU, polymyxin B sulfate 35,000 IU) — 1 suppository daily, 12 days.

«**Elzhina**», vaginal tablets (ornidazole 500 mg, neomycin sulfate 65,000 IU, econazole nitrate 100 mg, prednisolone sodium phosphate 3 mg) — 1 tablet daily, 6-9 days.

**NB! These drugs are not approved for use during pregnancy and lactation.**

«**Tergynan**», vaginal tablets (neomycin sulfate 65,000 IU, nystatin 100,000 IU, ternidazole 0.2 g, prednisolone sodium metasulfobenzoate 0.0047 g) — 1 tablet daily, 10 days.

**NB! The drug is not approved for use in the first trimester of pregnancy and during lactation. It is allowed to use from the second trimester of pregnancy.**



### SPECIAL CONSIDERATIONS: PREGNANCY

(one of the suggested medications):

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

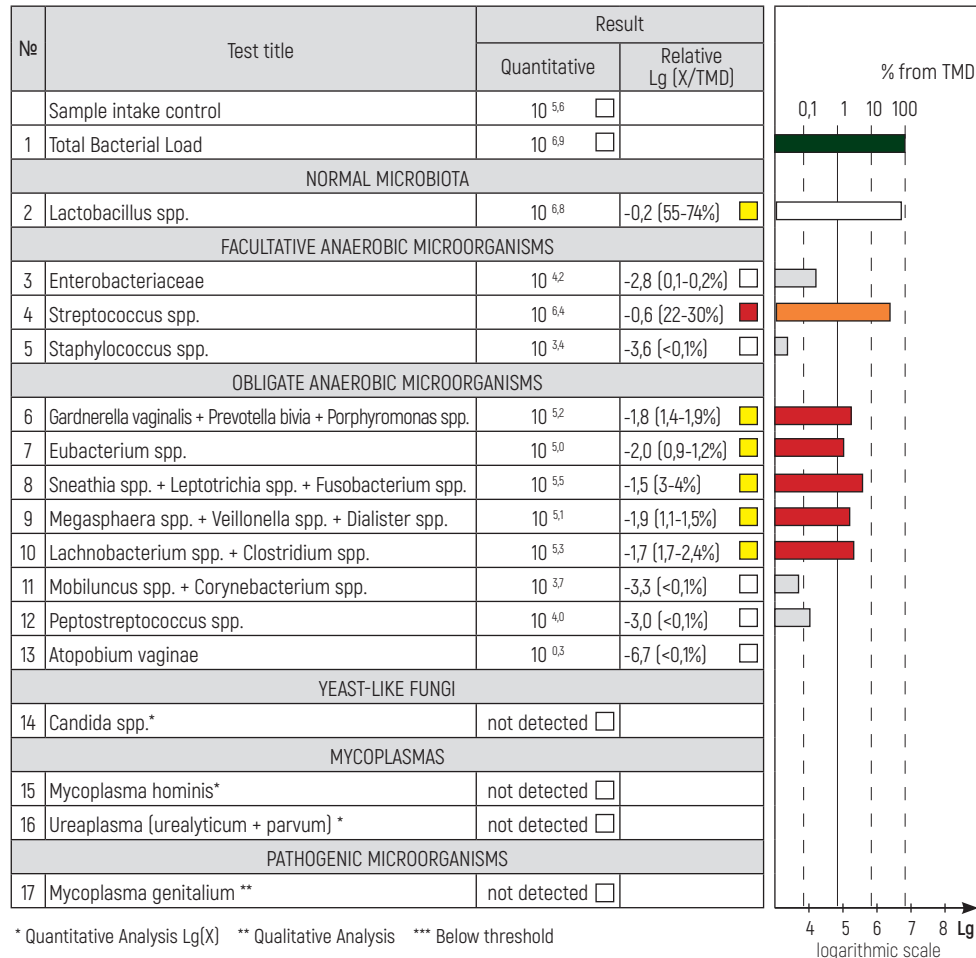
**NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 32. Moderate aerobic dysbiosis associated with predominance of *Streptococcus* spp.

### Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
MODERATE AEROBIC DYSBIOSIS

If antimicrobial therapy is required in the first stage of treatment, topical treatment is preferable.



### TOPICAL TREATMENT

(one of the suggested medications):

«Clindacin», 2% vaginal cream — 1 full application daily, 7 days.

«Clindacin», 100 mg vaginal suppositories — 1 suppository daily, 3-7 days.

The duration of therapy can be prolonged if necessary.

**NB! These drugs are not approved during pregnancy and lactation.**



### SPECIAL CONSIDERATIONS: PREGNANCY

Topical treatment (one of the suggested medications):

«Hexicon», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## SECTION 4.2. MANAGEMENT OF PATIENTS WITH SEVERE AEROBIC DYSBIOSIS

### 33. Severe aerobic dysbiosis associated with predominance of *Streptococcus* spp.

Example of Femoflor® 16 result form generated after testing vaginal sample

№	Test title	Result		%
		Quantitative	Relative Lg (X/TMD)	
	Sample intake control	10 <sup>5.9</sup>	<input type="checkbox"/>	
1	Total Bacterial Load	10 <sup>6.0</sup>	<input type="checkbox"/>	
NORMAL MICROBIOTA				
2	Lactobacillus spp.	not detected	<input checked="" type="checkbox"/>	
FACULTATIVE ANAEROBIC MICROORGANISMS				
3	Enterobacteriaceae	not detected	<input type="checkbox"/>	
4	Streptococcus spp.	10 <sup>6.0</sup>	0,0 (83-100%)	<input checked="" type="checkbox"/>
5	Staphylococcus spp.	not detected	<input type="checkbox"/>	
OBLIGATE ANAEROBIC MICROORGANISMS				
6	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	10 <sup>4.2</sup>	-1,8 (1,3-1,8%)	<input checked="" type="checkbox"/>
7	Eubacterium spp.	10 <sup>3.7</sup>	-2,3 (0,4-0,6%)	<input type="checkbox"/>
8	Sneathia spp. + Leptotrichia spp. + Fusobacterium spp.	10 <sup>3.5</sup>	-2,5 (0,3-0,4%)	<input type="checkbox"/>
9	Megasphaera spp. + Veillonella spp. + Dialister spp.	10 <sup>3.3</sup>	-2,7 (0,2-0,2%)	<input type="checkbox"/>
10	Lachnobacterium spp. + Clostridium spp.	not detected	<input type="checkbox"/>	
11	Mobiluncus spp. + Corynebacterium spp.	10 <sup>3.1</sup>	-2,9 (0,1-0,1%)	<input type="checkbox"/>
12	Peptostreptococcus spp.	not detected	<input type="checkbox"/>	
13	Atopobium vaginae	not detected	<input type="checkbox"/>	
YEAST-LIKE FUNGI				
14	Candida spp.*	not detected	<input type="checkbox"/>	
MYCOPLASMAS				
15	Mycoplasma hominis*	not detected	<input type="checkbox"/>	
16	Ureaplasma (urealyticum + parvum) *	not detected	<input type="checkbox"/>	
PATHOGENIC MICROORGANISMS				
17	Mycoplasma genitalium **	not detected	<input type="checkbox"/>	

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

**Conclusion:**  
SEVERE AEROBIC DYSBIOSIS



#### TOPICAL TREATMENT

(one of the suggested medications):

«Clindacin», 2% vaginal cream — 1 full application daily, 7 days.

«Clindacin», 100 mg vaginal suppositories — 1 suppository daily, 3-7 days.

The duration of therapy can be prolonged if necessary.

**NB! These drugs are not approved during pregnancy and lactation.**



#### SPECIAL CONSIDERATIONS:

##### PREGNANCY

(one of the suggested medications):

«Hexicon», vaginal suppositories — 1 suppository twice a day, 7-10 days.

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

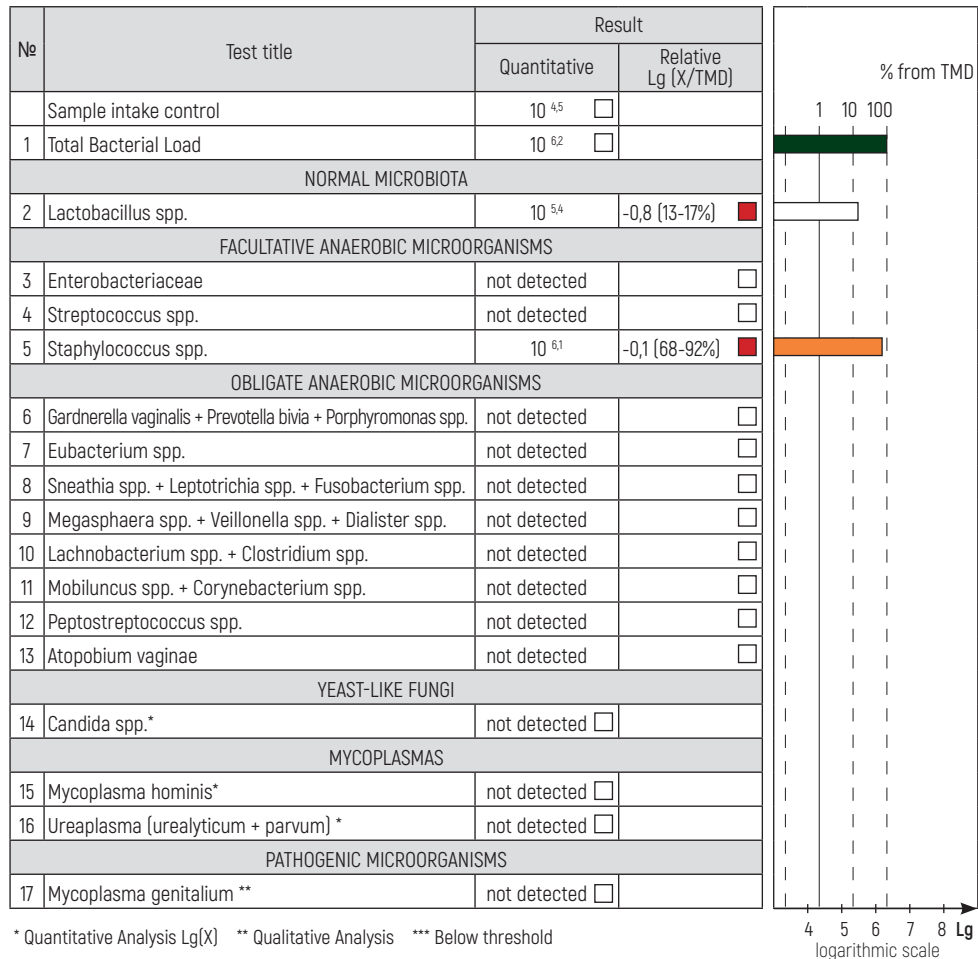
**NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 34. Severe aerobic dysbiosis associated with predominance of *Staphylococcus* spp.

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE AEROBIC DYSBIOSIS

Depending on the clinical presentation (acute or chronic cervicitis, recurrent AV), oral or topical antimicrobial treatment is possible.



### SYSTEMIC THERAPY:

«Orcepol VM» (ciprofloxacin 500 mg, ornidazole 500 mg) — once.

**NB!** The drug is not approved for use during pregnancy and lactation.



### TOPICAL TREATMENT

(one of the suggested medications):

«Elzhina», vaginal tablets (ornidazole 500 mg, neomycin sulfate 65,000 IU, econazole nitrate 100 mg, prednisolone sodium phosphate 3 mg) — 1 tablet daily, 6-9 days.

**NB!** The drug is not approved for use during pregnancy and lactation.

«Tergynan», vaginal tablets (neomycin sulfate 65,000 IU, nystatin 100,000 IU, ternidazole 0.2 g, prednisolone sodium metasulfobenzoate 0.0047 g) — 1 tablet daily, 10 days.

**NB!** The drug is not approved for use in the first trimester of pregnancy and during lactation. It is allowed to use from the second trimester of pregnancy.



### SPECIAL CONSIDERATIONS: PREGNANCY

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

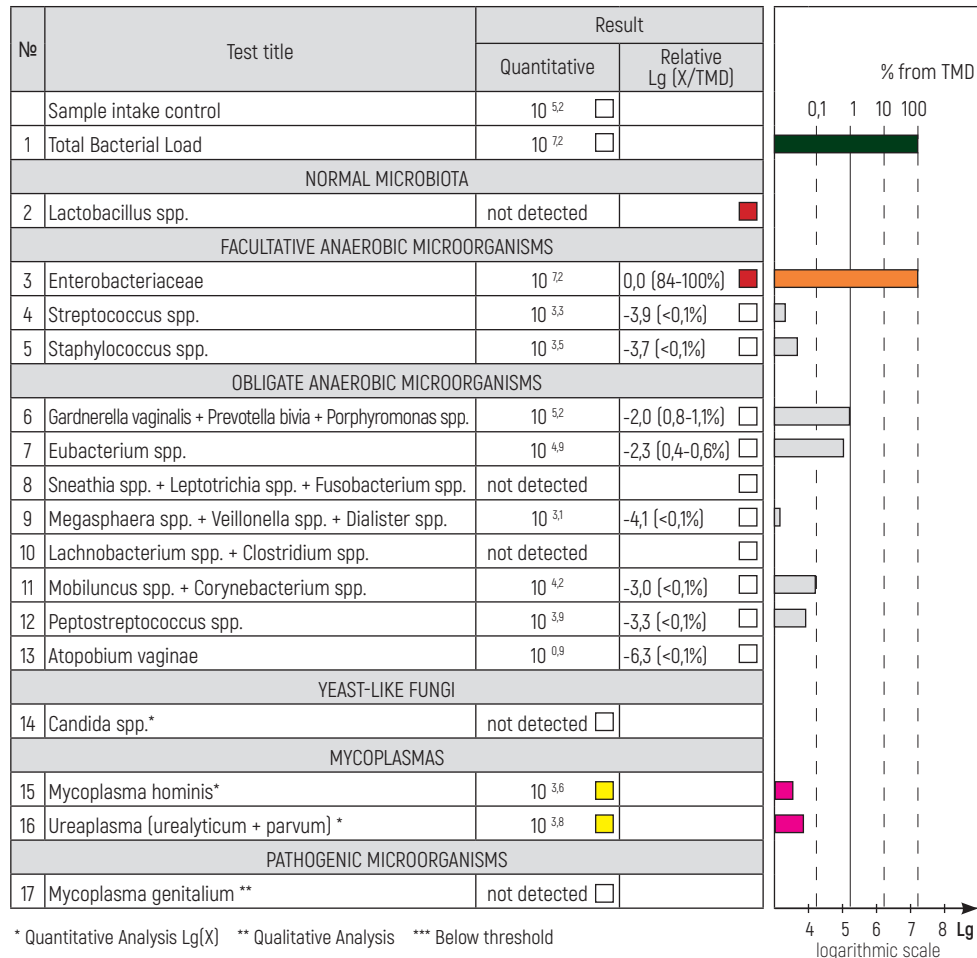
**NB!** According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 35. Severe aerobic dysbiosis associated with predominance of Enterobacteriaceae

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE AEROBIC DYSBIOSIS

Depending on the clinical presentation (acute or chronic cervicitis, recurrent AV), oral or topical antimicrobial treatment is possible.



### SYSTEMIC THERAPY:

«Orcopol VM» (ciprofloxacin 500 mg, ornidazole 500 mg) — once.  
**NB! The drug is not approved for use during pregnancy and lactation.**



### TOPICAL TREATMENT:

«Polygynax», vaginal suppositories (neomycin sulfate 35,000 IU, nystatin 100,000 IU, polymyxin B sulfate 35,000 IU) — 1 suppository daily, 12 days.  
**NB! The drug is not approved for use during pregnancy and lactation.**



### SPECIAL CONSIDERATIONS: PREGNANCY

(one of the suggested medications):

«Hexicon», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.**

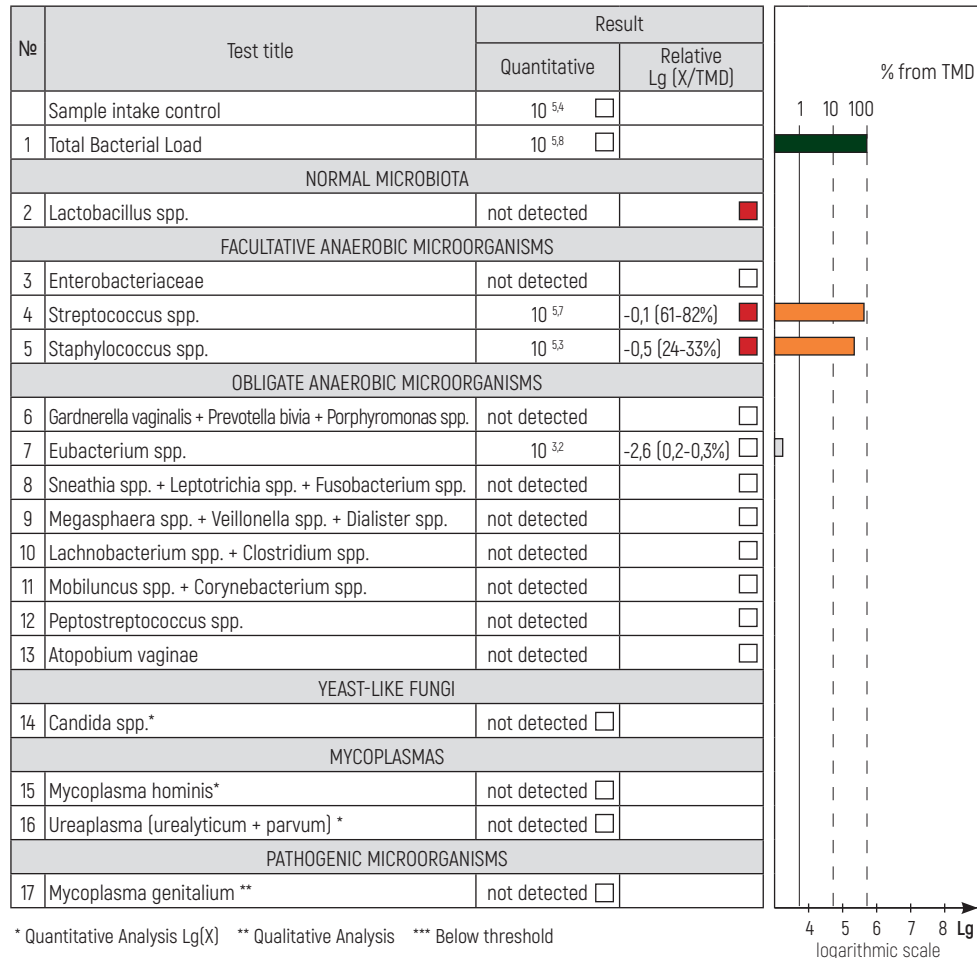
The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.



## 36. Severe aerobic dysbiosis associated with predominance of *Streptococcus* spp. and *Staphylococcus* spp.

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE AEROBIC DYSBIOSIS

Depending on the clinical presentation (acute or chronic cervicitis, recurrent AV), oral or topical antimicrobial treatment is possible.



### SYSTEMIC THERAPY:

«**Ocepol VM**» (ciprofloxacin 500 mg, ornidazole 500 mg) — once.  
**NB! The drug is not approved for use during pregnancy and lactation.**



### TOPICAL TREATMENT

(one of the suggested medications):

«**Elzhina**», vaginal tablets (ornidazole 500 mg, neomycin sulfate 65,000 IU, econazole nitrate 100 mg, prednisolone sodium phosphate 3 mg) — 1 tablet daily, 6-9 days.

**NB! The drug is not approved for use during pregnancy and lactation.**

«**Tergynan**», vaginal tablets (neomycin sulfate 65,000 IU, nystatin 100,000 IU, ternidazole 0.2 g, prednisolone sodium metasulfobenzoate 0.0047 g) — 1 tablet daily, 10 days.

**NB! The drug is not approved for use in the first trimester of pregnancy and during lactation. It is allowed to use from the second trimester of pregnancy.**



### SPECIAL CONSIDERATIONS: PREGNANCY

**Topical treatment** (one of the suggested medications):

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

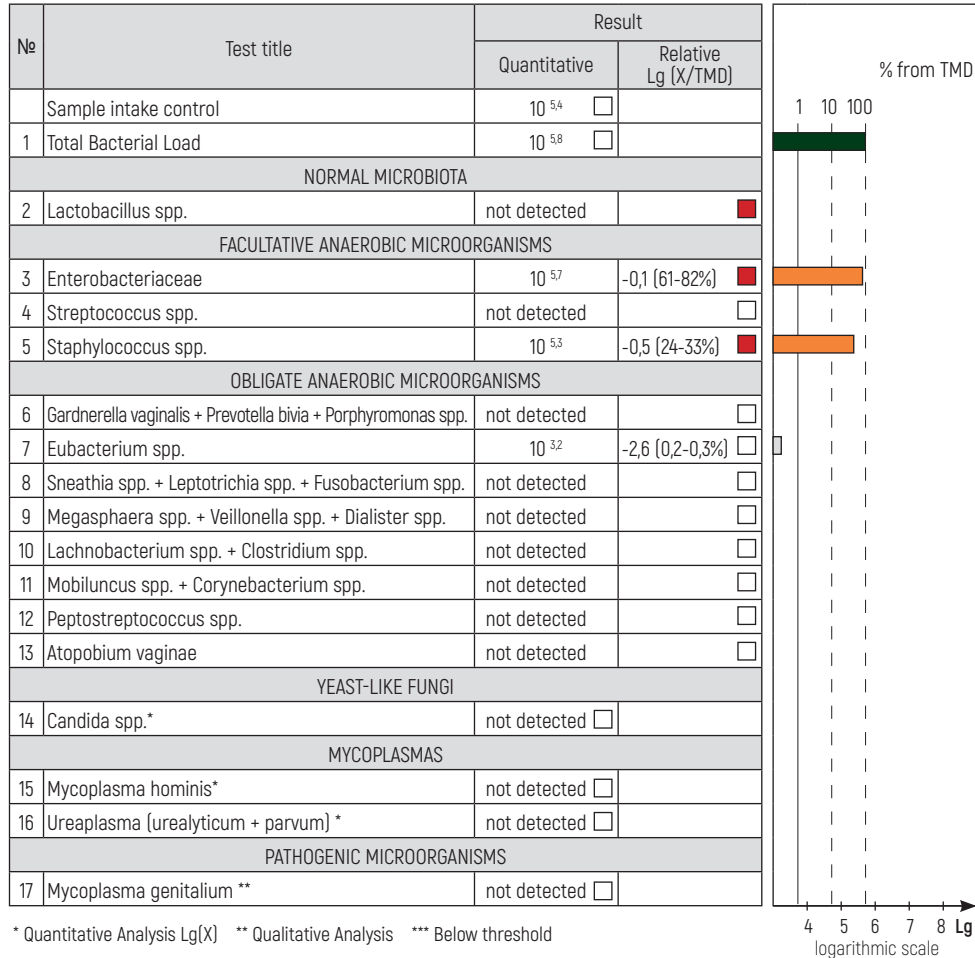
**NB! According to the official instructions, the drugs are allowed for the entire period of pregnancy and lactation.**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 37. Severe aerobic dysbiosis associated with predominance of Enterobacteriaceae and Staphylococcus spp.

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE AEROBIC DYSBIOSIS

Depending on the clinical presentation (acute or chronic cervicitis, recurrent AV), oral or topical antimicrobial treatment is possible.



### SYSTEMIC THERAPY:

«**Orcopol VM**» (ciprofloxacin 500 mg, ornidazole 500 mg) — once.  
**NB! The drug is not approved for use during pregnancy and lactation.**



### TOPICAL TREATMENT

(one of the suggested medications):

«**Polygynax**», vaginal suppositories (neomycin sulfate 35,000 IU, nystatin 100,000 IU, polymyxin B sulfate 35,000 IU) — 1 suppository daily, 12 days.

«**Elzhina**», vaginal tablets (ornidazole 500 mg, neomycin sulfate 65,000 IU, econazole nitrate 100 mg, prednisolone sodium phosphate 3 mg) — 1 tablet daily, 6-9 days.

**NB! These drugs are not approved for use during pregnancy and lactation.**

«**Tergynan**», vaginal tablets (neomycin sulfate 65,000 IU, nystatin 100,000 IU, ternidazole 0.2 g, prednisolone sodium metasulfobenzoate 0.0047 g) — 1 tablet daily, 10 days.

**NB! The drug is not approved for use in the first trimester of pregnancy and during lactation. It is allowed to use from the second trimester of pregnancy.**



### SPECIAL CONSIDERATIONS: PREGNANCY

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

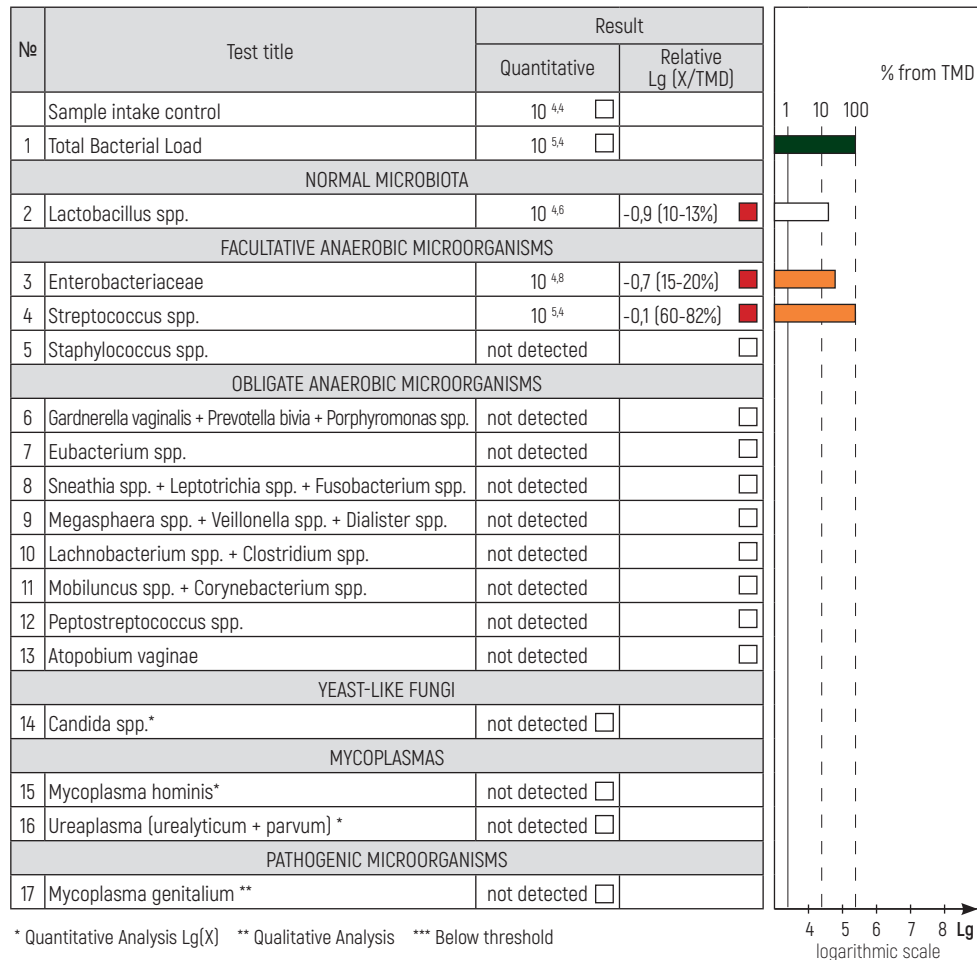
**NB! According to the official instructions, the drug is allowed to use during pregnancy and lactation.**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 38. Severe aerobic dysbiosis associated with predominance of *Enterobacteriaceae* and *Streptococcus spp.*

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE AEROBIC DYSBIOSIS



### TOPICAL TREATMENT

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB!** According to the official instructions, the drug is approved for use during pregnancy and lactation.

**NB!!!** Depending on the clinical picture (in the presence of acute or chronic cervicitis, recurrent AV, chronic endometritis), in case of the predominance of *Enterobacteriaceae* systemic antibacterial therapy may be prescribed. Aminoglycosides, 3rd and 4th generation cephalosporins, fluoroquinolones are the drugs of choice.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# 39. Severe aerobic dysbiosis associated with predominance of *Streptococcus* spp.; *Candida* spp. in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample

№	Test title	Result		%
		Quantitative	Relative Lg (X/TMD)	
	Sample intake control	10 <sup>6.4</sup>	<input type="checkbox"/>	
1	Total Bacterial Load	10 <sup>6.7</sup>	<input type="checkbox"/>	
NORMAL MICROBIOTA				
2	Lactobacillus spp.	not detected	<input checked="" type="checkbox"/>	
FACULTATIVE ANAEROBIC MICROORGANISMS				
3	Enterobacteriaceae	not detected	<input type="checkbox"/>	
4	Streptococcus spp.	10 <sup>6.7</sup>	0,0 (77-100%)	<input checked="" type="checkbox"/>
5	Staphylococcus spp.	10 <sup>3.6</sup>	-3,1 (<0,1%)	<input type="checkbox"/>
OBLIGATE ANAEROBIC MICROORGANISMS				
6	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	not detected	<input type="checkbox"/>	
7	Eubacterium spp.	not detected	<input type="checkbox"/>	
8	Sneathia spp. + Leptotrichia spp. + Fusobacterium spp.	not detected	<input type="checkbox"/>	
9	Megasphaera spp. + Veillonella spp. + Dialister spp.	10 <sup>3.7</sup>	-3,0 (<0,1%)	<input type="checkbox"/>
10	Lachnobacterium spp. + Clostridium spp.	10 <sup>5.7</sup>	-1,0 (8-10%)	<input checked="" type="checkbox"/>
11	Mobiluncus spp. + Corynebacterium spp.	not detected	<input type="checkbox"/>	
12	Peptostreptococcus spp.	10 <sup>3.7</sup>	-3,0 (<0,1%)	<input type="checkbox"/>
13	Atopobium vaginae	not detected	<input type="checkbox"/>	
YEAST-LIKE FUNGI				
14	Candida spp.*	10 <sup>4.7</sup>	<input checked="" type="checkbox"/>	
MYCOPLASMAS				
15	Mycoplasma hominis*	not detected	<input type="checkbox"/>	
16	Ureaplasma (urealyticum + parvum) *	not detected	<input type="checkbox"/>	
PATHOGENIC MICROORGANISMS				
17	Mycoplasma genitalium **	not detected	<input type="checkbox"/>	

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

**Conclusion:**  
SEVERE AEROBIC DYSBIOSIS



## TOPICAL TREATMENT

(one of the suggested medications):

«**Clindacin B prolong**» (butoconazole nitrate 2 g, clindamycin phosphate 2 g) — 1 full applicator intravaginally daily (at bedtime), 3 days.

«**Zalain**», vaginal suppositories (sertoconazole nitrate 300 mg) — intravaginally, once. If clinical symptoms persist, it is possible to use one more suppository after 7 days.

The duration of therapy can be prolonged if necessary.

**NB! These drugs are not approved for use in the first trimester of pregnancy and during lactation.**



## SPECIAL CONSIDERATIONS: PREGNANCY

Topical treatment (one of the suggested medications):

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# 40. Severe aerobic dysbiosis associated with predominance of *Enterobacteriaceae* and *Streptococcus spp.*; *Candida spp.* in amounts greater than $10^4$ GE/sample

COMPLICATED CASE

Example of Femoflor® 16 result form generated after testing vaginal sample

№	Test title	Result		%
		Quantitative	Relative Lg [X/TMD]	
	Sample intake control	$10^{4.0}$	<input type="checkbox"/>	
1	Total Bacterial Load	$10^{5.1}$	<input type="checkbox"/>	
NORMAL MICROBIOTA				
2	Lactobacillus spp.	not detected	<input checked="" type="checkbox"/>	
FACULTATIVE ANAEROBIC MICROORGANISMS				
3	Enterobacteriaceae	$10^{4.8}$	<input checked="" type="checkbox"/>	-0,3 [47-64%]
4	Streptococcus spp.	$10^{4.7}$	<input checked="" type="checkbox"/>	-0,4 [38-51%]
5	Staphylococcus spp.	not detected	<input type="checkbox"/>	
OBLIGATE ANAEROBIC MICROORGANISMS				
6	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	not detected	<input type="checkbox"/>	
7	Eubacterium spp.	not detected	<input type="checkbox"/>	
8	Sneathia spp. + Leptotrichia spp. + Fusobacterium spp.	not detected	<input type="checkbox"/>	
9	Megasphaera spp. + Veillonella spp. + Dialister spp.	not detected	<input type="checkbox"/>	
10	Lachnobacterium spp. + Clostridium spp.	not detected	<input type="checkbox"/>	
11	Mobiluncus spp. + Corynebacterium spp.	not detected	<input type="checkbox"/>	
12	Peptostreptococcus spp.	not detected	<input type="checkbox"/>	
13	Atopobium vaginae	not detected	<input type="checkbox"/>	
YEAST-LIKE FUNGI				
14	Candida spp.*	$10^{5.4}$	<input checked="" type="checkbox"/>	
MYCOPLASMAS				
15	Mycoplasma hominis*	not detected	<input type="checkbox"/>	
16	Ureaplasma (urealyticum + parvum) *	not detected	<input type="checkbox"/>	
PATHOGENIC MICROORGANISMS				
17	Mycoplasma genitalium **	not detected	<input type="checkbox"/>	

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

**Conclusion:**  
SEVERE AEROBIC DYSBIOSIS

COMPLICATED CASE

In this case, the presence of *Candida spp.* in a clinically significant amount is combined with a decrease in TBL and the predominance of *Streptococcus spp.* and *Enterobacteriaceae*. This may be a result of previous antimicrobial treatment. A patient requires the treatment of dysbiosis and the long-term microbiota recovery. The use of oral probiotics is preferred to avoid excessive acidification of the vaginal environment by topical treatment, which creates favorable conditions for the *Candida spp.* growth.



## TOPICAL TREATMENT

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB!** According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.



## ALTERNATIVE THERAPY:

Depending on the clinical presentation (acute or chronic cervicitis, recurrent AV, chronic endometritis), **oral antimicrobial treatment** is recommended for suppression of *Enterobacteriaceae* and *Streptococcus spp.* Aminoglycosides, 3rd and 4th generation cephalosporins, fluoroquinolones are the drugs of choice.

To suppress *Candida spp.* it is recommended to choose one of the suggested topical drugs:

«Natamycin», 100 mg vaginal suppositories — daily, 6 days.

«Clotrimazole», vaginal tablet 200 mg — daily (at bedtime), 3 days.

«Clotrimazole», 1% cream 5 g — intravaginally daily (at bedtime), 7-14 days.

«Itraconazole», 200 mg vaginal tablet — daily (at bedtime), 10 days.

«Miconazole», vaginal suppositories 100 mg — daily (at bedtime), 7 days.

«Butoconazole», 2% cream 5 g — intravaginally in a single application (at bedtime).

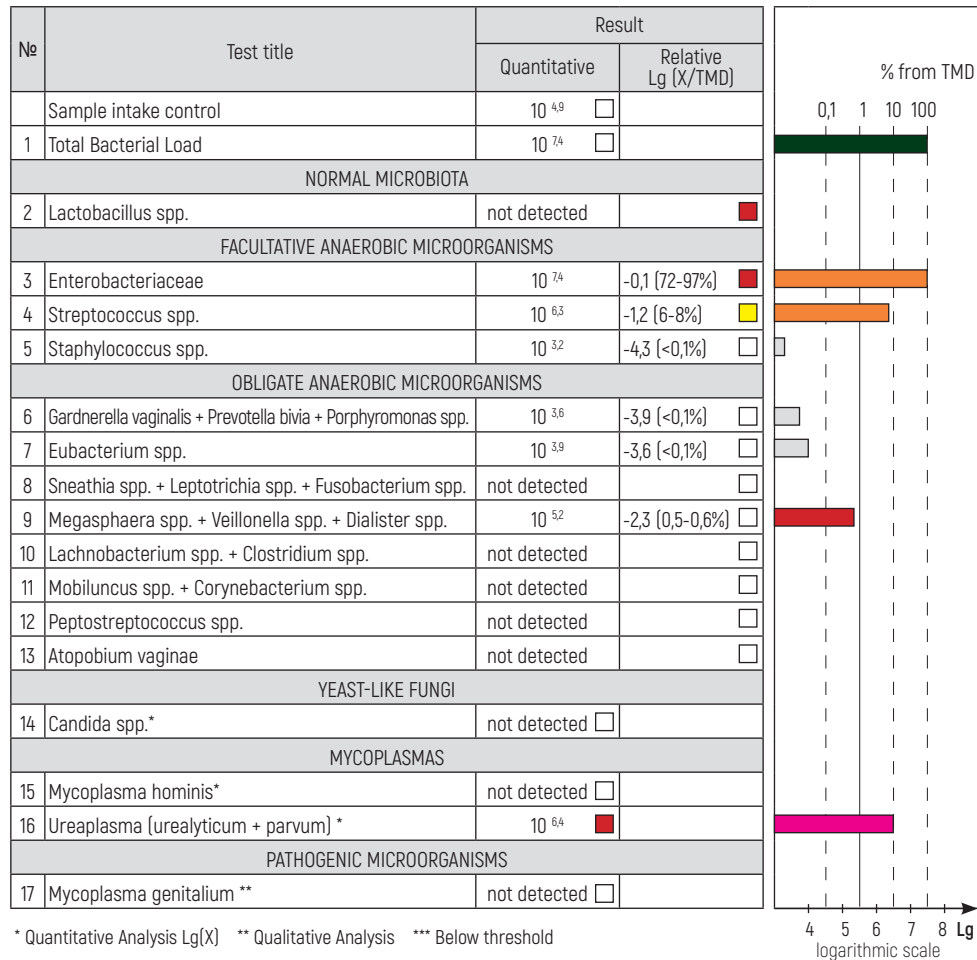
«Sertaconazole», vaginal suppositories 300 mg — intravaginally in a single application.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# 41. Severe aerobic dysbiosis associated with predominance of Enterobacteriaceae and Streptococcus spp.; Ureaplasma spp. in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE AEROBIC DYSBIOSIS



## SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.  
*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



## SPECIAL CONSIDERATIONS: PREGNANCY

### TOPICAL TREATMENT

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

*NB! According to the official instructions, the drug is approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment of Ureaplasma associated infection may be postponed until after delivery!*

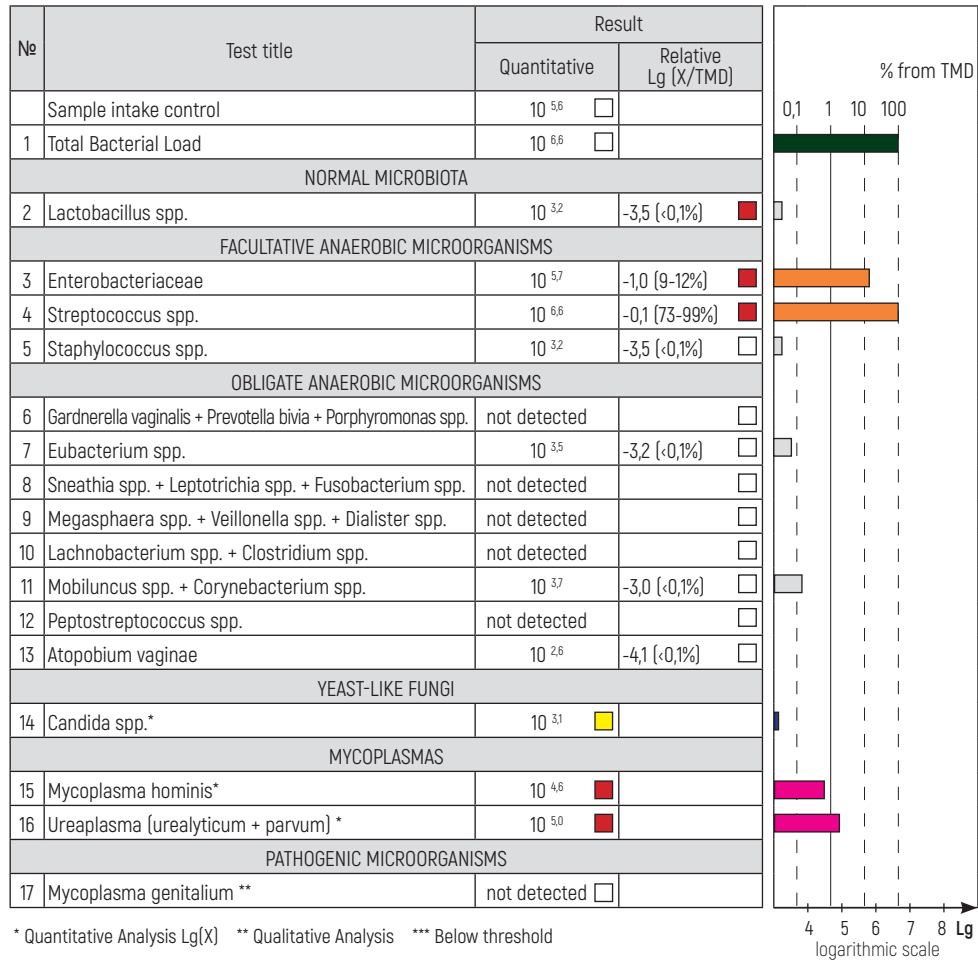
**Topical antimicrobial treatment** is not necessary, since these antibiotics are effective against all detected bacteria.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 42. Severe aerobic dysbiosis associated with predominance of *Enterobacteriaceae* and *Streptococcus spp.*; *Ureaplasma spp.* and *M. hominis* in amounts greater than $10^4$ GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE AEROBIC DYSBIOSIS



### SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.  
*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



### SPECIAL CONSIDERATIONS: PREGNANCY

#### TOPICAL TREATMENT

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

*NB! According to the official instructions, the drug is approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment of Ureaplasma/Mycoplasma associated infection may be postponed until after delivery!*

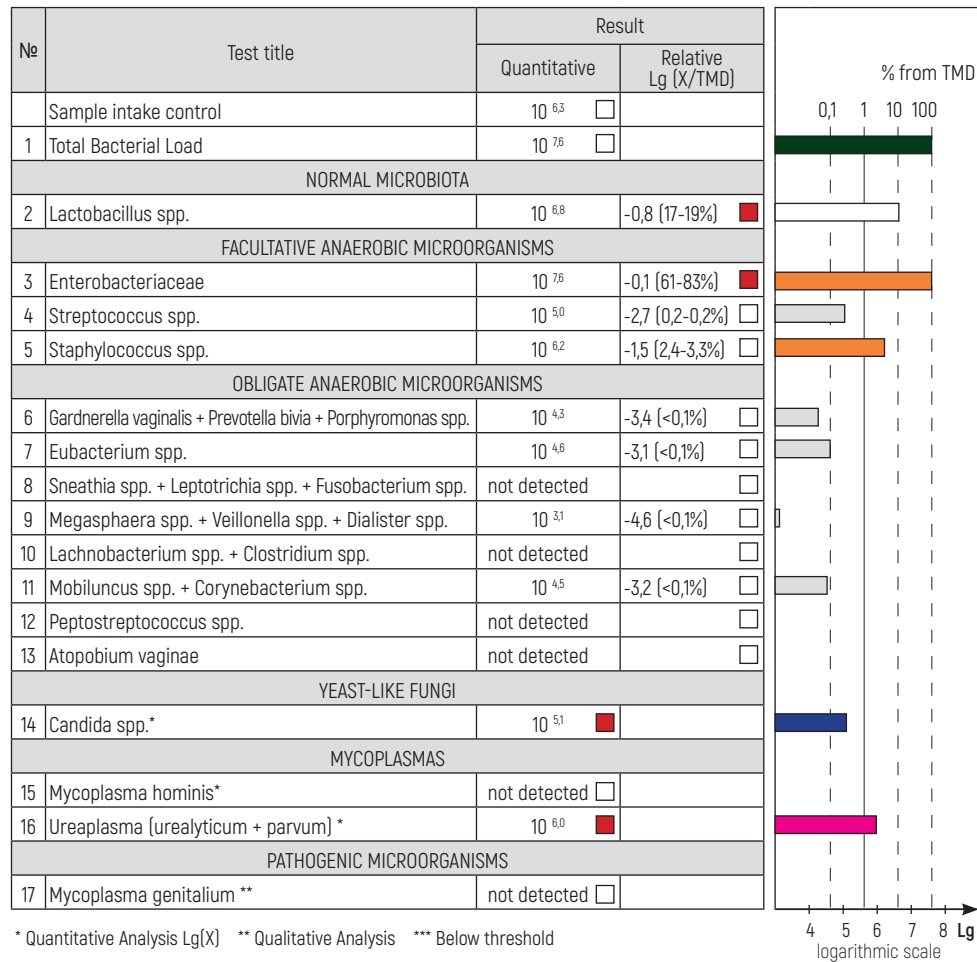
**Topical antimicrobial treatment** is not necessary, since these antibiotics are effective against all detected bacteria.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 43. Severe aerobic dysbiosis associated with predominance of *Enterobacteriaceae* and *Staphylococcus spp.*; *Ureaplasma spp.* and *Candida spp.* in amounts greater than $10^4$ GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE AEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.* and *Staphylococcus spp.*) and topical treatment (to suppress *Candida spp.*).



**SYSTEMIC THERAPY** (one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

**NB! The drug is not approved for use during pregnancy and lactation.**

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

**NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.**

To suppress *Candida spp.* it is recommended to choose one of the suggested topical drugs:

«**Natamycin**», 100 mg vaginal suppositories — daily, 6 days.

«**Clotrimazole**», vaginal tablet 200 mg — daily (at bedtime), 3 days.

«**Clotrimazole**», 1% cream 5 g — intravaginally daily (at bedtime), 7-14 days.

«**Itraconazole**», 200 mg vaginal tablet — daily (at bedtime), 10 days.

«**Miconazole**», vaginal suppositories 100 mg — daily (at bedtime), 7 days.

«**Butoconazole**», 2% cream 5 g — intravaginally in a single application (at bedtime).

«**Sertaconazole**», vaginal suppositories 300 mg — intravaginally in a single application.



**SPECIAL CONSIDERATIONS: PREGNANCY**

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

**NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment of *Ureaplasma* associated infection may be postponed until after delivery!**

**Topical treatment:**

«**Natamycin**», 100 mg vaginal suppositories — daily, 6 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB! According to the official instructions, these drugs are allowed during the entire period of pregnancy and lactation.**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.



# SECTION 5

## MIXED DYSBIOSIS

### SECTION 5. MANAGEMENT OF PATIENTS WITH VAGINITIS, ASSOCIATED WITH DYSBIOSIS OF MIXED (AEROBIC-ANAEROBIC) ETIOLOGY

The normal vaginal microbiota can contain small amounts of opportunistic bacteria (obligate and facultative anaerobes). Some of them can cause serious inflammatory diseases of the reproductive tract.

**Aerobic-anaerobic (mixed) dysbiosis** is a state of the vaginal microbiota characterized by the predominance of various opportunistic microorganisms including obligate and facultative anaerobes with a corresponding decrease in the proportion of *Lactobacillus spp.*

**Depending on the degree of severity the following variants are distinguished:**

- **severe mixed dysbiosis** — the proportion of *Lactobacillus spp.* <20% of TBL;
- **moderate mixed dysbiosis** — the proportion of *Lactobacillus spp.* is 20-80% of TBL.

The clinical presentation corresponding to mixed (aerobic-anaerobic) dysbiosis according to Femoflor® test can appear as bacterial vaginosis or aerobic vaginitis. An inflammatory, intermediate, or dysbiotic vaginal smear type could be detected by microscopy.



**Indications for treatment:** reproductive age women with severe mixed dysbiosis require treatment regardless of clinical presentation. Patients with moderate anaerobic dysbiosis require treatment if they have bad obstetric history and/or signs and symptoms of genital tract inflammatory disorders. In some cases, moderate dysbiosis can be considered as a normal state of vaginal microbiota or as a transient condition that does not require treatment. Depending on the predominant group of bacteria and the presence/absence of associated opportunistic microorganisms (*Ureaplasma spp.*, *M. hominis*, *Candida spp.*), treatment may be different.

**Management of sex partners:** routine treatment of sex partners is not recommended, but it could be beneficial for patients with recurrent AV.

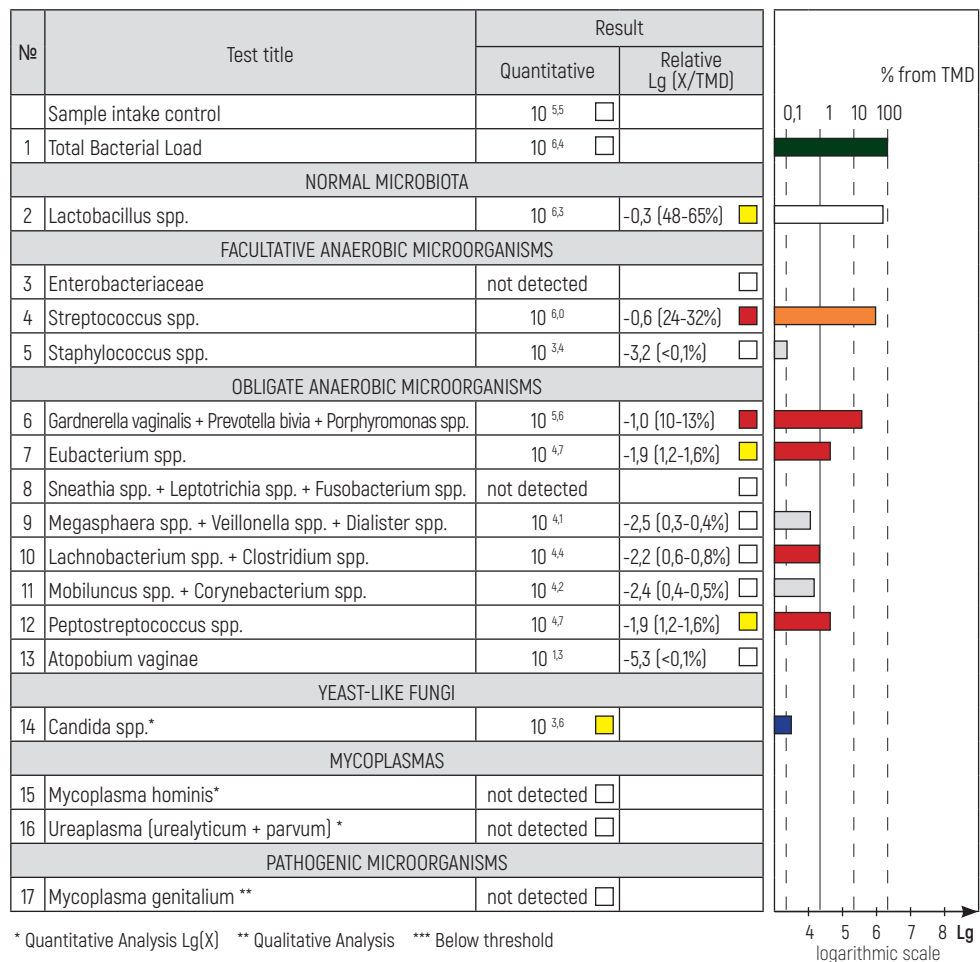
Similar to other types of dysbiosis, the treatment is carried out in two stages: reduction of opportunistic bacteria at the first stage and restoration of normal microbiota (lactobacilli) on the second stage.

- See pages 155-156 for possible medications and treatment schemes.

## SECTION 5.1. MANAGEMENT OF PATIENTS WITH MODERATE MIXED DYSBIOSIS

### 44. Moderate mixed dysbiosis associated with predominance of *Streptococcus spp.* and obligate anaerobes

Example of Femoflor® 16 result form generated after testing vaginal sample



\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

**Conclusion:**  
MODERATE MIXED DYSBIOSIS

Moderate dysbiosis may be an individual norm, but *Streptococcus spp.* is present in significant numbers in this sample. If the treatment is required, topical medication is preferred, following by restoration of normal microbiota and TBL level.



#### TOPICAL TREATMENT

(one of the suggested medications):

«Clindacin», 2% vaginal cream — 1 full application daily, 7 days.

«Clindacin», 100 mg vaginal suppositories — 1 suppository daily, 3-7 days.

The duration of therapy can be prolonged if necessary.

**NB! These drugs are not approved during pregnancy and lactation.**



#### SPECIAL CONSIDERATIONS: PREGNANCY

(one of the suggested medications):

«Hexicon», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

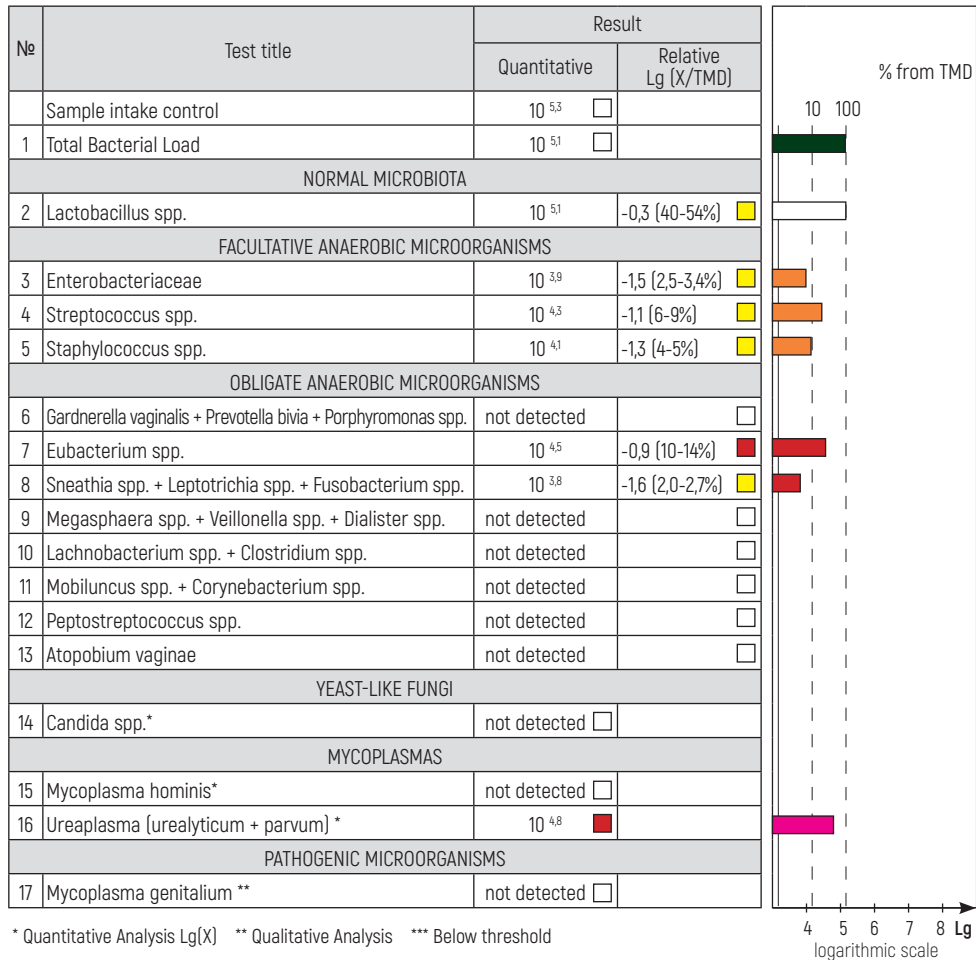
**NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 45. Moderate mixed dysbiosis, decreased total bacterial load; *Ureaplasma spp.* in amounts greater than $10^4$ GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
MODERATE MIXED DYSBIOSIS

Moderate dysbiosis may be an individual norm, but in this case it is combined with low TBL. It could be caused by repeated courses of antibiotics. If the treatment is required (to suppress *Ureaplasma spp.*), it is enough to use one medication followed by restoration of normal microbiota and TBL level.



### SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

**NB!** The drug is not approved for use during pregnancy and lactation.

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

**NB!** It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.



### SPECIAL CONSIDERATIONS: PREGNANCY

**Topical treatment:**

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB!** According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

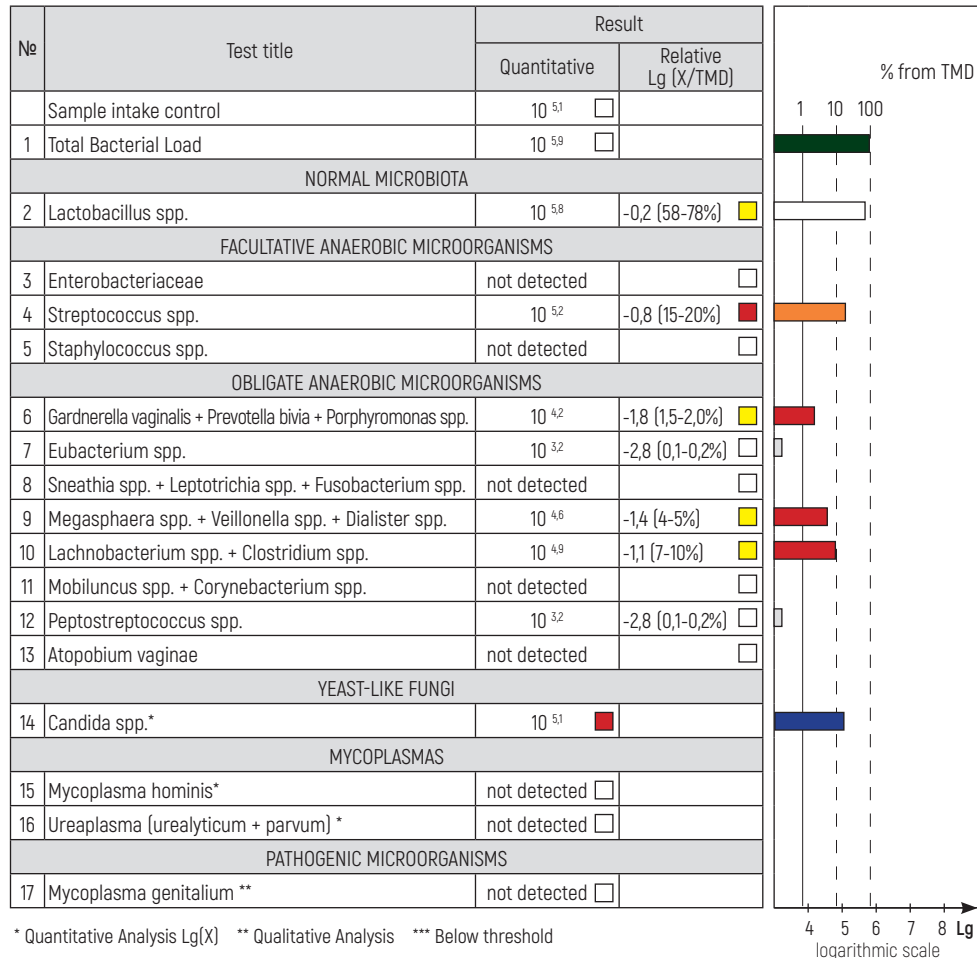
**NB!** It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment of *Ureaplasma*/*Mycoplasma* associated infection may be postponed until after delivery!

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 46. Moderate mixed dysbiosis; *Candida spp.* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
MODERATE MIXED DYSBIOSIS

Moderate dysbiosis can be an individual norm, but in this case it is combined with low TBL and *Candida spp.* in amounts greater than 10<sup>4</sup> GE/sample. It could be caused by repeated courses of antibiotics. In symptomatic patients, a course of antifungal drugs followed by restoration of normal microbiota and TBL level is preferred.



### TOPICAL TREATMENT

(one of the suggested medications):

«**Clotrimazole**», vaginal tablets 200 mg — 1 tablet daily (at bedtime), 3 days.

«**Clotrimazole**», cream 1% 5 g — intravaginally daily (at bedtime), 7-14 days.

**NB! These drugs are not approved during pregnancy and lactation.**



### SPECIAL CONSIDERATIONS: PREGNANCY

#### Topical treatment

(one of the suggested medications):

«**Clotrimazole**», vaginal tablets 100 mg — 1 tablet daily (at bedtime), 7 days.

«**Clotrimazole**», 1% cream 5 g — intravaginally daily (at bedtime), 7 days.

**NB! The drugs are allowed to use from the second trimester of pregnancy.**

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB! According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.**

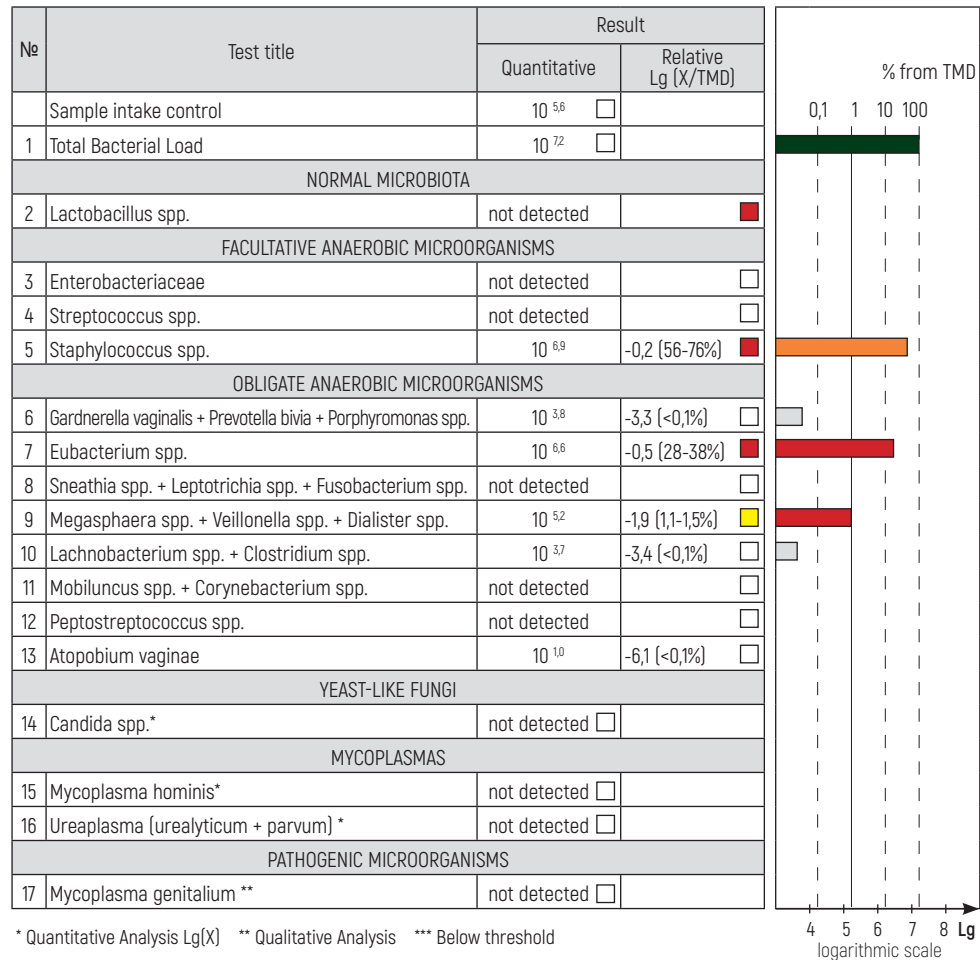
The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## SECTION 5.2. MANAGEMENT OF PATIENTS WITH SEVERE MIXED DYSBIOSES

### 47. Severe mixed dysbiosis associated with predominance of obligate anaerobes and *Staphylococcus spp.*

Example of Femoflor® 16 result form generated after testing vaginal sample



\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

**Conclusion:**  
SEVERE MIXED DYSBIOISIS

Depending on the clinical presentation (acute, chronic and recurrent cervicitis), oral or topical antimicrobial treatment is possible.



#### SYSTEMIC THERAPY:

«Orcepol VM» (ciprofloxacin 500 mg, ornidazole 500 mg) — once.  
**NB! The drug is not approved for use during pregnancy and lactation.**



#### TOPICAL TREATMENT

(one of the suggested medications):

«Elzhina», vaginal tablets (ornidazole 500 mg, neomycin sulfate 65,000 IU, econazole nitrate 100 mg, prednisolone sodium phosphate 3 mg) — 1 tablet daily, 6-9 days.

**NB! The drug is not approved for use during pregnancy and lactation.**

«Tergynan», vaginal tablets (neomycin sulfate 65,000 IU, nystatin 100,000 IU, ternidazole 0.2 g, prednisolone sodium metasulfobenzoate 0.0047 g) — 1 tablet daily, 10 days.

**NB! The drug is not approved for use in the first trimester of pregnancy and during lactation. It is allowed from the 2nd trimester of pregnancy.**



#### SPECIAL CONSIDERATIONS: PREGNANCY

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 daily, 6 days.

**NB! According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 48. Severe mixed dysbiosis associated with predominance of obligate anaerobes, *Enterobacteriaceae* and *Streptococcus spp.*

Example of Femoflor® 16 result form generated after testing vaginal sample

№	Test title	Result		
		Quantitative	Relative Lg (X/TMD)	
	Sample intake control	10 <sup>5.1</sup>	<input type="checkbox"/>	
1	Total Bacterial Load	10 <sup>6.5</sup>	<input type="checkbox"/>	
NORMAL MICROBIOTA				
2	Lactobacillus spp.	not detected	<input type="checkbox"/>	■
FACULTATIVE ANAEROBIC MICROORGANISMS				
3	Enterobacteriaceae	10 <sup>5.6</sup>	-0,5 (25-34%)	■
4	Streptococcus spp.	10 <sup>5.8</sup>	-0,3 (40-54%)	■
5	Staphylococcus spp.	not detected	<input type="checkbox"/>	
OBLIGATE ANAEROBIC MICROORGANISMS				
6	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	not detected	<input type="checkbox"/>	
7	Eubacterium spp.	10 <sup>5.5</sup>	-0,6 (20-27%)	■
8	Sneathia spp. + Leptotrichia spp. + Fusobacterium spp.	not detected	<input type="checkbox"/>	
9	Megasphaera spp. + Veillonella spp. + Dialister spp.	not detected	<input type="checkbox"/>	
10	Lachnobacterium spp. + Clostridium spp.	10 <sup>3.1</sup>	-3,0 (<0,1%)	<input type="checkbox"/>
11	Mobiluncus spp. + Corynebacterium spp.	not detected	<input type="checkbox"/>	
12	Peptostreptococcus spp.	not detected	<input type="checkbox"/>	
13	Atopobium vaginae	not detected	<input type="checkbox"/>	
YEAST-LIKE FUNGI				
14	Candida spp.*	not detected	<input type="checkbox"/>	
MYCOPLASMAS				
15	Mycoplasma hominis*	not detected	<input type="checkbox"/>	
16	Ureaplasma (urealyticum + parvum) *	not detected	<input type="checkbox"/>	
PATHOGENIC MICROORGANISMS				
17	Mycoplasma genitalium **	not detected	<input type="checkbox"/>	

% from TMD

0,1 1 10 100

4 5 6 7 8 Lg

logarithmic scale

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

**Conclusion:**  
SEVERE MIXED DYSBIOSIS



### TOPICAL TREATMENT

(one of the suggested medications):

«Clindamycin», 2% cream 5.0 g — intravaginally once a day (at night), 7 days.

«Clindamycin», vaginal suppositories 100 mg — intravaginally once a day (at night), 3 days.

**NB! These drugs are not approved in the first trimester of pregnancy and during lactation.**



### SPECIAL CONSIDERATIONS: PREGNANCY

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

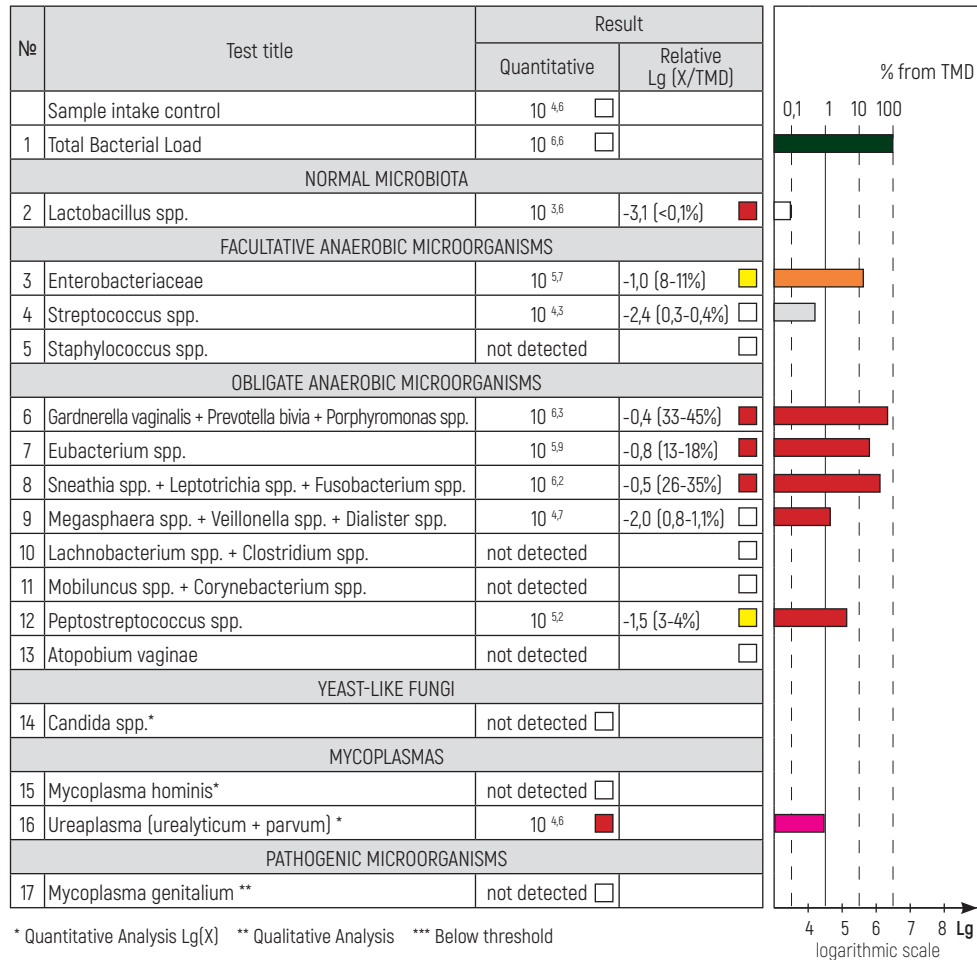
**NB! According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 49. Severe mixed dysbiosis associated with predominance of obligate anaerobes and *Enterobacteriaceae*; *Ureaplasma spp.* in amounts greater than $10^4$ GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE MIXED DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.*) and topical treatment (to suppress anaerobic and aerobic opportunistic bacteria).



### SYSTEMIC THERAPY:

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.  
*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment of Ureaplasma associated infection may be postponed until after delivery!*



**TOPICAL TREATMENT** (one of the suggested medications):

«**Clindamycin**», vaginal suppositories 100 mg — intravaginally once a day (at night), 3 days.

*NB! The drug is not approved for use during pregnancy and lactation.*

«**Macmiror complex**», vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository at night, 8 days.

«**Macmiror complex**», cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

*NB! The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.*



### SPECIAL CONSIDERATIONS: PREGNANCY

**Systemic therapy:**

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment of Ureaplasma associated infection may be postponed until after delivery!*

**Topical treatment** (one of the suggested medications):

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

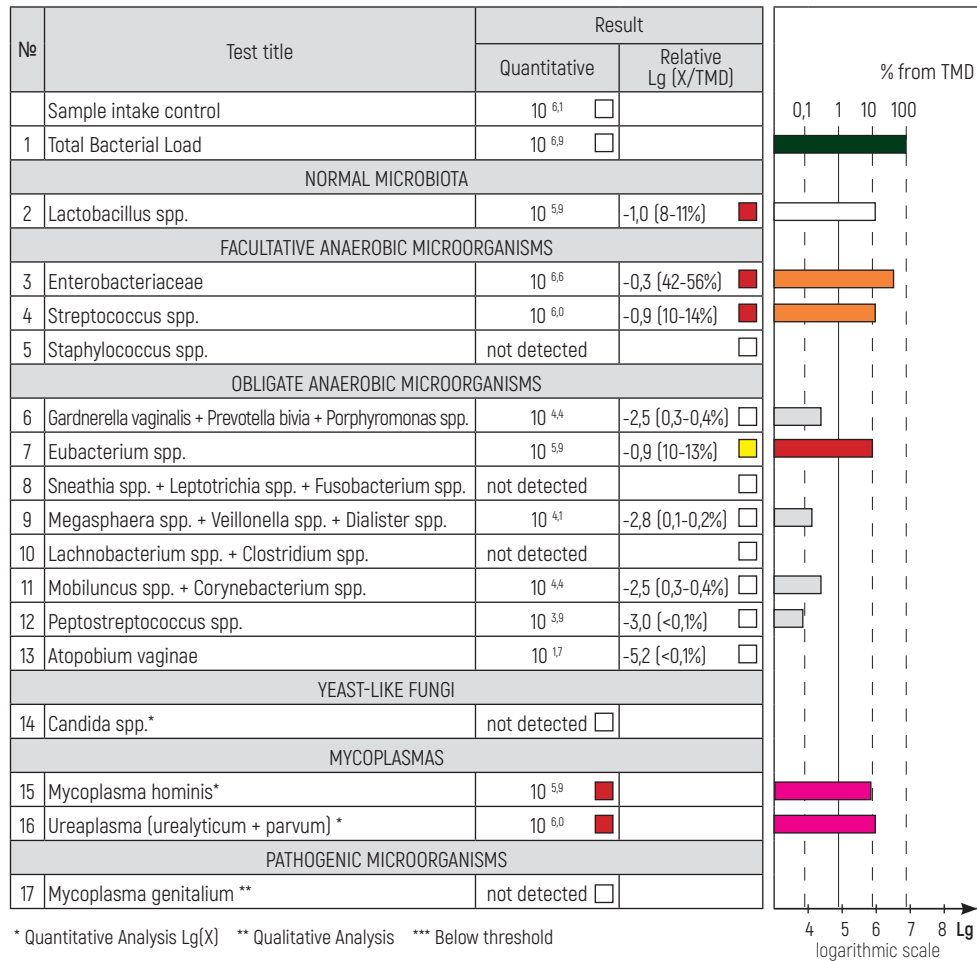
*NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 50. Severe mixed dysbiosis associated with predominance of obligate anaerobes, *Enterobacteriaceae* and *Streptococcus spp.*; *Ureaplasma spp.* and *M. hominis* in amounts greater than $10^4$ GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE MIXED DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.* and *M. hominis*) and topical treatment (to suppress anaerobic and aerobic opportunistic bacteria).



### SYSTEMIC THERAPY:

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.  
*NB! The drug is not approved for use during pregnancy and lactation.*

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child.*



### TOPICAL TREATMENT

(one of the suggested medications):

«**Tergynan**», vaginal tablets (neomycin sulfate 65,000 IU, nystatin 100,000 IU, ternidazole 0.2 g, prednisolone sodium metasulfobenzoate 0.0047 g) — 1 daily, 10 days.

*NB! The drug is not approved for use in the first trimester of pregnancy and during lactation. It is possible to use from the 2nd trimester of pregnancy.*

«**Elzhina**», vaginal tablets (ornidazole 500 mg, neomycin sulfate 65,000 IU, econazole nitrate 100 mg, prednisolone sodium phosphate 3 mg) — 1 tablet daily, 6-9 days.

*NB! The drug is not approved for use during pregnancy and lactation.*



### SPECIAL CONSIDERATIONS: PREGNANCY

#### Systemic therapy:

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment of Ureaplasma/ Mycoplasma associated infection may be postponed until after delivery!*

**Topical treatment** (one of the suggested medications)::

«**Hexicon**», vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

*NB! According to the official instructions, the drugs are allowed during the entire period of pregnancy and lactation.*

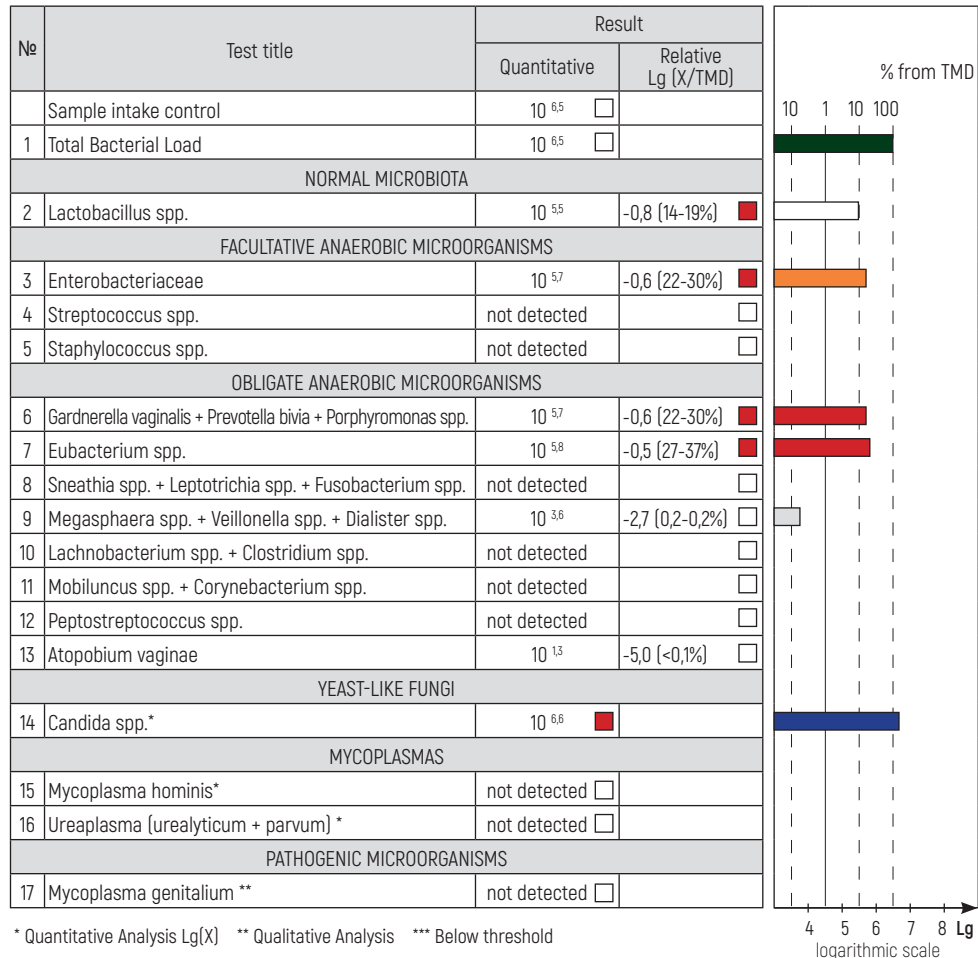
The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.



# 51. Severe mixed dysbiosis associated with predominance of obligate anaerobes and *Enterobacteriaceae*; *Candida spp.* in amounts greater than $10^4$ GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE MIXED DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antifungal treatment (to suppress *Candida spp.*, which is present in significant amount) and topical treatment (to suppress anaerobic and aerobic opportunistic bacteria).



## SYSTEMIC THERAPY:

«Fluconazole» 150 mg — orally once.

**NB!** The drug is not approved for use in the first trimester of pregnancy and during lactation.



## TOPICAL TREATMENT

(one of the suggested medications):

«Tergynan», vaginal tablets (neomycin sulfate 65,000 IU, nystatin 100,000 IU, ternidazole 0.2 g, prednisolone sodium metasulfobenzoate 0.0047 g) — 1 daily, 10 days.

**NB!** The drug is not approved for use in the first trimester of pregnancy and during lactation. It is allowed to use from the 2nd trimester of pregnancy.

«Elzhina», vaginal tablets (ornidazole 500 mg, neomycin sulfate 65,000 IU, econazole nitrate 100 mg, prednisolone sodium phosphate 3 mg) — 1 tablet daily, 6-9 days.

**NB!** The drug is not approved for use during pregnancy and lactation.

«Macmiror complex», vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository daily (at bedtime), 8 days.

«Macmiror complex», cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

**NB!** The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.



## SPECIAL CONSIDERATIONS: PREGNANCY

### Topical treatment:

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

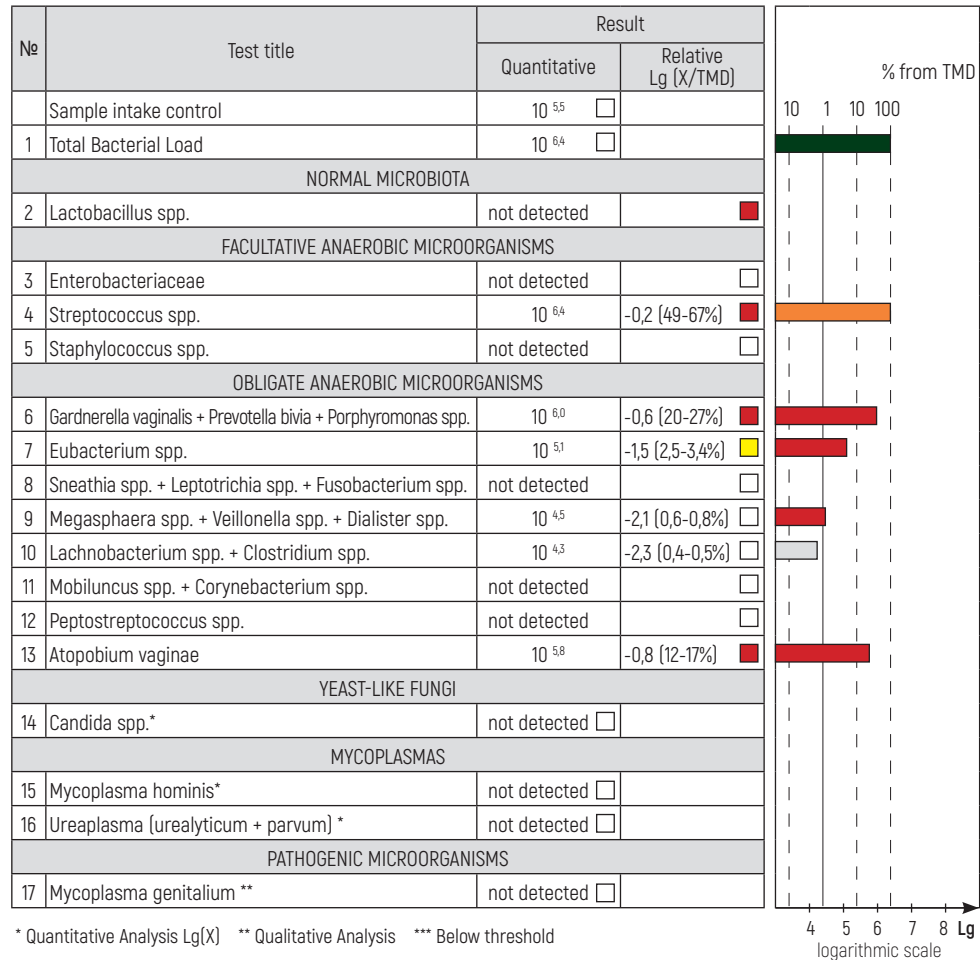
**NB!** According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 52. Severe mixed dysbiosis associated with *Atopobium vaginae*

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE MIXED DYSBIOSIS



### TOPICAL TREATMENT

(one of the suggested medications):

«Clindamycin», vaginal suppositories 100 mg — 1 suppository daily (at bedtime), 3 days.

**NB!** The drug is not approved for use during pregnancy and lactation.

«Macmiror complex», vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository daily (at bedtime), 8 days.

«Macmiror complex», cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.

**NB!** The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.



### SPECIAL CONSIDERATIONS: PREGNANCY

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

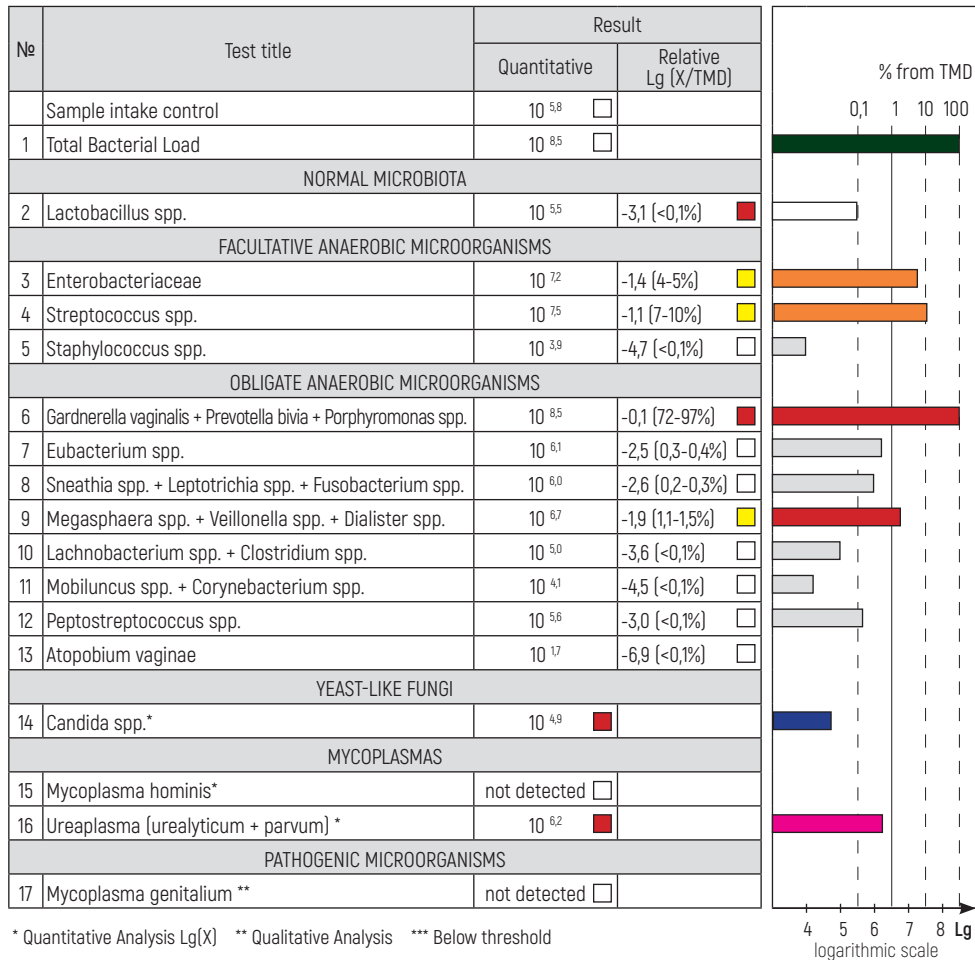
**NB!** According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 53. Severe mixed dysbiosis associated with predominance of obligate anaerobes and *Enterobacteriaceae*; *Ureaplasma spp.* and *Candida spp.* in amounts greater than $10^4$ GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE MIXED DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antimicrobial treatment (to suppress *Ureaplasma spp.* and aerobic bacteria) and topical treatment (to suppress anaerobes and *Candida spp.*).



### SYSTEMIC THERAPY:

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

**NB!** The drug is not approved for use during pregnancy and lactation.

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

**NB!** It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child. Treatment of *Ureaplasma* associated infection may be postponed until after delivery!



### TOPICAL TREATMENT

(one of the suggested medications):

«**Tergynan**», vaginal tablets (neomycin sulfate 65,000 IU, nystatin 100,000 IU, ternidazole 0.2 g, prednisolone sodium metasulfobenzoate 0.0047 g) — 1 tablet daily, 10 days.

**NB!** The drug is not approved for use in the first trimester of pregnancy and during lactation. It is allowed to use from the 2nd trimester of pregnancy.

«**Elzhina**», vaginal tablets (ornidazole 500 mg, neomycin sulfate 65,000 IU, econazole nitrate 100 mg, prednisolone sodium phosphate 3 mg) — 1 tablet daily, 6-9 days.

**NB!** The drug is not approved for use during pregnancy and lactation.



### SPECIAL CONSIDERATIONS: PREGNANCY

**Topical treatment:**

«**Fluomizin**», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB!** According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.

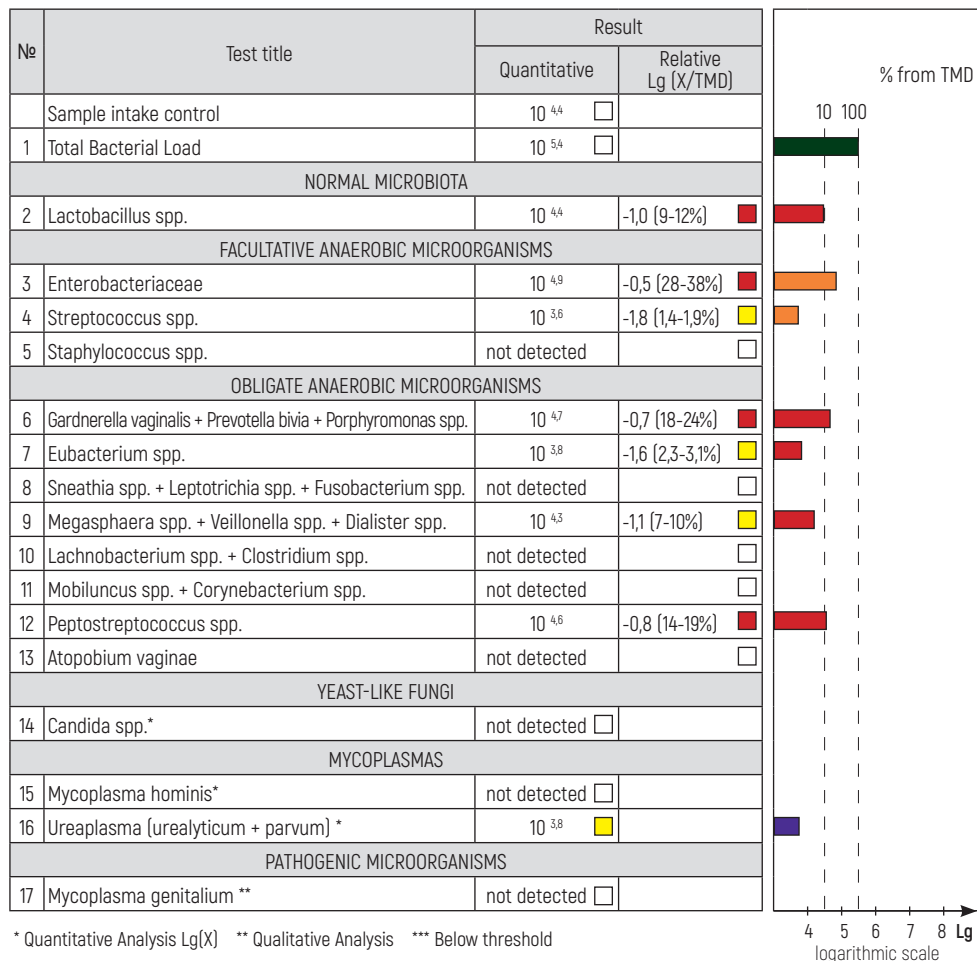
The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# 54. Severe mixed dysbiosis, decreased total bacterial load

COMPLICATED CASE

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
SEVERE MIXED DYSBIOSIS

COMPLICATED CASE

This state of vaginal microbiota has been detected in a menopausal patient with nonspecific vaginitis. This type of microbiota can also be detected in women during lactation. Given the low level of TBL, the patient requires long-term probiotic therapy. During menopause, topical administration of estrogens is recommended.



## TOPICAL TREATMENT

(one of the suggested medications):

«Clindamycin», 2% cream 5.0 g — intravaginally daily (at bedtime), 7 days.

«Clindamycin», vaginal suppositories 100 mg — intravaginally daily (at bedtime), 3 days.

«Elzhina», vaginal tablets (ornidazole 500 mg, neomycin sulfate 65,000 IU, econazole nitrate 100 mg, prednisolone sodium phosphate 3 mg) — 1 tablet daily, 6-9 days.

**NB! These drugs are not approved for use during pregnancy and lactation.**

«Tergynan», vaginal tablets (neomycin sulfate 65,000 IU, nystatin 100,000 IU, ternidazole 0.2 g, prednisolone sodium metasulfobenzoate 0.0047 g) — 1 tablet daily, 10 days.

**NB! The drug is not approved for use in the first trimester of pregnancy and during lactation. It is allowed to use from the 2nd trimester of pregnancy.**



## SPECIAL CONSIDERATIONS: PREGNANCY

Topical treatment:

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

**NB! According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# SECTION 6

## OBLIGATE PATHOGENS

---

### SECTION 6. MANAGEMENT OF PATIENTS WITH SEXUALLY TRANSMITTED INFECTIONS

#### SECTION 6.1. TREATMENT OF INFECTIONS CAUSED BY *CHLAMYDIA TRACHOMATIS*

---

*C. trachomatis* is a sexually transmitted obligate pathogen. All patients with *C. trachomatis* and their sexual partners, including asymptomatic, should be treated.

***NB!*** *In order to prevent vaginal dysbiosis after antimicrobial therapy, all patients require a two-stage treatment:*

The first stage: the eradication of the pathogen.

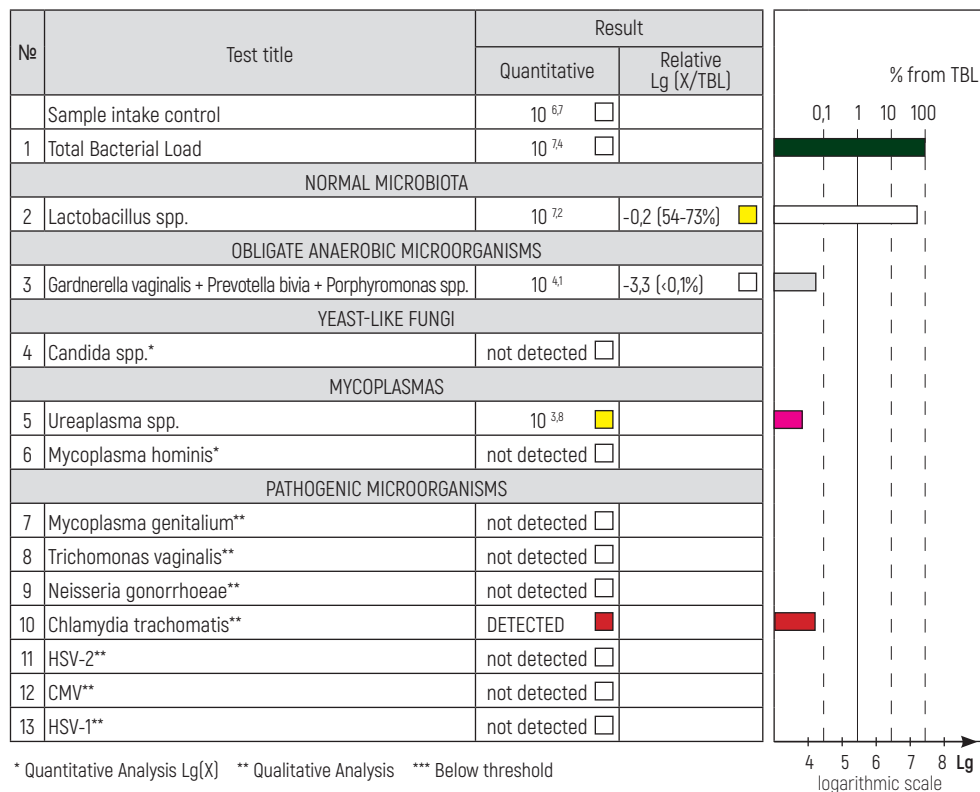
The second stage: the restoration of normal vaginal microbiota with lactobacilli-containing probiotics.

See pages 155-156 for possible medications and schemes of treatment.

**Follow up:** tests of cure are performed by PCR in 4 weeks after completing the therapy.

## 55. *Chlamydia trachomatis* positive; the proportion of lactobacilli <80% of the total bacterial load (meets the criteria of moderate dysbiosis)

Example of Femoflor® Screen result form generated after testing vaginal sample



### Conclusion:

DETECTED: *Chlamydia trachomatis*. The proportion of lactobacilli in the total bacterial load is decreased (MODERATE DYSBIOSIS).



### SYSTEMIC THERAPY

(one of the suggested medications):

«Doxycycline» 100 mg — twice a day, 7 days.

«Ofloxacin» 400 mg — twice a day, 7 days.

«Levofloxacin» 500 mg — daily, 7 days.

**NB!** These drugs are not approved for use during pregnancy and lactation.

«Josamycin» 500 mg — 3 times a day, 7 days.

**NB!** It is allowed to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child (in Russia).

For the treatment of complicated genital diseases caused by *C. trachomatis*, the aforementioned medications should be administered orally; the duration of treatment should be increased to 14-21 days.



### SPECIAL CONSIDERATIONS: PREGNANCY

«Azithromycin» 1 g — orally as a single dose.

«Amoxicillin» 500 mg — orally three times a day for 7 days.

**NB!** Treatment of pregnant women with chlamydial infection is carried out at any gestational age with antibacterial drugs, considering their effect on a fetus. When treating women in the period of lactation, it is preferable to prescribe «Josamycin». Azithromycin or Erythromycin can be prescribed if the expected benefit to the mother exceeds the risk to the newborn. In this case breastfeeding should be paused during the treatment.

Given the decreased proportion of lactobacilli at the end of therapy, the assessment of the vaginal microbiota using the Femoflor®16 test for further management is recommended.

- See pages 155-156 for possible medications and schemes of treatment.

**56. Chlamydia trachomatis positive; the proportion of lactobacilli <80% of the total bacterial load (meets the criteria of moderate dysbiosis); Candida spp. in amounts greater than 10<sup>4</sup> GE/sample**

Example of Femoflor® Screen result form generated after testing vaginal sample

№	Test title	Result		% from TBL
		Quantitative	Relative Lg (X/TBL)	
	Sample intake control	10 <sup>6.2</sup>	<input type="checkbox"/>	
1	Total Bacterial Load	10 <sup>7.1</sup>	<input type="checkbox"/>	
NORMAL MICROBIOTA				
2	Lactobacillus spp.	10 <sup>7.0</sup>	-0,1 (68-91%)	
OBLIGATE ANAEROBIC MICROORGANISMS				
3	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	not detected	<input type="checkbox"/>	
YEAST-LIKE FUNGI				
4	Candida spp.*	10 <sup>4.3</sup>	<input checked="" type="checkbox"/>	
MYCOPLASMAS				
5	Ureaplasma spp.	10 <sup>3.0</sup>	<input checked="" type="checkbox"/>	
6	Mycoplasma hominis*	not detected	<input type="checkbox"/>	
PATHOGENIC MICROORGANISMS				
7	Mycoplasma genitalium**	not detected	<input type="checkbox"/>	
8	Trichomonas vaginalis**	not detected	<input type="checkbox"/>	
9	Neisseria gonorrhoeae**	not detected	<input type="checkbox"/>	
10	Chlamydia trachomatis**	DETECTED	<input checked="" type="checkbox"/>	
11	HSV-2**	not detected	<input type="checkbox"/>	
12	CMV**	not detected	<input type="checkbox"/>	
13	HSV-1**	not detected	<input type="checkbox"/>	

logarithmic scale

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

**Conclusion:**

DETECTED: Chlamydia trachomatis, Candida spp. The proportion of lactobacilli in the total bacterial load is decreased (MODERATE DYSBIOSIS).

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antibiotics (for eradication of *Chlamydia trachomatis*) and topical treatment (to suppress *Candida spp.*).



**SYSTEMIC THERAPY** (one of the suggested medications):

«Doxycycline» 100 mg — 2 times a day, 7 days.

«Ofloxacin» 400 mg — 2 times a day, 7 days.

«Levofloxacin» 500 mg — once a day, 7 days.

*NB! These drugs are not approved for use during pregnancy and lactation.*

«Josamycin» 500 mg — 3 times a day, 7 days.

*NB! It is allowed to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child (in Russia).*

For the treatment of complicated genital diseases caused by *C. trachomatis*, the aforementioned medications should be administered orally; the duration of treatment should be increased to 14-21 days.



**SPECIAL CONSIDERATIONS: PREGNANCY**

«Azithromycin» 1 g — orally as a single dose.

*NB! Treatment of pregnant women with chlamydial infection is carried out at any gestational age with antibacterial drugs, considering their effect on a fetus. When treating women in the period of lactation, it is preferable to prescribe Josamycin. Azithromycin or Erythromycin can be prescribed if the expected benefit to the mother exceeds the risk to the newborn. In this case breastfeeding should be paused during the treatment.*

**Topical treatment** (one of the suggested medications):

«Natamycin», vaginal suppositories 100 mg — once a day, 6 days.

«Clotrimazole», vaginal tablets 200 mg — once a day (at night), 3 days.

«Itraconazole», vaginal tablets 200 mg — once a day (at night), 10 days.

«Miconazole», vaginal suppositories 100 mg — once a day (at night), 7 days.

«Butoconazole», 2% cream 5 g intravaginally once a day (at night) once.

«Sertaconazole», vaginal suppositories 300 mg — intravaginal, once.

**SPECIAL CONSIDERATIONS: PREGNANCY**

«Fluomizin», vaginal tablets (dequalinium chloride 10 mg) — 1 tablet daily, 6 days.

*NB! According to the official instructions, the drug is allowed during the entire period of pregnancy and lactation.*

Given the decreased proportion of lactobacilli at the end of therapy, the assessment of the vaginal microbiota using the Femoflor®16 test for further management is recommended.

- See pages 155-156 for possible medications and schemes of treatment.

# SECTION 6

## OBLIGATE PATHOGENS

---

### SECTION 6.2. TREATMENT OF INFECTIONS CAUSED BY *TRICHOMONAS VAGINALIS*

---

*T. vaginalis* is a sexually transmitted obligate pathogen. All patients positive for *T. vaginalis* and their sexual partners, including asymptomatic, should be treated.

***NB!*** *In order to prevent vaginal dysbiosis after antimicrobial therapy, all patients need a two-stage treatment.*

The first stage: the eradication of the pathogen. The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

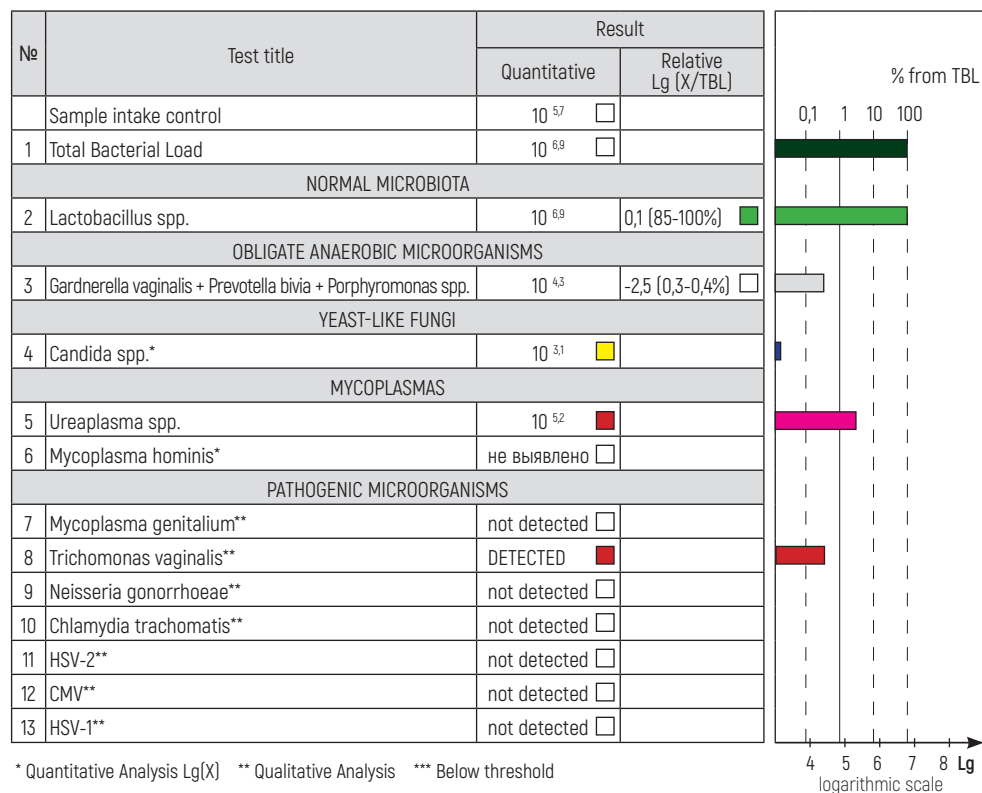
See pages 155-156 for possible medications and schemes of treatment.

**Follow up:** tests of cure are performed by PCR in 4 weeks after completing the therapy.



## 57. *Trichomonas vaginalis* positive; the proportion of lactobacilli >80% of the total bacterial load (meets the criteria of normocenosis)

Example of Femoflor® Screen result form generated after testing vaginal sample



### Conclusion:

DETECTED: *Trichomonas vaginalis*. The proportion of lactobacilli in the total bacterial load corresponds to normocenosis



### SYSTEMIC THERAPY

(one of the suggested medications):

«Metronidazole» 500 mg — orally 2 times a day, 7 days.

«Ornidazole» 500 mg — orally 2 times a day, 5 days.

«Tinidazole» 500 mg — orally 2 times a day, 5 days.



### ALTERNATIVE TREATMENT REGIMENS:

«Metronidazole» 2.0 g — orally once.

«Ornidazole» 1.5 g — orally once.

«Tinidazole» 2.0 g — orally once.

### Treatment of complicated and recurrent trichomoniasis:

«Metronidazole» 500 mg — orally 3 times a day, 7 days.

«Metronidazole» 2.0 g — orally once a day, 5 days.

«Ornidazole» 500 mg — orally 2 times a day, 10 days.

«Tinidazole» 2.0 g — orally once a day, 3 days.

In the treatment of complicated forms of urogenital trichomoniasis, simultaneous use of topical antiprotozoal drugs is possible:

«Metronidazole», vaginal tablets 500 mg — once a day, 6 days.

«Metronidazole», 0.75% gel 5 g — intravaginally daily (at bedtime), 5 days.



### SPECIAL CONSIDERATIONS: PREGNANCY

Treatment of pregnant women with urogenital trichomoniasis is carried out not earlier than the second trimester of pregnancy according to the scheme:

«Metronidazole» 2.0 g — orally once.

«Metronidazole» 500 mg — 2 times a day, 7 days.

If *Ureaplasma spp.* is detected after the end of therapy, the assessment of vaginal microbiota using the Femoflor®16 test is recommended for further management.

# SECTION 6

## OBLIGATE PATHOGENS

---

### SECTION 6.3. TREATMENT OF INFECTIONS CAUSED BY *MYCOPLASMA GENITALIUM*

---

*M. genitalium* is a sexually transmitted obligate pathogen. All patients with *M. genitalium* and their sexual partners, including asymptomatic, require treatment.

***NB!*** *In order to prevent vaginal dysbiosis after antimicrobial therapy, all patients need a two-stage treatment.*

The first stage: the eradication of the pathogen.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

See pages 155-156 for possible medications and schemes of treatment.

**Follow up:** tests of cure are performed by PCR in 4 weeks after completing the therapy.

## 58. *M. genitalium* positive; the proportion of lactobacilli >80% of the total bacterial load (meets the criteria of normocenosis)

Example of Femoflor® 16 result form generated after testing vaginal sample

№	Test title	Result			% from TMD
		Quantitative	Relative Lg (X/TMD)		
	Sample intake control	10 <sup>5.2</sup>	<input type="checkbox"/>		
1	Total Bacterial Load	10 <sup>7.3</sup>	<input type="checkbox"/>		
NORMAL MICROBIOTA					
2	Lactobacillus spp.	10 <sup>7.3</sup>	0,0 (83-100%)	<input checked="" type="checkbox"/>	
FACULTATIVE ANAEROBIC MICROORGANISMS					
3	Enterobacteriaceae	10 <sup>4.0</sup>	-3,3 (<0,1%)	<input type="checkbox"/>	
4	Streptococcus spp.	not detected		<input type="checkbox"/>	
5	Staphylococcus spp.	not detected		<input type="checkbox"/>	
OBLIGATE ANAEROBIC MICROORGANISMS					
6	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	10 <sup>5.6</sup>	-1,7 (1,6-2,2%)	<input checked="" type="checkbox"/>	
7	Eubacterium spp.	10 <sup>5.2</sup>	-2,1 (0,7-0,9%)	<input type="checkbox"/>	
8	Sneathia spp. + Leptotrichia spp. + Fusobacterium spp.	not detected		<input type="checkbox"/>	
9	Megasphaera spp. + Veillonella spp. + Dialister spp.	not detected		<input type="checkbox"/>	
10	Lachnobacterium spp. + Clostridium spp.	not detected		<input type="checkbox"/>	
11	Mobiluncus spp. + Corynebacterium spp.	not detected		<input type="checkbox"/>	
12	Peptostreptococcus spp.	not detected		<input type="checkbox"/>	
13	Atopobium vaginae	10 <sup>2.3</sup>	-5,0 (<0,1%)	<input type="checkbox"/>	
YEAST-LIKE FUNGI					
14	Candida spp.*	not detected		<input type="checkbox"/>	
MYCOPLASMAS					
15	Mycoplasma hominis*	not detected		<input type="checkbox"/>	
16	Ureaplasma (urealyticum + parvum) *	10 <sup>4.0</sup>		<input checked="" type="checkbox"/>	
PATHOGENIC MICROORGANISMS					
17	Mycoplasma genitalium **	DETECTED		<input checked="" type="checkbox"/>	

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

### Conclusion:

DETECTED: Mycoplasma genitalium.

The proportion of lactobacilli in the total bacterial load corresponds to normocenosis.



### SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

«Ofloxacin» 400 mg — 2 times a day for 10 days.

**NB! These drugs are not approved for use during pregnancy and lactation.**

«Josamycin» 500 mg — 3 times a day, 10 days.

For the treatment of complicated forms of urogenital diseases caused by *M. genitalium*, the aforementioned medications should be administered orally; the duration of treatment should be increased to 14-21 days.



### SPECIAL CONSIDERATIONS: PREGNANCY

«Josamycin» 500 mg — orally 3 times a day, 10 days.

**NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child (in Russia).**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

## 59. *M. genitalium* positive; the proportion of lactobacilli <80% of the total bacterial load (meets the criteria of moderate dysbiosis)

Example of Femoflor® Screen result form generated after testing vaginal sample

№	Test title	Result		% from TBL
		Quantitative	Relative Lg (X/TBL)	
	Sample intake control	10 <sup>4.4</sup>	<input type="checkbox"/>	
1	Total Bacterial Load	10 <sup>5.6</sup>	<input type="checkbox"/>	
NORMAL MICROBIOTA				
2	Lactobacillus spp.	10 <sup>5.5</sup>	-0,1 (68-91%)	<input checked="" type="checkbox"/>
OBLIGATE ANAEROBIC MICROORGANISMS				
3	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	not detected	<input type="checkbox"/>	
YEAST-LIKE FUNGI				
4	Candida spp.*	not detected	<input type="checkbox"/>	
MYCOPLASMAS				
5	Ureaplasma spp.	10 <sup>3.4</sup>	<input checked="" type="checkbox"/>	
6	Mycoplasma hominis*	not detected	<input type="checkbox"/>	
PATHOGENIC MICROORGANISMS				
7	Mycoplasma genitalium**	DETECTED	<input checked="" type="checkbox"/>	
8	Trichomonas vaginalis**	not detected	<input type="checkbox"/>	
9	Neisseria gonorrhoeae**	not detected	<input type="checkbox"/>	
10	Chlamydia trachomatis**	not detected	<input type="checkbox"/>	
11	HSV-2**	not detected	<input type="checkbox"/>	
12	CMV**	not detected	<input type="checkbox"/>	
13	HSV-1**	not detected	<input type="checkbox"/>	

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

### Conclusion:

DETECTED: Mycoplasma genitalium.

The proportion of lactobacilli in the total bacterial load is decreased (MODERATE DYSBIOSIS)



### SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

«**Ofloxacin**» 400 mg — orally twice a day, 10 days.

**NB! These drugs are not approved for use during pregnancy and lactation.**

«**Josamycin**» 500 mg — 3 times a day, 10 days.

For the treatment of complicated forms of urogenital diseases caused by *M. genitalium*, the aforementioned medications should be administered orally; the duration of treatment should be increased to 14-21 days.



### SPECIAL CONSIDERATIONS: PREGNANCY

«**Josamycin**» 500 mg — orally 3 times a day, 10 days.

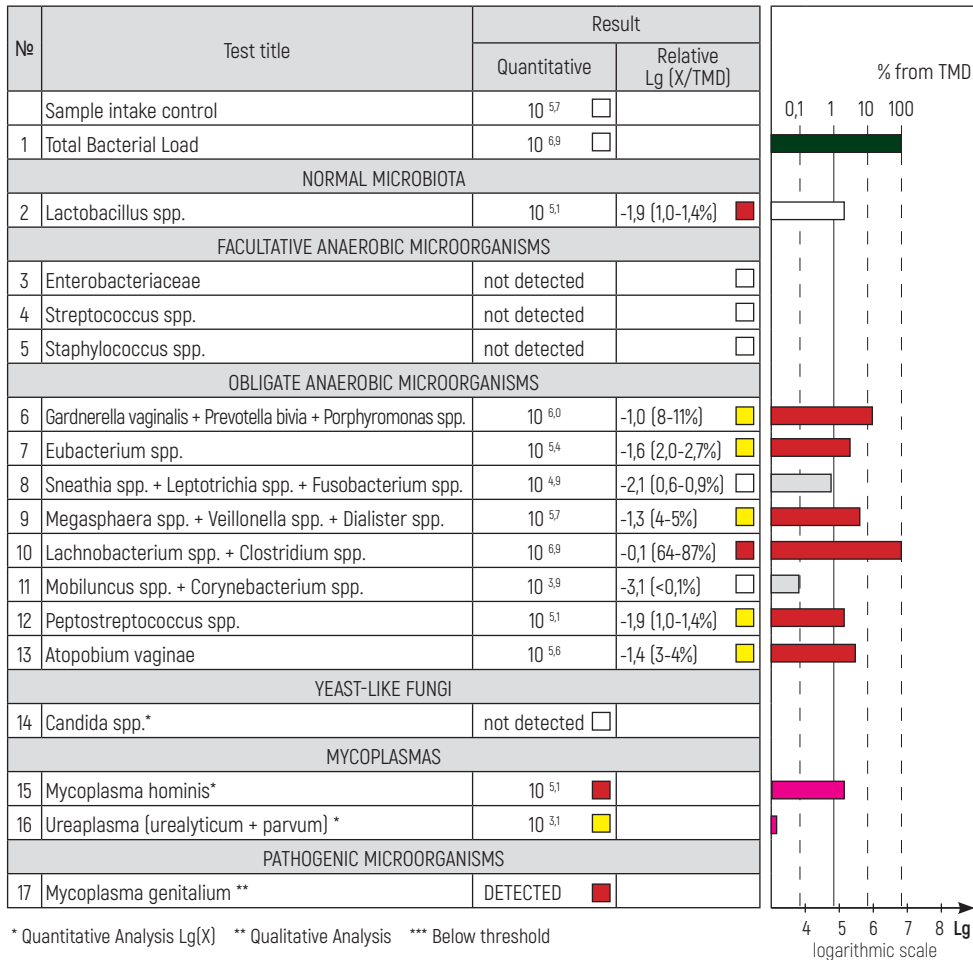
**NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child (in Russia).**

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# 60. *M. genitalium* positive; severe anaerobic dysbiosis associated with *Atopobium vaginae*; *M. hominis* in amounts greater than 10<sup>4</sup> GE/sample

Example of Femoflor® 16 result form generated after testing vaginal sample



**Conclusion:**  
 DETECTED: Mycoplasma genitalium.  
 SEVERE ANAEROBIC DYSBIOSIS

Combination of antimicrobial therapy for treatment of mixed infection is necessary: oral antibiotics (for eradication of *M. genitalium*) and topical treatment (to suppress anaerobes, including *A. vaginae*).



**SYSTEMIC THERAPY** (one of the suggested medications):  
**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.  
**«Ofloxacin»** 400 mg — orally twice a day, 10 days.  
*NB! These drugs are not approved for use during pregnancy and lactation.*  
**«Josamycin»** 500 mg — 3 times a day, 10 days.



**TOPICAL TREATMENT** (one of the suggested medications):  
**«Clindamycin»**, 2% cream 5.0 g — intravaginally once a day (at night), 7 days.  
**«Clindamycin»**, vaginal suppositories 100 mg — intravaginally once a day (at night), 3 days.  
*NB! These drugs are contraindicated in pregnancy and during breastfeeding.*

For the treatment of complicated forms of urogenital diseases caused by *M. genitalium*, the aforementioned medications should be administered orally; the duration of treatment should be increased to 14-21 days.



## SPECIAL CONSIDERATIONS: PREGNANCY

**«Josamycin»** 500 mg — orally 3 times a day, 10 days.  
*NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child (in Russia).*

**«Macmiror complex»**, vaginal suppositories (nifuratel 500 mg, nystatin 200,000 IU) — 1 suppository at night, 8 days.  
**«Macmiror complex»**, cream for vaginal use (nifuratel 10 g, nystatin 4,000,000 IU in 100 g of cream) — once or twice a day, 8 days.  
*NB! The use of these drugs during pregnancy is possible if the potential benefit to the mother exceeds the risk to the fetus. It is possible to use these drugs during lactation because they are almost not absorbed through mucous membranes, so they do not get into the breast milk.*

**Topical treatment** (one of the suggested medications):  
**«Hexicon»**, vaginal suppositories (chlorhexidine bigluconate 16 mg) — 1 suppository twice a day, 7-10 days.  
**«Fluomizin»**, vaginal tablets (dequalinium chloride 10 mg) — 1 vaginal tablet daily, 6 days.

*NB! According to the official instructions, these drugs are allowed during the entire period of pregnancy and lactation*

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

■ See pages 155-156 for possible medications and schemes of treatment.

## 61. *M. genitalium* positive; severe aerobic dysbiosis

Example of Femoflor® 16 result form generated after testing vaginal sample

№	Test title	Result		% from TMD
		Quantitative	Relative Lg (X/TMD)	
	Sample intake control	10 <sup>4.7</sup>	<input type="checkbox"/>	
1	Total Bacterial Load	10 <sup>5.2</sup>	<input type="checkbox"/>	
NORMAL MICROBIOTA				
2	Lactobacillus spp.	not detected	<input checked="" type="checkbox"/>	
FACULTATIVE ANAEROBIC MICROORGANISMS				
3	Enterobacteriaceae	not detected	<input type="checkbox"/>	
4	Streptococcus spp.	10 <sup>5.1</sup>	0,0 (85-100%)	<input checked="" type="checkbox"/>
5	Staphylococcus spp.	not detected	<input type="checkbox"/>	
OBLIGATE ANAEROBIC MICROORGANISMS				
6	Gardnerella vaginalis + Prevotella bivia + Porphyromonas spp.	not detected	<input type="checkbox"/>	
7	Eubacterium spp.	not detected	<input type="checkbox"/>	
8	Sneathia spp. + Leptotrichia spp. + Fusobacterium spp.	not detected	<input type="checkbox"/>	
9	Megasphaera spp. + Veillonella spp. + Dialister spp.	not detected	<input type="checkbox"/>	
10	Lachnobacterium spp. + Clostridium spp.	not detected	<input type="checkbox"/>	
11	Mobiluncus spp. + Corynebacterium spp.	not detected	<input type="checkbox"/>	
12	Peptostreptococcus spp.	not detected	<input type="checkbox"/>	
13	Atopobium vaginae	not detected	<input type="checkbox"/>	
YEAST-LIKE FUNGI				
14	Candida spp.*	not detected	<input type="checkbox"/>	
MYCOPLASMAS				
15	Mycoplasma hominis*	not detected	<input type="checkbox"/>	
16	Ureaplasma (urealyticum + parvum) *	not detected	<input type="checkbox"/>	
PATHOGENIC MICROORGANISMS				
17	Mycoplasma genitalium **	DETECTED	<input checked="" type="checkbox"/>	

\* Quantitative Analysis Lg(X) \*\* Qualitative Analysis \*\*\* Below threshold

logarithmic scale

### Conclusion:

DETECTED: Mycoplasma genitalium.  
SEVERE AEROBIC DYSBIOSIS



### SYSTEMIC THERAPY

(one of the suggested medications):

**Doxycycline monohydrate** 100 mg — orally twice a day, 10 days.

«Ofloxacin» 400 mg — orally twice a day, 10 days.

**NB! These drugs are not approved for use during pregnancy and lactation.**

«Josamycin» 500 mg — 3 times a day, 10 days.

For the treatment of complicated forms of urogenital diseases caused by *M. genitalium*, the aforementioned medications should be administered orally; the duration of treatment should be increased to 14-21 days.



### SPECIAL CONSIDERATIONS: PREGNANCY

«Josamycin» 500 mg — orally 3 times a day, 10 days.

**NB! It is possible to use during pregnancy and lactation when the estimated benefit to the mother exceeds the potential risk to the fetus and child (in Russia).**

**Topical treatment** is not necessary, since these antibiotics are effective against all detected bacteria.

The second stage of treatment may require normal microbiota restoration by probiotics, prebiotics or metabiotics.

- See pages 155-156 for possible medications and schemes of treatment.

# SECTION 7

## RESTORATION OF NORMAL MICROBIOME

---

### SECTION 7. RESTORATION OF NORMAL MICROBIOTA (LACTOBACILLI) AT THE SECOND STAGE OF DYSBIOSIS CORRECTION

---

**At the second stage** of dysbiosis treatment the use of lactobacilli containing probiotics is recommended. Currently, a wide range of probiotics is offered for topical and oral administration. The choice of probiotic administration route depends on the woman's preference and should be agreed with her for better compliance.

#### **Probiotics for oral administration**

In recent years, oral administration of lactobacilli-containing capsules has been recommended for the indirect restoration of the vaginal microbiota. Apart from the convenience for women, they are also beneficial for recovery of gut and rectal microbiota, which is a reservoir of obligate anaerobes and gram-negative bacteria.

#### **Recommended medications:**

- **«Urex®»** contains a combination of *Lactobacillus rhamnosus* GR-1 and *Lactobacillus reuteri* RC-14 strains in total amount of at least  $10^9$  CFU (dietary supplement). *The product name may be different in other countries («Urex®», «Fem Dophilus®», «Atomi W Inner Balance®», «Lactogyn®»).* The combination of GR-1® and RC-14® patented probiotic strains increases the number of lactobacilli, restores normal vaginal microbiota in women, restores the natural acidic environment in the vagina (pH 3.8-4.5) and increases the resistance of the mucosa to pathogenic microorganisms.
  - Treatment dosage: 1 capsule orally twice a day for 2 weeks.
  - Maintenance dosage: 1 capsule orally daily for 2-4 weeks.
  
- **«LactoGyn®»** contains *L.crispatus* + *L.brevis* + *L.acidophilus* 5.4 B CFU (dietary supplement). *The product name may be different in other countries.* «LactoGyn®» is indicated for the treatment of vaginal dysbiosis, including inflammatory diseases of infectious and non-infectious etiology.
  - Treatment dosage: 1 capsule orally twice a day for 7 days.
  - Maintenance dosage: 1 capsule orally daily.

- **«Evabiote Intimate Flora»** contains *Lactobacillus acidophilus* La-14 ( $4 \times 10^9$  CFU\* / capsule), *Lactobacillus rhamnosus* HN001 ( $1 \times 10^9$  CFU\* / capsule). *The product name may be different depending on a country.* These two species are resistant to the acidity of the stomach which allows them migrate from the digestive tract to the vagina. They prevent the growth of pathogenic microorganisms.
  - Treatment dosage: 2 capsules orally daily for 5 days, then 1 capsule daily for 10 days.
  - Maintenance dosage: 1 capsule daily for 10 days each month.

- **«Trophigil»** — contains *Lactobacillus casei rhamnosus*  $10^8$  CFU, estriol (0.2 mg) and progesterone (2 mg) (*the product name may be different in other countries*).
  - Treatment dosage: 2 capsules intravaginally daily for 20 days, until the relief of symptoms, then 1 capsule daily (the duration of the therapy should be determined by a doctor).

### Topical (intravaginal) probiotics forms:

- **«Gynophilus»** vaginal capsule contains *Lactobacillus casei rhamnosus* in the amount of  $10^8$  CFU (*the product name may be different in other countries*). It is indicated for the restoration of normal vaginal microbiota in bacterial vaginosis from the first day of antibiotic therapy or immediately after its completion, for the preparation for gynecological operations, prenatal preparation of pregnant women who are at risk for bacterial vaginosis, and for the prevention of recurrent vulvovaginal candidiasis (including its acute relapsing) after topical and/or systemic therapy with antimycotics.
  - Treatment dosage: 1 capsule intravaginally twice a day (morning and evening) for 7 days, or 1 capsule daily for 14 days.
  - Maintenance dosage: 1 capsule intravaginally a daily, for no longer than 21 days.

It is possible to use **coformulated drugs containing probiotic bacteria and estriol for topical restoration of normal microbiota (especially in cases of estrogen deficiency)**.

- **«Gynoflor®»** — contains *Lactobacillus acidophilus*  $10^8$  CFU, estriol (0.3 mg) (*the product name may be different in other countries*).
  - Treatment dosage: 1-2 vaginal tablets daily, 6-12 days.
  - Maintenance dosage: for the treatment of estrogen-dependent atrophic vaginitis in postmenopausal women — 1 vaginal tablet daily, 6-12 days, then a maintenance dose — with 1 vaginal tablet 1-2 times a week.



## RECOMMENDED LITERATURE

---

1. Sexually Transmitted Infections Treatment Guidelines, 2021. Centers for Disease Control and Prevention. <https://www.cdc.gov/std/treatment-guidelines/chlamydia.htm>, access date 26.03.2024.
2. Jensen J.S., Cusini M., Gomberg M., Moi H., Wilson J. and Unemo M. (2022), 2021 European guideline on the management of Mycoplasma genitalium infections. *J Eur Acad Dermatol Venereol*, 36: 641-650. <https://doi.org/10.1111/jdv.17972>
3. Lanjouw E., Ouburg S., de Vries H.J., Stary A., Radcliffe K., Unemo M. 2015 European guideline on the management of Chlamydia trachomatis infections. *Int J STD AIDS*. 2016 Apr; 27 (5): 333-48. doi: 10.1177/0956462415618837. Epub 2015 Nov 24. PMID: 26608577.
4. Paladine H.L., Desai U.A. Vaginitis: Diagnosis and Treatment. *Am Fam Physician*. 2018 Mar 1; 97 (5): 321-329. PMID: 29671516.
5. Ross J., Guaschino S., Cusini M., Jensen J. 2017 European guideline for the management of pelvic inflammatory disease. *International Journal of STD & AIDS*. 2018; 29 (2): 108-114. doi:10.1177/0956462417744099
6. Reid G., Bruce A.W., Fraser N., Heinemann C., Owen J., Henning B., Oral probiotics can resolve urogenital infections, *FEMS Immunology & Medical Microbiology*, Volume 30, Issue 1, February 2001, Pages 49-52, <https://doi.org/10.1111/j.1574-695X.2001.tb01549.x>
7. Sherrard J., Wilson J., Donders G., Mendling W., Jensen J.S. 2018 European (IUSTI/WHO) International Union against sexually transmitted infections (IUSTI) World Health Organisation (WHO) guideline on the management of vaginal discharge. *Int J STD AIDS*. 2018 Nov; 29 (13): 1258-1272. doi: 10.1177/0956462418785451. Epub 2018 Jul 27. PMID: 30049258.
8. Unemo M., Ross J., Serwin A., Gomberg M., Cusini M., Jensen J. 2020 European guideline for the diagnosis and treatment of gonorrhoea in adults. *International Journal of STD & AIDS*. 2020; 0 (0). doi:10.1177/0956462420949126
9. van der Meijden W.I., Boffa M.J., ter Harmsel B., Kirtschig G., Lewis F., Moyal-Barracco M., Tiplica G.-S. and Sherrard J. (2022), 2021 European guideline for the management of vulval conditions. *J Eur Acad Dermatol Venereol*, 36: 952-972. <https://doi.org/10.1111/jdv.18102>
10. WHO Guidelines for the Treatment of Chlamydia trachomatis. Geneva: World Health Organization; 2016. 4, RECOMMENDATIONS FOR TREATMENT OF CHLAMYDIAL INFECTIONS. <https://www.ncbi.nlm.nih.gov/books/NBK379708/>, access date 26.03.2024.
11. Workowski K.A., Bachmann L.H., Chan P.A., Johnston C.M., Muzny C.A., Park I., Reno H., Zenilman J.M., Bolan G.A.. Sexually Transmitted Infections Treatment Guidelines, 2021. *MMWR Recomm Rep*. 2021 Jul 23; 70 (4): 1-187. doi: 10.15585/mmwr.rr7004a1. PMID: 34292926; PMCID: PMC8344968.

## LIST OF ABBREVIATIONS

---

<b>AB</b>	Aerobic vaginitis
<b>BV</b>	Bacterial vaginosis
<b>VVC</b>	Vulvovaginal candidiasis
<b>GE/sample</b>	Genome equivalents in sample
<b>TBL</b>	Total bacterial load/total bacterial mass
<b>PCR</b>	Polymerase chain reaction
<b>Real-time PCR</b>	Real-Time Polymerase Chain Reaction
<b>OM</b>	Opportunistic microorganisms