Recommendations for vulvovaginitis diagnostics and therapy

ADVISORY BOARD
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Definition and signs

• Vulvovaginitis is inflammation of the vulva and/or vagina

• Subjective symptoms
  – Discharge
  – Itching
  – Stinging
  – Dyspareunia

• Objective findings
  – Pain during examination
  – Red vaginal mucosa
  – Red vulvar skin
Main nosological units

- Trichomoniasis
  - Protozoal infection
- Vulvovaginal Candidosis (VVC)
  - Yeast infection
- Anaerobic/Bacterial vaginosis (BV)
  - Replacement of physiological flora by characteristic groups of bacteria
- Aerobic vaginitis
  - Bacterial infection with inflammation
Main nosological units

• Lactobacillosis
  – Presence of so-called fibrous forms of lactobacilli

• Atrophic vaginitis
  – Inflammation of vagina of hypoestrogenic women in case of absence of yeast and trichomonas

• Herpes genitalis
  – Viral infection
Diagnostic criteria

• Trichomoniasis
  – Direct evidence of Trichomonas vaginalis in vaginal flora (microscopic, cultivation or PCR)

• Vulvovaginal Candidiosis (VCC)
  – Characteristic symptomatology and evidence of yeasts (microscopic, in doubt, chronically recurrent or non albicans species also by culture)

• Anaerobic/Bacterial vaginosis (BV)
  – Presence of at least three Amsel`s criteria: thin discharge, ph>4.5, postivie amine test, mircosropic evidence of at least 20% clue cells
Diagnostic criteria

• Aerobic vaginitis
  – pH> 5-6, negative amine test, microscopic evidence of coccoid bacteria and toxic leukocytes, absence of lactobacilli, evidence of parabasal vaginal epithelial cells
## Diagnostic criteria

### Aerobic vaginitis – Donders criteria

<table>
<thead>
<tr>
<th>Points</th>
<th>Lactobacilli</th>
<th>Leukocytes</th>
<th>Toxic leukocytes</th>
<th>Other bacteria</th>
<th>Parabasal epithelial cells</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Exclusive</td>
<td>10/field</td>
<td>None, rare</td>
<td>None</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>1</td>
<td>Minority</td>
<td>&gt;10/field and &gt;10/epithelial cells</td>
<td>50%</td>
<td>Coliform</td>
<td>10%</td>
</tr>
<tr>
<td>2</td>
<td>Rare, none</td>
<td>&gt;10/epithelial cells</td>
<td>&gt;50%</td>
<td>Cocci</td>
<td>&gt;10%</td>
</tr>
</tbody>
</table>

### Assessment
- 0-3 points: it is not aerobic vaginitis
- 3-4 points: slight aerobic vaginitis
- 5-6 points: medium-serious vaginitis
- >6 points: serious aerobic vaginitis
Diagnostic criteria

• Atrophic vaginitis
  – Presence of hypoestrogenic state
  – Microscopic examination (bacteria and leukocytes are present, lactobacilli are absent)
  – pH >5
  – PAP test – increased proportion of parabasal cells and decreased proportion of superficial cells
Diagnostic criteria

• Herpes genitalis
  – Typical clinical finding,
  – HSV 1,2 testing (Elisa, PCR)
Therapy

• Trichomoniasis
  – Metronidazole 2 g single dose systemic administration
  – 0.25 g 3 times a day for 7 days systemic administration
  – Treatment of all sexual partners
Therapy

- Vulvovaginal Candidiosis (VCC)
  - Topical or systemic antimycotics
  - Therapy of sexual partners is not necessary unless showing symptoms or the VCC is recurrent
• Anaerobic/Bacterial vaginosis (BV)
  – Topical application of antibacterial substances effective against anaerobic bacteria (metronidazol, clindamycine, dequaliniumchloride or nifuratel)

• Aerobic vaginitis
  – Topical application of antibacterial substances effective against aerobic bacteria (clindamycine and hydrocortisone, clindamycin and hydrocortisone and estriole in a cream for # months, neomycin, nifuratel)
Therapy

• Lactobacillosis
  – Oral administration of antibiotics of wide spectrum semi-synthetic penicilin (amoxzcilin)

• Atrophic vaginitis
  – Antibacterial preparation effective against aerobic bacteria (neomycin, nifuratel)
  – Vaginal or oral administration of estriole 0.03 to 0.5 mg twice per week, possibly with hyaluronic acid or lactobacilli
Therapy

• Herpes genitalis
  – In early stadium – virostatics (acyclovir, valacyclovir) orally
  – Later only symptomatic therapy (analgesics)
Management of case of acute vulvovaginitis

• Diagnosis
  – Gynecologic examination
    • Exclude other diseases
    • Assessment of discharge type and amount
  – Determination of pH
  – Amine test
  – Wet mount at 400 fold phase contrast microscopy
Management of case of acute vulvovaginitis

• Therapy
  – pH<4.5 the discharge is characteristic for VVC – local administration of antimycotics
  – pH<4.5 the discharge is not typical for VVC – local administration of a combined preparation containing an antimycotic and antibacterial agent (nystatin+nifuratel)
  – pH>4.5, positive amine test. Local or oral administration of an antibacterial agent effective against anaerobic bacteria
  – pH>4.5, negative amine test. Local application of an antibacterial preparation effective against aerobic bacteria or hydrocortisone
Therapy

• Uncertainly or impossible pH examination and/or amine test
  – Local administration of combined preparation containing an antimycotic and antibacterial component effective on both aerobic and anaerobic bacteria (nystatin + nifuratel)

• A symptomatic woman who does not meet of any diagnostic criteria
  – Local administration of combined preparation containing an antimycotic and antibacterial component effective on both aerobic and anaerobic bacteria (nystatin + nifuratel)
  – With serious symptoms, it is possible to consider corticosteroid
  – CAVE Antibiotics or antimycotics could increase the pain in case of vestibulodynia
Unsuccessful therapy

• Causes
  – Incorrect diagnosis
    • Readjust therapy
  – Mixed infection and one of components was overlooked
    • Repeat therapy with combined prepare
  – Relapse of BV and VVC
  – Rare nosological units
  – Insufficient dose by trichomoniasis
    • Repeat therapy with double doses
  – Rare resistant strains of yeasts
    • Consider yeast culture with species determination
Relapse

• General principle of management
  – Diagnosis based on the anamnesis, clinical signs and symptoms and wet mount
  – Treatment – long course – 15 days for mycosis and 10 days for other causes
  – If there is a relapse, a repeated diagnosis is required
  – Repeated long course treatment
  – Long term prevention strategies
    • Diabetes, pregnancy, HIV, genital disorders
Relapse

- Prevention after the treatment of a relapse
  - Trichomoniasis – always reinfection
  - VVC
    - Oral administration of antimycotic according to published guideline (Mendling et al.: Mycoses 2015)
    - Antibiotic treatment should be followed with preventive administration of antimycotics
    - Traditional recommendation: Avoid tight clothes and underwear, avoid consuming excessive amounts of sugar
    - Do not alternate anal and vaginal sexual intercourse
Relapse

- **BV, aerobic vaginitis**
  - Preventive vaginal administration of benzydamine hydrochloride or ascorbic acid or lactobacilli

- **Lactobacilosis**
  - Preventive vaginal administration of benzydamine hydrochloride

- **Atrophic vaginitis**
  - Long term topical therapy with low dose estrogens alone or with hyalouronic acid or lactobacilli

- **Herpes genitalis**
  - Long term oral administration of acyclovir
Rare nosological units

• Irritative vulvovaginitis
  – Deodorants, cosmetics, perfumes, barrier contraception etc.
  – Elimination, in serous cases local corticosteroids

• Allergic vulvovaginitis
  – Allergen identification and elimination
Rare nosological units

• Vestibulodynia
  – Strong pain during vestibule palpation
  – Coitus in difficult or impossible

• Dysaesthetic vulvodynia
  – Focal stining of vulva
  – Antidepressants

• Psychosomatic vulvovaginitis
  – Clinical picture is same as infection
  – Mikrobiological finding is physiological
  – Psychotherapy