VULVOVAGINITIS

MANY WOMEN PRSENT TO ED WITH A CHIEF COMPLAINT OF VAGINAL DISCOMFORT AND/OR ABDOMINAL PAIN

VAGINITIS IS A SPECTRUM OF DISEASES CAUSING VULVOVAGINAL SYMPTOMS → BURNING, IRRITATION, ITCHING WITH/WITHOUT AN ABNOMRAL DISCHARGE

THE MOST COMMON INFECTIOUS CUASES OF VAGINITIS IN SYMPTOMATIC WOMEN INCLUDE BACTERIAL VAGINOSIS (22-50%), CANDIDIASIS (17-39%) AND TRICHOMONIASIS (4-35%)

SYMPTOMATIC DISEASE SI MORE COMMON IN WOMEN WITH HIV-INFECTION AND CORRELATES WITH SEVERITY OF IMMUNODEFICIENCY → TREATMENT IS THE SAME

Table 106-1 Factors Associated with Acute Vulvovaginitis
Infections
Irritant or allergic contact
Local response to a vaginal foreign body
Lack of estrogen in perimenopausal and postmenopausal women (atrophic vaginitis)
Postirradiation changes

NORMAL VULVOVAGINAL ENVIRONMENT:

- Normal pH is between 3.8-4.5
- Alkaline secretions → during and before menstruation and semen reduce acidity → predisposing to infection

GENERAL APPROACH TO VULVOVAGINITIS:

- HISTORY:
  - Details of vaginal discharge
  - Odour?
  - Irritation
  - Burning
  - Bleeding
  - Dysuria
  - Dyspareunia
  - Coincident abdominal pain, new sexual partners and use of barrier precautions
- EXAMINATION:
  - Speculum → obtain swab of discharge → MCS

- Signs of vulval inflammation and minimal discharge in the absence of vaginal pathogens suggest the possibility of mechanical, chemical, allergic or other non-infectious causes

Table 106-3 Predictive Value of Signs and Symptoms

Causative Organism	Sign or Symptom	LR+
Candida	Thick, curdy discharge	2.7–13.0
	Itching	1.4–3.3
	Watery discharge	0.12
	Malodor	0.35
Gardnerella or other bacteria	Malodor	3.2
	Moderate to profuse yellow discharge	2.5–3.0
Trichomonas	Yellow discharge	4.1–14.0
	Vaginal erythema or edema	6.4

BACTERIAL VAGINOSIS:

- The most common causes of vaginitis and accounts for up to 50% of cases in acutely symptomatic women
- Has been associated with several adverse health outcomes
- DIAGNOSIS:
  - Most common presentation → vaginal discharge (thin, watery, increased over normal amount) and odour (fishy smell). Redness, tissue fissures, excoriations or oedema also present
  - AMSEL CRITERIA →BV CONFIRMED IF 3 OF 4 ARE PRESENT:
    - Thin, homogeneous vaginal discharge
    - More than 20% CLUE CELLS on wet mount
    - Positive results for amine release (or "Whiff test")
    - Vaginal pH >4.5
  - Criterion with the highest sensitivity (89%) is vaginal pH, whereas highest specificity is amine odour (93%) → if both are present, BV can be diagnosed with confidence
  - Cultures of vaginal discharge are NOT BENEFICIAL, because GARDNERELLA ORGANISMS ARE PART OF THE NORMAL FLORA OF THE VAGINA
    - However → screening for Gonorrhoea or Chlamydia should occur depending on clinical suspicion
- TREATMENT:
  - Of note → single dose metronidazole has the lowest efficacy
  - Pregnant women should be considered for treatment to AVOID PRETERM LABOUR
  - Overall cure rates 4 weeks post treatment do not differ significantly for a 7 day regimen of oral metronidazole, metronidazole vaginal gel or clindamicin vaginal cream

CANDIDA VAGINITIS:

- **EPIDEMIOLOGY:**
  - Candida species are the second most common cause of vaginal infections
  - Can be classified as either:
    - UNCOMPLICATED:
      - Sporadic, mild to moderate symptoms, due to Candida albicans, present in immunocompetent women
    - COMPLICATED:
      - Recurrent infections, severe symptoms, due to non-albicans candidiasis, present in women who have uncontrolled DM, debilitation or immunosuppressed or pregnant
  - Some women remain asymptomatic despite being heavily colonized with candida
- **PATHOPHYSIOLOGY:**
  - The growth of Candida is normally held in check by the normal vaginal flora and symptoms of vaginitis usually occur only when the balance is upset
- **DIAGNOSIS:**
  - Symptoms → leucorrhoea, severe vaginal pruritus, external dysuria, dyspareunia
    - PRURITUS IS THE MOST COMMON AND SPECIFIC SYMPTOM
  - Exacerbations frequently seen in the week prior to menses or with coitus➔ perhaps due to alteration of pH of vagina
  - ODOUR IS UNUSUAL
  - Examination → vulvar erythema and oedema, “cottage cheese discharge”
  - Diagnosis is made by normal pH and seeing YEAST BUDS and pseudohyphae on slide preparations
    - Empiric treatment is suggested for symptomatic patients with negative cultures

Acute uncomplicated vulvovaginal candidiasis

Most cases (80% to 90%) of vulvovaginal candidiasis are uncomplicated, sporadic or infrequent episodes in a healthy host and due to *Candida albicans*.

Many effective intravaginal preparations are available (imidazoles [eg clotrimazole, miconazole], nystatin). The following have been shown to be effective in at least 80% of women. Occasionally topical therapy may itself cause irritation. Nystatin, although less effective, is generally better tolerated than the imidazoles. Use:

1 **a vaginal imidazole (eg clotrimazole 10% vaginal cream 1 applicatorful intravaginally, as a single dose at night)**

OR

2 **nystatin 100 000 units/5 g vaginal cream 1 applicatorful intravaginally, 12-hourly for 7 days.**

If the patient is intolerant of topical therapy or would prefer to use oral therapy, and the patient is not pregnant, use:

fluconazole 150 mg orally, as a single dose.

If initial treatment fails, review the diagnosis and seek specialist advice.

Recurrent and chronic candidiasis due to *Candida albicans*

Recurrent vulvovaginal candidiasis is defined as 4 or more symptomatic episodes in a 12-month period. It may occur in as many as 8% of women of reproductive age.

Because there is still no consensus on managing this condition, the following broad principles relating to a 2-stage management plan are recommended.

Induce symptom remission with continuous antifungal treatment. Use:

1 **a vaginal imidazole (eg clotrimazole 1%) or nystatin, see above intravaginally, at night**

OR

2 **fluconazole 50 mg orally, once daily**

OR

2 **itraconazole capsules 100 mg orally, once daily.**

The time to achieve remission of symptoms varies from 2 weeks to 6 months.

Maintain remission with interval therapy; the treatment interval varies from weekly to once a month (eg premenstrually) depending on response. A suitable weekly regimen is:

1 **fluconazole 150 to 300 mg orally, weekly**

OR

1 **itraconazole capsules 100 to 200 mg orally, weekly**

OR

2 **clotrimazole 500 mg pessary intravaginally, weekly**

OR

2 **nystatin 100 000 units/5 g vaginal cream 1 applicatorful intravaginally, weekly.**

- **If Candida glabrata is proven → longer treatment intervals or consideration of intravaginal BORIC ACID (not if pregnant) for 14 days should be considered → seek specialist advice**

TRICHOMONAS VAGINITIS:

- **EPIDEMIOLOGY:**
  - A common STD that accounts for 15-20% of cases of acute vaginitis

- Associated with several adverse health outcomes → preterm birth, low-birth-weight infants, PID, cervical cancer → as well as increased transmission of other infections
- Risk of Trichomonas vaginalis is associated with increasing numbers of sex partners, early initiation of sexual activity, lower education levels and poverty

- **DIAGNOSIS:**
  - Symptoms → vaginal discharge, pruritus and irritation. Classic discharge described as frothy and malodorous
  - Clinical diagnosis relies on microscopic exmaiantion fo the vaginal discharge and visualization of MOTILE TRICHOMONADS → need to view early (within 10-20 minutes of slide preparation)
  - Culture can take 2-5 days
  - PCR NOW AVAILABLE AND IS MORE SENSITIVE
- **TREATMENT:**

1 **metronidazole 2 g orally, as a single dose**

OR

1 **tinidazole 2 g orally, as a single dose.**

For cases that relapse after this treatment, a longer course of metronidazole may be necessary. Use:

metronidazole 400 mg orally, 12-hourly for 5 days.

- TREATMENT OF PARTNERS IS INDICATED → cure rates of >90% when partners are treated simultaneously. 25% of women and 90% of men who harbour the infection are asymptomatic → difficult to control spread

CONTACT VULVOVAGINITIS:

- EXPOSURE OF VULVAR EPITHEIUUM TO A PRIMARY CHEMICAL IRRITANT
- Irritant dermatitis is more common than allergic → common irritants/allergens include scented douches, soaps, bubble baths, perfumes
- DIAGNOSIS:
  - Patient reports local swelling, itching and burning and physical findings range from local erythema and oedema to ucleration and secondary infection
  - Diagnsos is made BY RULING OUT INFECTIOUS CASES and identifying offending agent
- TREATMENT → cool sitz baths and application of wet compresses of dilute boric acid may afford relief for patients
  - Topical steroids can be considered for a few days

VAGINAL FOREIGN BODIES:

- Insertion of foreign bodies into the vagina is NOT UNCOMMON
    - Consider the diagnosis in those with chronic vaginal discharge, especially when it is bloody and/or associated with a foul odour
- Objects include → retained tampons, items for sexual stimulation and packets of illegal drugs
- All premenarchal childrena presenting with vaginal discharge should be evaluated for a vaginal foreign body (found in 4-10% cases)
- Vaginal irrigation with normal saline can be attempted to visualize and remove the foreign body in cooperative patients → otherwise vaginoscopy under anaesthesia may be needed
- Use of imaging is limited by composition of the foreign body

PINWORMS:

- Patients complain of anal and/or vaginal pruritus, which is more intense at night
- Diagnosis is made by identification of ova
- The child and all family members should be treated with an antiparasitic agent

To treat *Enterobius vermicularis* (threadworm or pinworm), use:

1 **albendazole 400 mg (child 10 kg or less: 200 mg) orally, as a single dose**

OR

1 **mebendazole 100 mg (child 10 kg or less: 50 mg) orally, as a single dose**

OR

1 **pyrantel (adult and child) 10 mg/kg up to 1 g orally, as a single dose.**

A second dose after 2 weeks may be considered due to the frequency of reinfection and autoinfection.

- Treatments are repeated as mature worms are more susceptible to treatment

ATROPHIC VAGINITIS:

- Decreases in ovarian steroid production that occur in the menopausal woman lead to PROFOUND CHANGES in the vulva, vagina, cervix, urethra and bladder
- DIAGNOSIS:
    - Symptosm → vaginal dryness, soreness, itching, dyspareunia and occasional spotting or discharge
    - Vaginal epithelium appears thin, inflamed and even ulcerated
- TREATMENT:
    - Topical vaginal oestrogen (as cream, pessaries, tablets or vaginal rings)
    - Side effects → uterine bleeding, breast pain, perineal pain and endometrial hyperstimulation

BARTHOLIN GLAND CYST AND ABSCESS:

- Bartholin glands are located in the labia minora and ducts of the gland drain intot he posterior vestibule at the 4 o'clock and 8 o'clock positions
- Normally the glands are pea-sized but may form a cyst or abscess.

- Function of the gland is to provide moisture for the vestibule
- Abscesses can become quite large and cause extreme pain
- PRESENTATION:
    - Women present with a mass in the posterior introitus
    - Pain and induration are usually present, but systemic symptoms (fevers, chills) are RARELY PRESENT
    - DDx → cysts of other glandular structures, lipoma, carcinoma (rare, but consider in older women with introital mass)
- PATHOPHYSIOLOGY → abscesses are polymicrobial, but STD have been implicated
- TREATMENT:
    - Incision and dariange of an abscess is usually necessary, but should not be performed until the abscess is a well-defined, walled-off structure
    - Treat with broad-spectrum antibiotics and analgesics → instruct to take warm sitz baths