

Management of abnormal vaginal discharge

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Changes in vaginal discharge from what a woman perceives as normal are often associated with underlying pathology. It is important that clinicians are aware of the more common causes of abnormal vaginal discharge so they can target management appropriately.

Abnormal vaginal discharge is a common presentation to GPs in Australia. Based on the BEACH data, approximately two in every 1000 patient encounters with GPs, or approximately 200,000 patient encounters per year across the country are for abnormal vaginal discharge.¹

Vaginal discharge is a normal physiological phenomenon that varies throughout the menstrual cycle under the influence of oestrogen and progesterone. The vaginal epithelium is rich in glycogen and is used by commensal lactobacilli to maintain acidity of the vagina. Loss of vaginal acidity may facilitate vaginal colonisation by pathogens or overgrowth of other vaginal organisms, leading to a change in character of the vaginal discharge.

Changes from what a woman perceives as normal are often associated with underlying pathology. It is important that clinicians are aware of the more common causes of abnormal vaginal discharge so they can target management appropriately (Table 1).²

History

A thorough history is essential when investigating abnormal vaginal discharge and a few key questions can help differentiate some of the more common causes (Table 2). Most women are aware of the normal physiological change in their own vaginal discharge, which characteristically becomes an 'egg-white' consistency and increases in amount during the ovulatory phase of the menstrual cycle. Establishing that the discharge is abnormal for the patient should prompt further investigation.

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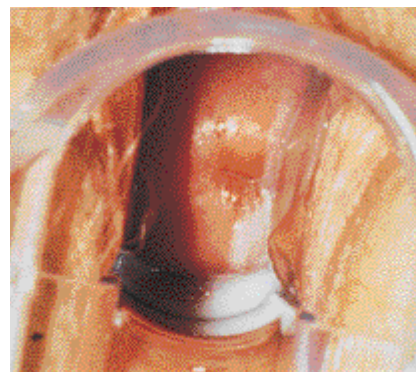


Figure 1. Vaginal discharge typical of bacterial vaginosis.



Figure 2. The typical 'cottage cheese' discharge of candida infection.

Table 1. Causes of vaginal discharge

Noninfectious

- Physiological
- Cervical ectropion
- Foreign body – e.g. retained tampon
- Cervical polyps
- Cervical or endometrial neoplasia

Infectious

- Bacterial vaginosis
- Candidiasis
- *Chlamydia trachomatis*
- *Neisseria gonorrhoeae*
- *Trichomonas vaginalis*
- Herpes simplex virus

Table 2. Key points in the history of patients with abnormal vaginal discharge**Questions**

- Is the vaginal discharge abnormal for you?
- When does the discharge occur (e.g. intermittent/recurrent/constant; related to menstrual cycle or sex)?
- What is the nature of the discharge (e.g. colour, consistency, amount, odour)?
- Is the odour worse during or after sex or during menstruation?*
- Are there any associated symptoms (e.g. abnormal bleeding, superficial or deep dyspareunia†, vulvovaginal itch‡, dysuria, pelvic pain†, vulval rash, lesions or fever)?†

History

- Sexual history (e.g. number of sexual partners, condom use, recent partner change)
- Current hormonal contraceptive use
- Menstrual and Pap smear history
- Use of potential vulval irritants (e.g. soap, perfumed hygiene products)
- Vaginal douching

* Suggestive of bacterial vaginosis because semen and blood are both alkaline and cause release of amines by anaerobes, leading to a fishy odour.

† Abnormal bleeding, pelvic pain/tenderness, deep dyspareunia and fever should be considered red flags for underlying pelvic inflammatory disease. Always consider ectopic pregnancy in clinical presentations of pelvic pain.

‡ Consider vulval skin conditions in cases of vulval itch nonresponsive to candida therapy.

Examination

The appearance of any introital discharge can be noted when inspecting the anogenital area. Bacterial vaginosis characteristically presents with a homogenous, white, adherent discharge, often likened to the vulva being dipped in a saucer of milk

(Figure 1). Candidiasis may be associated with flecks of white discharge and vulval erythema (Figure 2). The presence of small ulcers, erosions or areas of localised erythema or fissuring may raise the possibility of herpes simplex virus (HSV) infection.

A speculum examination should always

be undertaken in any woman presenting with abnormal vaginal discharge. This allows the opportunity to inspect for a foreign body and observe the nature of the discharge and the appearance of the vaginal mucosa and cervix (Table 3).

Vaginal pH is a simple and useful measure as both bacterial vaginosis and trichomoniasis often elevate the pH to above 4.5. Vaginal pH testing alone has a sensitivity of over 70% for the diagnosis of bacterial vaginosis, and the sensitivity rises to over 80% when it is combined with a characteristic clinical presentation.³ When assessing vaginal pH, it is important to avoid cervical mucus by swabbing the anterior fornix. Any intra-vaginal blood should also be avoided because cervical secretions and blood, as well as semen, are alkaline and may result in a falsely elevated vaginal pH reading.

A bimanual vaginal examination is indicated if there is a history of pelvic pain, abnormal vaginal bleeding or other symptoms suggestive of pelvic inflammatory disease (PID).

Investigations

Investigations into abnormal vaginal discharge are guided by the history and

Table 3. Typical features of common infections with vaginal discharge

Clinical features	Candidiasis	Bacterial vaginosis	Trichomoniasis*	Chlamydia/gonorrhoea*	Herpes simplex virus infection
Itch	Mostly present	Mostly absent	May be present	Absent	May be present
Odour	Usually none	Fishy odour†	Fishy odour	Usually none	Usually none
Consistency of discharge	Thick and lumpy	Thin and homogenous	Thin or frothy	Mostly absent but may be mucopurulent	Mostly absent but may be mucopurulent
Vulval erythema	Mostly present	Rare	Can occur	Absent	Often present
Dyspareunia	Superficial dyspareunia can occur	Rare	Superficial dyspareunia can occur	Can occur‡	Can occur‡
Vaginal pH	4.5	>4.5	Often >4.5	4.5	4.5

* Most cases of genital chlamydia and many cases of genital gonorrhoea and trichomoniasis are asymptomatic in women.

† Especially obvious after sex or during menses.

‡ Deep dyspareunia can occur with ascending infection and its presence may indicate pelvic inflammatory disease.

examination (Table 4). A high vaginal swab is useful for fungal culture and gram stain for the diagnosis of candidiasis and bacterial vaginosis. A pregnancy test should always be considered in fertile women.

A sexually transmitted infection (STI) screen should be performed in most cases, especially when the history suggests an increased risk (i.e. a young woman, recent partner change, history of unprotected sex, multiple partners). This includes an endocervical swab or first-catch urine for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* nucleic acid amplification tests (NAAT).

Any localised vulvovaginal erythema, fissures or ulcers should be swabbed for testing for herpes simplex virus by polymerase chain reaction or culture. A Pap smear is recommended if one has not

been performed in the previous two years. If there is any evidence of a cervical abnormality, referral of the patient to a gynaecologist should be considered.

Management

Management of abnormal vaginal discharge is directed at the underlying cause, although some general advice regarding genital hygiene and cleansing is valuable. Vaginal douching and feminine hygiene products such as wipes, powders and sprays can disrupt the normal vaginal flora and their use should be discouraged.

STIs, candidiasis and bacterial vaginosis respond well to pharmacotherapy (Table 5).^{4,5} In general, asymptomatic candidiasis or bacterial vaginosis do not require treatment. However, bacterial vaginosis is associated with an increased

Table 4. Recommended laboratory investigations of abnormal vaginal discharge

- Vaginal pH (normal 4.5)
- High vaginal swab for fungal culture and gram stain
- Endocervical swab or first-catch urine for chlamydia/gonorrhoea NAAT

Consider the following:

- Microscopy (wet preparation) of high vaginal swab for trichomoniasis
- HSV PCR/culture of any lesions/areas of erythema
- Pregnancy test
- Pap smear

ABBREVIATIONS: NAAT = nucleic acid amplification test; HSV = herpes simplex virus; PCR = polymerase chain reaction.

Table 5. Recommended management of vaginal infections⁴

Bacterial vaginosis

- Metronidazole (Flagyl, Metrogyl, Metronide) 400 mg twice daily for seven days, or
- Clindamycin cream 2% (Dalacin V Cream 2%) 5 g intravaginally for seven days

Vulvovaginal candidiasis

- Clotrimazole 100 mg pessary intravaginally for six nights, or two 100 mg pessaries intravaginally for three nights, or 500 mg pessary intravaginally single dose (Canesten Clotrimazole Thrush Treatment 6 Day Pessary/Once Pessary, Clotrimazole Pessaries), or
- Miconazole 100 mg pessary (Monistat 7 Pessaries) intravaginally for six nights, or
- Nystatin vaginal cream (Nilstat Vaginal) 100,000 IU intravaginally for 14 nights, or
- Fluconazole 150 mg single oral dose* (Canesoral, Di-Con One, Diflucan One, Dizole One, Ozole 150 mg, Sandoz Flufeme)

Chlamydia[†]

- Azithromycin (Zedd, Zithromax) 1 g orally once[‡], or
- Doxycycline 100 mg twice daily for 10 days

Gonorrhoea[†]

- Ceftriaxone (Rocephin) 500 mg intramuscular injection immediately

Trichomoniasis[†]

- Metronidazole 2 g orally immediately with food, or
- Tinidazole (Fasigyn, Simplotan) 2 g orally immediately with food

Genital herpes – initial episode

- Valaciclovir (Valtrex) 500 mg twice daily orally for seven to 10 days

Genital herpes – recurrent episode⁵

- Valaciclovir 500 mg twice daily orally for three days, or
- Famciclovir (Famvir) 500 mg immediately; then 250 mg twice daily orally for three doses

Pelvic inflammatory disease[†]

- Azithromycin 1 g immediately with or without ceftriaxone 500 mg intramuscular injection if gonorrhoea suspected or proven, followed by
- Doxycycline 100 mg orally twice daily for 14 days, plus
- Metronidazole 400 mg orally twice daily for 14 days

* Only to be used if unable to use topical treatments; the cure rate is not higher.

[†] Contact tracing of recent sexual partners is necessary for these infections.

[‡] Preferred treatment.

risk of PID in women undergoing surgery or instrumentation of the upper genital tract.⁶ Therefore, antibiotic treatment of asymptomatic bacterial vaginosis is indicated in these circumstances. A diagnosis of chlamydia and gonorrhoea requires contact tracing of sexual partners. All potentially exposed partners in the previous six-month period should be treated

empirically pending their STI test results.⁷ Patients should be advised to avoid sex for seven days following immediate doses of antibiotics or until antibiotic courses are completed.

Summary

Abnormal vaginal discharge is a common clinical presentation encountered by

GPs. Referral of patients to a sexual health specialist should be considered in cases of treatment failure or recurrent symptoms. However, knowledge of clinical features and appropriate testing can help differentiate common causes of abnormal vaginal discharge and allow appropriate management of most cases in general practice. **MT**

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