Vulval itch
All that itches is not thrush

In this series, we present authoritative advice on the investigation of a common clinical problem, specially commissioned for family doctors by the Board of Continuing Medical Education of the Royal Australasian College of Physicians.

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Approximately 10% of women will see a doctor about persistent vulval itch at some stage in their life. This symptom often causes considerable distress and may lead to serious long term sequelae. A thorough history, examination and simple, appropriate investigation usually lead to a diagnosis. In most cases, the condition responds well to treatment.

The causes of vulval itch can be broadly classified into infective conditions, primary dermatoses and neoplastic conditions (Table 1). This article will deal with the common and serious causes of vulval itch that should not be missed, because early diagnosis and management can prevent serious long term complications.

Diagnosis

History

A thorough history forms the basis of any clinical diagnosis. The box on page 55 lists key features that should be asked about in all females presenting with vulval itch. It is important to establish if potential irritants or allergens (Table 2) are being used because these can cause or contribute to itching. Determine if your patient has a personal or family history of atopy, as most patients who suffer from dermatoses are atopic.

Examination

By performing a general examination before genital inspection, one can ascertain if there is evidence of systemic dermatoses (Table 3). Examination should be performed with good lighting. Inspect the genital area closely, because changes can be subtle. Ask the patient to point to the areas that are itchy. Carefully inspect the external genitalia for any abnormal areas of skin pallor, thickening or loss of normal architecture that may indicate lichen sclerosus (Figure 1) and will require referral and biopsy. Look closely for any macules, raised plaques or solid lesions as these raise the possibility of vulval intraepithelial neoplasia or vulval cancer. A speculum examination should be undertaken to look at the vaginal walls and cervix and to detect a vaginal discharge.

IN SUMMARY

- **Vulval itch is the predominant complaint in women presenting with external genital symptoms.**
- **Common causes of vulval itch are vulvovaginal candidiasis and dermatoses.**
- **Lichen sclerosus, vulval intraepithelial neoplasia and vulval cancer are important, although uncommon, causes of vulval itch (red flag conditions).**
- **A thorough history and examination are essential and dictate investigations.**
- **First line management of vulval itch involves the removal of irritants and implementation of good skin care.**
- **Conditions that fail to respond to treatment or red flag conditions should be referred for biopsy and management.**

Table 1. Causes of vulval itch

Cause	Frequency
Infective causes	
Vulvovaginal candidiasis	Common
Tinea cruris	Common
Trichomoniasis vaginalis	Less common
Pediculosis pubis	Less common
Dermatoses	
Atopic dermatitis	Common
Contact dermatitis	Common
Seborrhoeic dermatitis	Common
Lichen simplex chronicus	Common
Psoriasis	Less common
Lichen sclerosus (autoimmune)*	Less common
Lichen planus (autoimmune)	Less common
Neoplasms	
Vulval intraepithelial neoplasia*	Rare
Vulval cancer*	Rare

*Red flag conditions that must not be missed.

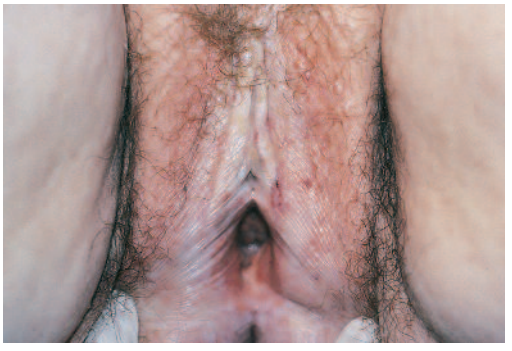
Important features on history

- Nature of symptoms (itch, stinging, burning)
- Location of symptoms
- Onset and duration of symptoms
- Time course (constant, intermittent, diurnal variation)
- Exacerbating and relieving factors
- Comorbidities (atopic conditions, psoriasis, vulval pain syndromes)
- Treatments used and outcomes of treatment
- Use of potential topical allergens or irritants
- Past diagnoses for vulval itch and confirmatory investigations
- Sexual activity and the use of condoms
- Associated symptoms (vaginal discharge, rashes, dyspareunia, provoked and/or nonprovoked vulval pain or burning

Investigations

Investigations will be dictated by the history and examination findings (see the Assessment chart on page 57).

In most cases of vulval itch, it is good practice to take a high vaginal swab for microscopy and culture to evaluate the vaginal flora and detect yeasts or bacterial vaginosis. Any fissures or erosions should be swabbed for herpes simplex virus (send for polymerase chain reaction) and yeasts, staphylococci and streptococci (vulval swab microscopy and culture). Use this as an opportunity to discuss with the patient the need for a screen for sexually transmissible infections and Pap smear testing.



COURTESY OF DR GAYLE FISCHER, CASTLE HILL, NSW

Figure 1. Advanced lichen sclerosus showing pallor, finely wrinkled skin and telangiectasia. The labia minora have resorbed and the clitoris is buried by adhesions.

Management

It is convenient to divide the management of vulval itch into general and specific measures. General measures, listed in the patient handout on page 58 include the removal of irritants and good skin care. Specific measures depend on the condition identified, and this is discussed in the following sections. Patients whose conditions are refractory to treatment should be referred to a sexual health physician, dermatologist or gynaecologist for further investigation and management.

Infective conditions

Vulvovaginal candidiasis

Of women with chronic vulval conditions, about 15% will have chronic candidiasis.[1] Predisposing factors for recurrent infection are poorly controlled diabetes, corticosteroid or antibiotic use, obesity, pregnancy and immunocompromise. However, in most cases, no predisposing factor can be found. *Candida* infection is oestrogen-dependent and rarely occurs in postmenopausal women unless they are on hormone replacement

continued

Table 2. Vulval irritants and allergens

Toiletry items
Soaps, bath oils and gels
Depilatory creams
Sanitary pads and tampon strings
Talcs
Laundry detergents
Toilet tissue

Topical medications
Antifungal creams
Topical anaesthetics
Spermicides
Podophyllin
Antiseptic agents
Topical emollients (perfumes and preservatives)

Physiological fluids
Vaginal discharge or secretions
Sweat
Semen
Urinary and faecal incontinence

Other irritants
Condoms or diaphragms
Tight clothing
Synthetic clothing

Table 3. Key examination for vulval itch

Examination findings	Associated conditions
General examination	
Red rash with silvery scale over scalp, postauricular area and extensor surfaces	Psoriasis
Scaly rash over paranasal gutters, eyebrows, frontal hair line and presternal area	Seborrhoeic dermatitis
Oral mucosa (lacy white pattern)	Lichen planus
Rash over antecubital and popliteal fossae	Atopic dermatitis
Nits on the base of short hairs (e.g. eyelashes)	Pediculosis pubis
Genital examination	
Nonspecific abnormal findings of external genitalia	
Erythema or oedema Scratch marks Fissuring or erosions	The majority of primary dermatoses and infective conditions can cause these findings
Specific abnormal findings of external genitalia	
Pallor, fine wrinkling, purpura, loss of normal architecture and fusion lines	Lichen sclerosus
Satellite lesions	Vulvovaginal candidiasis
Plaques, macules or solid lesions	Vulval intraepithelial neoplasia, vulval cancer
Abnormal vaginal findings	
Erythema of mucosa	Vulvovaginal candidiasis
Vaginal discharge	Bacterial vaginosis, vulvovaginal candidiasis, trichomoniasis, other sexually transmissible infection, physiological discharge

therapy (HRT).[2] *Candida albicans* is the causative agent in 90% of cases. However, non-albicans species are being diagnosed with increasing frequency, and these are often refractory to topical azole therapy.

Typical presentation and examination findings are outlined in the Assessment chart on page 57 and shown in Figures 2 and 3. Vulval symptoms are secondary to metabolic products from the vaginal yeast. It is therefore important not to treat the vulva alone.

Asymptomatic colonisation is common and occurs in 10 to 30% of premenopausal women.[3] Women with positive cultures but no symptoms should not be treated; whereas a trial of empirical antifungal treatment in women with symptoms of candidiasis but no evidence on microscopy or culture is sometimes worthwhile.

Treatment regimens are outlined in the box on page 61. Topical therapy can cause an irritant contact dermatitis. Short term 1% hydrocortisone ointment can be used externally in conjunction with antifungal treatment to produce a more rapid alleviation of symptoms. Glucose tolerance testing is indicated in refractory

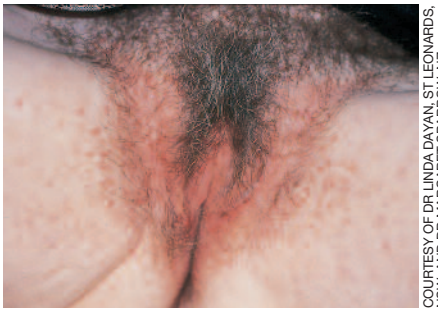


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Figure 2. Chronic vulval candidiasis showing satellite lesions.

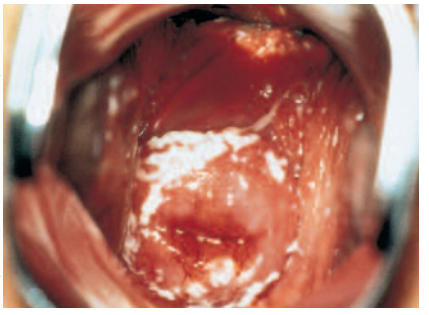

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Figure 3. Vaginal candidiasis showing white plaques on an inflamed vaginal wall.

History, clinical findings and investigations for conditions causing vulval itch

Condition	History	Clinical findings	Investigations
Infective conditions			
Vulvovaginal candidiasis	Itch may be worse prior to periods; dysuria, burning after intercourse; may have predisposing factors (i.e. antibiotics, diabetes)	Vulval erythema, oedema, fissuring or satellite lesions, curd-like vaginal discharge (more common in acute than chronic infection), vaginal erythema	High vaginal swab (microscopy has sensitivity of 60–70%, culture positive in 30–50% of cases with negative microscopy); glucose tolerance testing in postmenopausal women not on HRT; refer if not responsive to treatment
Tinea cruris	May have tinea elsewhere (e.g. feet); may have had previous steroid treatment without effect	Red rash with scale and central clearing; rash often centered on inguinal creases, extending down inner thighs; no vaginal involvement	Skin scrapings from the periphery of the rash for microscopy and culture
Trichomoniasis	Patient sexually active; offensive ('fishy') vaginal discharge	Vulval erythema, yellow–green vaginal discharge; normal examination (15%); 'strawberry cervix' (2%)	May be identified on Pap smear test; diagnosis on wet prep (motile organism) or culture; screen for other STIs
Pediculosis pubis	Patient sexually active; itching in hair-bearing areas; itch worse at night	Nits on the base of pubic hairs or axilla, eyelashes, beard, limb and trunk hairs; may see maculae caeruleae	Clinical diagnosis and microscopy of nits
Dermatoses			
Atopic dermatitis	Family or personal history of atopy (eczema, hayfever or asthma)	Red rash (labia majora, perineum and inner thighs), mucosa and labia minora usually not involved; normal vaginal mucosa; dermatitis (antecubital and popliteal fossae)	Clinical diagnosis
Contact dermatitis	History of atopy, use of irritants or allergens	Similar to findings in atopic dermatitis, but labia minora more likely to be involved; rash may have vesicles; affected area follows application site or line of underclothes	Clinical diagnosis; can refer to dermatologist for patch testing if allergen uncertain
Seborrhoeic dermatitis	Moderately itchy rash	Rash on hairy areas of labia majora and pubis; rash poorly defined, yellow, greasy and scale; systemic rash – paranasal gutters, eyebrows, frontal hairline	Clinical diagnosis
Psoriasis	Personal or family history of psoriasis	Well demarcated, erythematous plaque on the vulva, often without scale; no vaginal involvement; systemic red, scaly rash in postauricular area, scalp and extensor surfaces	Biopsy rash if systemic psoriasis not present
Red flag conditions			
Lichen sclerosus	Often a long history of vulval itch; vulval pain, burning or dyspareunia; patient may have sought medical attention many times previously; itch unresponsive to antifungals	Pallor of genital skin; fine wrinkling of skin; telangiectasia/purpura; anterior vulva and periclitoral regions often involved in early disease; loss of normal architecture in end stage disease (fused labia minora, buried clitoris, introital narrowing); no vaginal involvement	Always refer to sexual health physician, dermatologist or gynaecologist for biopsy
Vulval intraepithelial neoplasia or vulval cancer	Patient may have noticed a persistent lump; may have bleeding or ulceration; may have associated cervical dysplasia	Raised plaques, macules or solid lesions; lesions may be solitary or multifocal	Always refer to gynaecological oncologist for biopsy; ensure Pap smear testing is up to date

This assessment chart was prepared by Dr Asiye Doxanakis, Dr Catriona Bradshaw and Professor Christopher Fairley, Melbourne Sexual Health Centre.

MedicineToday **PATIENT HANDOUT**

General measures to deal with vulval itch

- Avoid the use of irritants and allergens (such as soaps, bath oils, talcs, depilatory creams).
- For irritated skin, bathe the area with salt water for 15 minutes, two to three times a day for three days.
- Cleanse with non-soap products (e.g. sorbolene or aqueous cream). Avoid overzealous cleansing, long showers (they worsen dryness) and overly hot showers (they can increase the itch).
- Stop the scratch–itch cycle. Cut your fingernails. Apply cold compresses to the itchy area. Oral antihistamines with sedating effects (e.g. Phenergan) can be used at night.
- Use barrier creams (eg. zinc cream or vaseline) if you have an irritant vaginal discharge, sweating or incontinence.
- Use unbleached, unperfumed toilet paper. Wash underwear in hypoallergenic washing detergents and use an extra rinse cycle. Do not use fabric softener.
- Avoid tight fitting and synthetic clothing. Use cotton underwear. Try crutchless pantyhose or stockings.
- Avoid the use of condoms that have been lubricated with spermicide. Use water-based lubricants.

This patient handout was written by Dr Karen Berzins, Melbourne Sexual Health Centre.

cases and in postmenopausal women with infection who are not receiving HRT.[2]

There is no evidence to suggest that decreasing the patient's oral intake of carbohydrates or increasing her intake of lactobacilli helps to decrease recurrence rates. Sexual partners do not require treatment unless they are symptomatic.

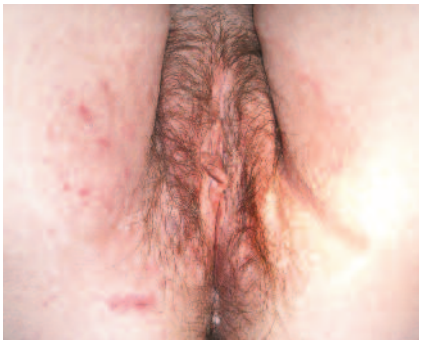

Figure 4. Vulval psoriasis. There is an erythematous rash involving the labia majora. A biopsy may be required if features typical of psoriasis are not seen on the vulva or elsewhere on the body.

Tinea

Tinea cruris refers to a contagious fungal infection of the groin and adjacent skin. It is an uncommon cause of vulvitis, but causes marked itch. Have a high degree of suspicion for tinea cruris when a dermatitic rash persists while the patient is on topical corticosteroid treatment.

Trichomoniasis

Trichomoniasis is a sexually transmitted protozoal infection. Approximately 10 to 50% of infected females are asymptomatic.[4] *Trichomonas vaginalis* can be detected on Pap smears, with a sensitivity of 60 to 70%,[5] but there is a high false-positive rate, so diagnosis should be confirmed by vaginal swab (wet preparation and culture). Management is outlined in the box on page 61. Ensure that sexual partners are also treated.

Pubic lice

Pediculosis pubis is also known as pubic lice or 'crabs'. Transmission is nearly always by sexual contact. Female lice lay eggs (nits), which are less than 1 mm and opalescent. Typically, few lice, but many nits, are found on the base of pubic or other short hairs. Sometimes blue macules called maculae caeruleae are seen on the surrounding skin.

Sexual contacts should be treated. Clothing and bed linen need to be washed in hot water and dried in a hot drier. If this is not possible, an adequate alternative is to place the linen in a garbage bag for a week and then wash as usual.

Other infective causes

Physiological and pathological vaginal discharge (e.g. from bacterial vaginosis, chlamydia infection or gonorrhoea) can cause a secondary vulval dermatitis. Recurrent herpes simplex virus can be associated with vulval itch. Scabies can cause an itch that tends to involve the whole genital area and lower abdomen rather than just the vulva. Human papillomavirus infection is usually asymptomatic, but it may be an uncommon cause of vulval itch.

Primary skin conditions

Dermatitis

In a series from Sydney, 64% of patients with chronic vulval symptoms had vulval dermatitis.[6] Dermatitis can be classified into contact (irritant and allergic) and endogenous (atopic and seborrhoeic). Commonly, practices such as overwashing or the use of soaps, topical lotions or ointments can be responsible for vulval irritation. These irritants can cause allergic or contact dermatitis or secondary sensitisation in atopic dermatitis. Typical presentations for the different dermatoses are shown in the Assessment chart; however, clinical signs can vary considerably from subtle to marked. Genital dermatoses can be modified by local conditions of heat, moisture, friction and hormones, and therefore may not resemble the same condition occurring elsewhere on the body.

The treatment of genital dermatitis is similar to that of systemic dermatitis. Generally, a combination of 1% hydrocortisone and clotrimazole cream (commercially available as a single formulation, Hydrozole) can be used as first line treatment. The addition of clotrimazole is recommended because fungal superinfection is common. Review patients two to four weeks after treatment commences. Sometimes mid-potency topical corticosteroids may be required.

Sometimes patients develop a scratch–itch cycle secondary to the primary cause of vulval itch, and lichenification (thickening and pigmentation) of the skin can develop because of constant scratching and irritation. This is called lichen simplex chronicus. It responds well to general skin care measures, low strength topical corticosteroid and treatment of the precipitating factor (if identifiable). In general, topical corticosteroid ointments are less irritating than the cream-based products.

Psoriasis

Approximately 2% of the population has psoriasis. In some, it may involve only the genital and perianal skin and the diagnosis is not immediately obvious. Presentation is often with an itchy, well demarcated, erythematous plaque. On the vulva, the scaly, red plaques tend to be less well defined than on other areas of the body (Figure 4). It is essential to examine the whole body, because the presence of a psoriaform rash elsewhere or nail involvement will greatly assist in diagnosing vulval psoriasis.

Lichen sclerosus

Thirteen per cent of women presenting to an Australian dermatology practice with chronic vulval symptoms were diagnosed with lichen sclerosus.[1] The aetiology is unknown, but there is evidence to suggest it is an autoimmune, inflammatory condition because it is associated with diseases such as thyroid disease, vitiligo and diabetes. It can occur at any age, but is most common in prepubertal girls and postmenopausal women.

The physical signs will vary depending on the stage and severity of disease. The classic features of lichen sclerosus are outlined in the Assessment chart. In early disease, there may be only subtle changes, such as areas of pallor with loss of normal sebaceous glands. With progressive disease, normal genital architecture can be

Suggested treatment options for infective causes of vulval itch

Acute vulvovaginal candidiasis

Option 1. Clotrimazole 100 mg pessary or cream intravaginally for 6 nights.

Option 2. Miconazole 2% cream or pessory (Monistat 7 day, Monistat Vaginal, Resolve Thrush) intravaginally for 7 nights.

Option 3. Nystatin cream or pessary (Nilstat Vaginal) 100,000U intravaginally 1 to 2 times daily for 7 to14 days.

Option 4. Oral fluconazole (Diflucan) 150 mg single dose.*

Recurrent vulvovaginal candidiasis†

Option 1. Oral fluconazole 150 mg single dose and 1% clotrimazole cream with applicator for 14 nights.‡

Option 2. Nystatin vaginal cream (100,000 U) intravaginally for 14 to 28 days.

Maintenance regimen for recurrent vulvovaginal candidiasis

Option 1. Oral fluconazole 150 mg weekly for 1 to 3 months, then taper to fortnightly and monthly as tolerated to a total of 6 months.

Option 2. Nystatin cream or pessary three times a week for 1 month, then taper to twice a week for 2 months, then once weekly over a 3-month period.

Non-albicans candida strains

Colonisation with non-albicans candida strains (e.g. *C. glabrata, C. parapsilosis, C. krusei*) may not be causing symptoms. If there is a failure to respond to traditional treatment, refer to a sexual health physician or gynaecologist because azole resistance is common.

Trichomoniasis: first line treatment

Option 1. Oral tinidazole (Fasigyn, Simplotan) 2 g single dose with food.

Option 2. Oral metronidazole (Flagyl, Metrogyl, Metronide) 2 g single dose with food.

Trichomoniasis: if persistent after first line treatment

Option 1. Oral metronidazole 500 mg twice daily for 5 days.

Option 2. Oral metronidazole 2 g daily for 3 to 5 days.

Pediculosis pubis (pubic lice)

Permethrin 5% cream (Lyclear) or lotion (Quellada) applied and left on overnight. Repeat in 1 week. If eyelashes involved, apply petroleum jelly five times a day for 5 to 7 days.

*Only to be used in acute vulvovaginal candidiasis if unable to use topical therapy, because cure rate is not higher with oral therapy.

†Clinical remission and culture-negative status should be demonstrated after treatment for recurrent infection, then maintenance regimen followed for at least six months.

‡Addition of topical 1% hydrocortisone, or hydrocortisone plus 1% clotrimazole (Hydrozole), twice daily to the vulva can provide rapid symptomatic relief.

lost, with resorption of the labia minora, fusion of the clitoral hood to the clitoris and ultimately narrowing of the introitus (Figure 1).

There is an association between lichen sclerosus and the development of squamous cell carcinoma. The percentage of patients with vulval lichen sclerosus who develop carcinoma is thought to be up to 5%.[7] Patients need to be managed by specialist practitioners, with regular follow up. Treatment involves long term use of high dose topical corticosteroids.

Lichen planus

Lichen planus is an inflammatory condition characterised by a reddish-purple rash that may be very itchy. It commonly involves the genital skin and oral mucosa.

Vulval intraepithelial neoplasia and vulval cancer

Vulval cancer represents 1% of all malignancies in women. Seventy-five per cent of all vulval cancers occur on the labia and 15 to 20% include the clitoris or perineal body. Human papillomavirus is the causative agent of most vulval intraepithelial neoplasias and carcinomas. It is therefore common for perianal and cervical dysplasia to coexist in a woman with vulval intraepithelial neoplasia.

Careful examination and Pap smear testing are essential. On keratinised skin, vulval intraepithelial neoplasia is usually a raised multifocal plaque, and on mucosal areas it appears as macules. Vulval cancer most commonly appears as a solid exophytic tumour. Lesions can be white, erythematous or pigmented. Histology of vulval cancer reveals squamous cell carcinoma in 87% of cases and malignant melanoma in approximately 6%.[8]

Conclusion

Vulval itch is a common condition often associated with significant distress – and if the itch is persistent, depression and sexual dysfunction may develop. Careful history, examination and simple investigation can diagnose most of the causative conditions. Implementation of general good skin care practices often results in rapid symptomatic relief in a surprising number of women. Specific management, however, needs to be tailored to the most likely diagnosis, and it is important to refer patients early if you suspect a 'red flag condition'. Individuals whose conditions are refractory to treatment should also be referred to a sexual health physician, dermatologist or gynaecologist for further investigation and management. MT

A list of references is available on request to the editorial office.

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