

# Pruritus vulvae

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## Abstract

Pruritus vulvae (vulval itch) is a common gynaecological condition, with a myriad of different causes. It can cause immense pain and embarrassment for those affected, negatively impacting on quality of life. Despite its high prevalence, it can be challenging to reach an accurate diagnosis. A thorough history and examination are crucial to be able to provide effective treatment. Given the sensitive nature of the patient's symptoms, informed consent is essential for all examinations, investigations and treatments. A chaperone should be offered during all intimate examinations of the anogenital area, and all efforts should be made to maintain a patient's dignity. If the patient presents with vulval itch with increased vaginal discharge, vulvovaginal candidiasis should be excluded. Sexually transmitted infections and sexual dysfunction should be considered in all patients with vulval complaints, either as the cause of the symptoms or resulting from them. Upon diagnosis, conservative measures alone can provide symptomatic relief. It is also important for clinicians to be able to distinguish indications for vulval biopsy to rule out malignancy, suspicious features or treatment-resistant lesions. Multidisciplinary care also has a role to play in treatment of certain conditions. Here we present an approach to diagnosing, investigating and managing pruritus vulvae through case studies.

**Keywords** Pruritus vulvae; vulvar diseases; vulvovaginitis; vulvar lichen sclerosis; vulvar neoplasms

## Introduction

Pruritus vulvae, or itching of the external female genitalia, is a common presenting complaint for women of all ages. Despite this, it can be difficult to diagnose and manage vulval conditions. Causes can be dermatological, infective, hormonal, systemic and neoplastic (Box 1). For women who are affected, it can be embarrassing and painful, having a severely negative effect on quality of life. It is therefore important to be able to confidently distinguish between different vulval conditions. Informed consent is essential for all examinations, investigations and treatment, given the sensitive nature of the patient's symptoms. A chaperone should be offered during all intimate examinations, and all efforts should be made to maintain a patient's dignity. A thorough history and examination are key to diagnosis. Here we present an approach to managing pruritus vulvae through case studies.

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## Causes of pruritus vulvae

### Dermatological

- Atopic vulvitis/dermatitis
- Contact dermatitis
- Psoriasis
- Lichen simplex
- Lichen planus
- Lichen sclerosus

### Infective

- Candidiasis
- Trichomoniasis
- Genital herpes simplex
- Public lice
- Scabies

### Hormonal

- Atrophic vulvovaginitis
- Pregnancy

### Systemic

- Drug reactions
- Psychological issues
- Stress
- Incontinence

### Neoplastic

- Squamous cell carcinoma
- Vulval intraepithelial neoplasia
- Extramammary Paget's disease

## Box 1

### Case 1

A 32-year-old female presents with a three month history of vulval itching. A thorough history is taken as per Box 2. She is asthmatic, currently using salbutamol and steroid inhalers and has periorbital eczema. She is otherwise fit and well. She has been using a feminine hygiene product to wash her genital area for the past few years. There are no associated features and she is nulliparous. She is embarrassed by the appearance of her vulval skin and has taken time off of work due to the itching. On examination there is noticeable erythema, lichenification and excoriation on both vulvae. Golden crusted lesions are also present. There are no fissures, fusion, atrophy, change in pigmentation or ulcers.

Given the history of atopy with asthma and eczema in another skin area, the most likely diagnosis is atopic vulvitis/dermatitis (vulval eczema). The golden 'crust' seen on inspection is pathognomic of overlying staphylococcus infection. Other differentials include contact dermatitis, possibly secondary to use of feminine hygiene products, and psoriasis (Table 1). Infective causes should be considered also (Table 2). Atopic vulvitis is very common, and often secondary to an irritant, such as scented soaps, synthetic underwear or washing powder. A patch test can

**Key questions to ask in history taking**

- Are there possible irritants?
  - Washing powder
  - Soap
  - Sanitary products
  - Creams
  - Wipes
- Are there possible irritants?
  - Pain
  - Vaginal discharge
- Continence history
  - Genuine stress incontinence
- Gynae, obstetric and sexual history
- Full medical and drug history, including history of atopy
- Social history including impact upon daily life
  - Smoking history
- Current treatment (if any)

**Box 2**

be used to identify specific irritants. A vulval biopsy within two weeks is indicated if there are any atypical features or if it is resistant to treatment (Box 3).

**Treatment of atopic vulvitis**

1. Identify and remove exposure to irritants
2. Topical corticosteroid (finger-tip amount) daily for seven to ten days – 1% hydrocortisone ointment for mild symptoms, and betamethasone valerate 0.025% or clobetasol propionate 0.05% for 1–3 months, if severe symptoms or lichenified.
3. Combined preparation with antibiotic/antifungal if secondary infection suspected

Routine advice on conservative measures was given, as outlined in Box 4. The patient stopped using feminine hygiene products and was treated with a short course of betamethasone valerate with fusidic acid. Her symptoms improved and she went back to work after a few days, on the understanding that should her symptoms recur she should recommence the topical steroid treatment.

**Case 2**

A 54-year-old multiparous female is referred by the urogynaecology team with a 6-month history of vulval itching, soreness and a burning sensation, on a background history of urinary

**Other dermatological causes of pruritus vulvae**

Condition	Clinical features	Diagnosis	Management
Vulval psoriasis	Vulval itch and soreness Erythematous plaques Symmetrical Fissuring Other flexor surface psoriasis	Clinical appearance Biopsy if any suspicious features	<ol style="list-style-type: none"> <li>1 Weak-moderate corticosteroids</li> <li>2 Antibacterial/antifungal if indicated</li> <li>3 Coal-tar preparations (may cause folliculitis)</li> <li>4 Vitamin D analogues may help, but can also cause irritation</li> </ol>
Lichen planus	Vulval itch and pain Classical – anogenital papules, hyperpigmentation Hypertrophic – thickened warty plaques, sometimes ulcerated, lack of vaginal lesions Erosive – Wickham’s striae, stenosis, bleeding telangiectasia, patchy erythema, affects mucous membranes (mouth, vagina, anus)	Clinical appearance Biopsy if raised lesions/resistant to treatment Histology – saw-toothed acanthosis, increased granular layer, basal cell liquefaction, band-like lymphocytic infiltrate Skin swab to exclude infection Investigate for autoimmune disease if relevant history/features	<ol style="list-style-type: none"> <li>1 Ultrapotent topical steroids, e.g. Clobetasol propionate</li> <li>2 Maintenance with weaker topical steroids</li> <li>3 Antibacterial/antifungal if indicated</li> <li>4 Oral steroids, ciclosporin and retinoids for severe cases</li> <li>5 Follow up at 2–3 months then annually</li> </ol>
Lichen simplex	Vulval itch and soreness Lichenification – thickened, scaly, pale lesions Erosions and fissuring Excoriation and loss of pubic hair in scratch areas Can be secondary to infection, dermatitis, environmental factors or psychiatric disorders	Clinical appearance Biopsy if any suspicious features Skin swab if infective features Ferritin levels as iron deficiency may contribute Mental state examination where necessary	<ol style="list-style-type: none"> <li>1 Avoidance of precipitating factor(s)</li> <li>2 Emollients</li> <li>3 Short-term potent topical steroids e.g. Betamethasone or Clobetasol</li> <li>4 Antibacterial/antifungal if indicated</li> <li>5 Mild antihistamine e.g. Hydroxyzine or Doxepin</li> </ol>

**Table 1**

**Infective causes of pruritus vulvae**

Condition	Clinical features	Diagnosis	Management
Candidiasis	Vulval itch and soreness Curdy white or thin discharge	High vaginal swab from anterior fornix for microscopy and culture	<ol style="list-style-type: none"> <li>1 Clotrimazole pessary or 10% cream</li> <li>2 Other topical antifungals – Fenticonazole, Izoconazole, Miconazole, Nystatin</li> <li>3 Severe infection – 2 doses oral fluconazole or 2 doses clotrimazole pessaries</li> <li>4 Recurrent infection – 3 doses oral fluconazole or 10–14 days intravaginal antifungal or 6 month daily/monthly intravaginal antifungal</li> </ol>
Herpes simplex	Vulval itch can be a prodrome to herpes flare Painful ulcerative lesions Tender inguinal lymphadenopathy	Swab of lesion for HSV DNA detection via PCR	<ol style="list-style-type: none"> <li>1 Topical local anaesthetics</li> <li>2 Oral antivirals within 5 days of start of episode – Aciclovir 200 mg five times daily or Valaciclovir 500 mg BD, both 5 day courses</li> <li>3 Recurrence – short antiviral course – Aciclovir 800 mg TDS for 2 days or Valaciclovir 500 mg BD for 3 days or Famciclovir 1g BD for 1 day</li> </ol>
Pubic lice (phthirus)	Adult lice and or eggs Vulval itch Blue macules	Clinical appearance	<ol style="list-style-type: none"> <li>1 Avoid close body contact with others</li> <li>2 Topical insecticide lotion – Permethrin 1% cream, Malathion 0.5% aqueous solution – repeat both after 7 days</li> <li>3 Full STI screen and contact tracing</li> <li>4 Decontaminate clothes and bed linen (wash at 50°)</li> </ol>
Scabies	Generalised pruritus, worse at night Rash – erythematous papules in interdigital webspaces, sides of fingers and other areas Burrow lesions	Clinical appearance Definitive diagnosis by microscopic identification of mites from skin scrapings	<ol style="list-style-type: none"> <li>1 Topical insecticide lotion – Permethrin 1% cream, Malathion 0.5% aqueous solution – repeat both after 7 days</li> <li>2 Antibacterial/antifungal for secondary infections if indicated</li> <li>3 Post-scabetic itch – Crotamiton 10% cream BD/TDS or topical Hydrocortisone 1% cream if scabies definitely eradicated</li> </ol>
Threadworm	Vulval and perianal itching, worse at night Worms (5 mm, white) seen in perianal area	Adhesive tape test to perianal skin for eggs – microscopic identification	<ol style="list-style-type: none"> <li>1 Single dose anti-helminthic – Mebendazole</li> </ol>
Trichomoniasis	Vulval itch, discharge, offensive smell Dysuria Thin or thick yellow frothy discharge Strawberry cervix	High vaginal swab from posterior fornix for microscopy and culture NAAT if available	<ol style="list-style-type: none"> <li>1 Metronidazole 2g PO STAT or Metronidazole 400–500 mg PO BD for 5–7 days</li> <li>2 Alternative – Tinidazole 2g PO STAT</li> <li>3 Persistent infection – repeat BD Metronidazole course</li> </ol>

NB bacterial vaginosis is NOT associated with pruritus.

**Table 2**

### Indications for vulval biopsy to exclude VIN

- Raised moist or eroded lesions
- Discrete lumps
- White, erythematous or pigmented
- Pain
- Warts
- Multifocal
- Persistent lesions

#### Box 3

### Conservative measures for treatment of vulval itching

- Shower, avoid baths
- Emollients are better than water alone as they stop the skin drying out
- Loose fitting cotton or silk underwear — avoid nylon
- Avoid skin products, e.g. bubble bath, shampoo, wet wipes, sponges
- Avoid fabric conditioner/biological washing powder
- Avoid spermicidally-lubricated condoms
- Avoid coloured toilet paper

#### Box 4

stress incontinence. She has no history of atopy and is medically fit and well, but is noted to smoke ten cigarettes a day. She underwent one caesarean section and a forceps delivery requiring an episiotomy. She also experiences superficial dyspareunia which is affecting her relationship with her partner. No irritants are identifiable.

On examination there are pale, white, atrophic lesions in a 'figure of eight' distribution around the labia minora, perineum and anus. There is loss of architecture noted around the labia minora and mild midline fusion. Erosions, fissuring, hyperkeratosis and ecchymosis (purpura) are seen particularly around the area of the episiotomy scar.

The suspected diagnosis is lichen sclerosus

Differential diagnoses include lichen planus, lichen simplex and vulval intraepithelial neoplasia (VIN). Lichenification (thickening and hardening of the skin), fissures and erosions without other features is identified as lichen simplex. Ivory white vulval epithelium in a 'figure of eight' distribution is diagnostic of lichen sclerosus. Labial and clitoral fusion can occur in severe cases. Hypertrophic plaques, wart-like lesions or mucous membrane involvement are more likely to represent lichen planus. Lichen planus can be triggered by medication such as NSAIDs, beta blockers and thiazide diuretics.

Lichen sclerosus is a common autoimmune inflammatory condition that occurs in approximately 0.1% of prepubertal girls and 3% of postmenopausal women. The exact aetiology of this is still unknown, however several papers have shown links with autoantibodies to extracellular matrix protein 1. Fibroblast and microvascular changes cause deposits of hyaluronic acid in the skin, resulting in the skin changes seen. Friction or damage to the skin triggers lichen sclerosus ('Koebner response') and cause worsening of symptoms. Irritation from urine leakage or wearing

incontinence pads/panty liners can also make the problem worse. It is associated with a 5% risk of squamous cell carcinoma, a 9% risk of VIN, as well as sexual dysfunction, dyspareunia and clitoral pseudocysts. Diagnosis is clinical, however, if there are any raised lesions or suspicions of VIN/squamous cell carcinoma, vulva biopsy is required. Treatment resistant disease should also be biopsied. Histological findings of vulva sclerosis are a thinned atrophic epidermis with sub-epidermal hyalinization and deep inflammatory infiltrate, hyperkeratosis, lymphocyte infiltration and follicular plugging in hair bearing skin.

There is often co-existing thyroid dysfunction, so if clinically indicated check TSH and T4 levels. Due to the small risk of neoplastic change, patients should be advised to be aware of any changes in the appearance of their skin and reviewed regularly. Other complications include loss of self-esteem, sexual and urinary dysfunction and skin numbness.

Treatment of lichen sclerosus

1. Ultra-potent topical steroid, e.g. clobetasol propionate in a tapering regime, for example, a short course three times a day initially, daily for 1 month, alternate days for 1 month, twice weekly for 1 month, then use sparingly as required.
2. Combine with topical antifungal/antibiotic if co-existent infection
3. Short-term topical calcineurin inhibitors, e.g. tacrolimus are not licenced and there have been reports of malignancy
4. Oral retinoids may be effective in resistant disease — these should only be prescribed by a dermatologist

This patient had a 3-month course of steroids and was advised to stop smoking, but this had little effect. She went on to have a vulval biopsy which showed VIN. VIN is a chronic vulval skin disorder characterized by dysplastic changes of the squamous epithelium. It is a pre-malignant lesion, usually associated with HPV 16 infection, although spontaneous regression may occur. When this occurs in conjunction with lichen sclerosus or lichen planus, there is a higher risk of progression to squamous cell carcinoma. VIN can present with lumps, erosive lesions, itch, pain or without symptoms altogether. Its clinical appearance is therefore highly variable and so there is a low threshold for vulval biopsy of vulval lesions. Multiple site biopsies, usually under local anaesthetic, are required to rule out VIN. Management of VIN is outlined in Box 5.

### Management of VIN

- Associated with HPV 16
- Progression to squamous cell carcinoma in 9–18.5% of women
- Refer to colposcopy to exclude CIN
- Anoscopy if perianal lesions
- Local excision
- Local destruction — CO<sub>2</sub> laser, ultrasound surgical aspiration, photodynamic therapy, cryotherapy
- Imiquimod cream 5% - causes partial or complete resection, unlicensed use
- 5-fluorouracil cream — variable results
- Vulvectomy — recurrence may still occur
- Follow up until 5 years post resolution

#### Box 5

**Case 3**

A 67-year-old postmenopausal female presents with vulval itching, vaginal dryness, superficial dyspareunia and soreness. She has had three vaginal deliveries and suffers with stress incontinence which is untreated as yet. She finds the itching so unbearable that it prevents her from leaving the house at times. She has is otherwise fit and well. Vulval examination findings are pallor, loss of rugation (ridges in skin), petechiae and mild labial fusion.

The suspected diagnosis is atrophic vulvovaginitis. This condition is caused by low oestrogen levels, resulting in a lack of glycolysation of vaginal and vulval epithelium. There is also reduced blood flow to the vulva and vagina as well as reduced fluid excretion. Although this condition is mostly present in postmenopausal women, it can affect women during breastfeeding due to lower oestrogen levels. There are no specifically recommended investigations for atrophic vulvovaginitis, however the vaginal pH would become more alkaline (greater than five). This can be associated with recurrent urinary tract infections. Low oestrogen levels may also be associated with stress incontinence.

Treatment of atrophic vulvovaginitis is hormonal, initially with a topical oestrogen cream. Oestrogen pessaries, rings and oral tablets can also be used. Topical oestrogens are minimally systemically absorbed and are generally safe in most women. A 14-day course using the smallest effective amount is usually successful, with twice weekly application as maintenance. NICE guideline states that the safety of long-term or repeated courses of topical vaginal oestrogens on the endometrium is uncertain and recommends that patients undergoing these types of treatment are reviewed yearly. Ointment bases are preferred on the anogenital skin, because of the reduced need for preservatives in an ointment preparation, with less risk of a secondary contact allergy. Cream bases may sting as they contain more water. Regular application of a barrier emollient to the affected areas may protect against local irritants, e.g. urine and menstrual blood.

Progesterone replacement may need to be considered with oral oestrogen replacement. Conservative treatment with over the counter moisturisers and lubricants can also help to ease symptoms. Local anaesthetic gel can also be used to alleviate symptoms of itching.

This patient's symptoms did improve with a 2-week course of topical oestrogen cream initially; however, yearly follow up courses were required to keep her symptoms at bay. After successful management of her urinary symptoms by the urogynaecologists she was able to resume her daily activities.

**Summary**

Pruritus vulvae are a very common condition with a myriad of different causes. A comprehensive history can be enough to

significantly narrow down your differential diagnoses. Whilst some conditions can be diagnosed on clinical examination alone, it is important to biopsy treatment resistant or suspicious lesions to rule out VIN or malignancy. Conservative measures play a large role in symptom management and include avoiding all known trigger factors including scented detergents, synthetic or tight underwear.

Dermatological treatment is based primarily on topical corticosteroids – specialist dermatological input may be required for management beyond this. It is important to direct patients to sexual health services if infective causes are suspected. Pruritus vulvae can have a devastating impact on sexual intercourse for women affected by it and referral for psychosexual counselling can be beneficial. Antimicrobials are used to treat infective causes and topical oestrogens are used for hormonal vulval itching. Successful treatment is reliant upon accurate diagnosis and can significantly improve quality of life. ◆

**Practice points**

- Accurate diagnosis based on thorough history and examination is instrumental for providing effective treatment. Informed consent and a chaperone is vital for intimate anogenital examination.
- Short courses of topical high dose steroid therapy may be very effective. Where medication is applied topically, ideally, this should be done at night
- Lesions which are resistant to treatment or have clinically suspicious features should have a vulval biopsy within two weeks to rule out VIN.
- A thorough history is relevant as conservative measures can be as important as medical therapy to keep symptoms at bay.

**FURTHER READING**

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