The management of vulval itching caused by benign vulval dermatoses

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Key content
• This article will cover key points in patient assessment, vulval examination and treatment of vulval disease, specifically dermatological conditions.
• Often, simple measures can benefit the patient (e.g. use of emollients). However, many women have complex disease with more than one condition, so careful assessment and individualised management is essential.
• Some gynaecologists have unmet training needs in the assessment and management of vulval skin disease. It is important to assess patients and then refer difficult cases and non-responders to a vulval service for a multidisciplinary opinion.

Learning objectives
• To increase skills in patient assessment, vulval examination and treatment of common vulval diseases.
• To improve clinical outcomes for women by increasing basic and intermediate knowledge and skills of vulval disease according to the national evidence base.

Ethical issues
• Clinicians managing vulval disease must be sensitive and willing to ask women about sexual problems associated with their disease.
• All clinicians, regardless of experience or level of seniority, should have an understanding of the relevant conditions underlying these symptoms.

Keywords: lichen planus / lichen sclerosus / psoriasis / vulval eczema (dermatitis) / vulvovaginal candidiasis

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Introduction
Vulval disease is common in gynaecological practice. This article will cover key points in patient assessment, vulval examination and treatment of vulval disease, specifically with regard to dermatological conditions. It focuses on the history and assessment of women who present to a gynaecologist, provide useful tips to the clinician for the initial management of common vulval disease and how to triage patients and refer to a vulval service. Many patients with complex vulval disease will need referral to a vulval service which involves a multidisciplinary team. However, the generalist gynaecologist should be able to assess and manage most new cases of vulval disease effectively without referral.

History taking
When undertaking a history, an accurate description of symptoms should also be made as this can often point to a diagnosis. Table 1 outlines some key questions to ask in the history and why. An assessment of the impact on function is always revealing (‘How do the symptoms affect you?’ or ‘What do you miss as a result of the problem?’). A psychosexual history should be explored if appropriate. Often, referral of patients with a vulval problem might reveal sexual pain as the main complaint and secondary psychosexual problems such as avoidance, phobia of touch, loss of libido and vaginismus. The psychosexual impact of vulval skin disease has been covered in depth previously.1

Vulval examination
A full vulval examination requires good lighting. Each part of the vulva should be examined systematically, including the mons pubis, inguinal folds, outer and inner labia (majora and minora), clitoris (body and hood), perineum, vestibule and anus (Figure 1). Hart’s line, the junction between the vestibule and the inner labia, marks a change in epithelium type from non-keratinised and keratinised squamous epithelium. Ideally, digital and speculum examinations should be conducted to
rule out erosions, mucosal thickening, adhesions and scarring, as can be seen in conditions such as erosive lichen planus and lichen sclerosus.²

Vulval pathology may be a manifestation of a general skin condition, and therefore a complete examination, including hidden sites such as the umbilicus and natal cleft, must be considered. Furthermore, examination of other non-keratinised or mucosal surfaces, including the oral cavity, eyes and mouth, should be performed. This allows a complete assessment of disease extent and diagnosis, especially for diseases that are not restricted to the vulval region such as psoriasis, eczema, lichen sclerosus, pemphigus vulgaris, pemphigoid and erosive lichen planus.

Descriptors of vulval disease are largely synonymous with dermatology terminology. ‘Erythema’ refers to reddening of the skin, which may be poorly demarcated, as in eczema (Figure 2 demonstrates poorly defined erythema in the context of contact dermatitis), or well demarcated, as in psoriasis (Figure 3). Erythema usually indicates an underlying inflammatory process. If present in association with pain, infection should be considered.

Whitening of the skin may occur in the presence of a normal epidermis, such as in vitiligo, or in conjunction with epidermal change, such as lichen sclerosus.

‘Lichenification’ describes a leathery thickening of the skin with increased skin markings, which occurs in response to persistent rubbing. The vulval region is often moist, and scale is a less reliable sign than on other areas of the skin. It is most reliable on the mons pubis where scale may be a manifestation of psoriasis. On sites such as the natal cleft, scale and lichenification may result in whiteness and splitting of the skin. This can make common conditions more difficult to diagnose.³

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Table 1. Vulval history taking

| Question                                                                 | Reasoning                                                                 |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------|
| What are the key symptoms and how severe are they? What is the impact on the patient’s function? | It is important to be clear about the initial symptoms. Itch can suggest skin disease or infection. Pain can be secondary to itching from skin damage. As a primary symptom, pain may indicate a pain syndrome. Improvement in function (including sex) is an important clinical outcome. |
| How long has the woman experienced symptoms?                           | Acute symptoms may indicate vulvovaginal thrush or contact dermatitis. Chronic symptoms may be caused by lichen sclerosus or lichen planus. |
| Are there other symptoms?                                               | For example, vaginal discharge, vulval pain, other skin diseases.          |
| What treatments have been tried before?                                 | Inappropriate topical treatments can exacerbate symptoms and potentially cause an irritant reaction. The history should explore failed treatments, e.g. topical steroid frequency and amount, as underusage is common with these treatments. |
| How does the patient clean the vulval area?                             | Many women feel unclean and can overwash, leading to skin damage and further irritation. |
| Are there any possible contacts with irritants such as soaps, shampoos, urine, and scented vaginal wipes? | These irritants can damage the skin, potentially causing inflammation. Urine is a potent skin irritant. |
| Are symptoms stress-related?                                            | In lichen simplex, itching is classically worse during times of stress.    |
| Is there any systemic illness?                                          | For example, diabetes, renal failure, anaemia, autoimmune conditions (including family history of autoimmunity). |
| Are any other skin conditions present?                                  | For example, eczema or psoriasis (sometimes hidden as cracking behind the ears, a scaly scalp or umbilical erythema). |

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Figure 1. Schematic representation of the normal adult vulva. Copyright © 2007 Dawn Danby and Paul Waggoner, c/o International Society for the Study of Vulvovaginal Disease.
There are several terms used to describe specific lesions found on the skin, including the vulval area (Table 2).

### Investigations

#### Vaginal swabs

Vaginal swabs are indicated when the history suggests possible primary or secondary infection with bacterial, candida and viral infections. Infection is a common cause of the loss of symptom control in inflammatory dermatoses, and may explain why lichen sclerosus appears initially well controlled with potent steroids and then flares. Occasionally, vulval symptoms can be caused by genital herpes and a viral culture swab may be necessary.
**Management of vulval itching in benign vulval dermatoses**

**Vulval biopsy**
A vulval biopsy is usually indicated for: 1) all areas of vulval melanosis and new or changing pigmented lesions; 2) persistently eroded areas; 3) indurated and suspicious ulcerated areas; or 4) when there is poor response to treatment following the initial diagnosis. The site selected for biopsy should be tissue-representative of the lesion or area of abnormality. This is usually at the edge of the lesion and should also include some normal tissue. The most central area may be inflamed or necrotic, which may give minimal tissue diagnosis because of the inflammation present. An excisional biopsy can be problematic if a diagnosis of cancer or vulval intraepithelial neoplasia is subsequently found, in that re-excision is often required. This can lead to further skin loss that might compromise function. Multiple mapping biopsies are indicated in cases of suspected multifocal disease. A 4-mm Keyes punch biopsy is adequate and should ideally be carried out under local anaesthetic at the initial visit. It can provide adequate tissue for histology, but is inadequate if immunofluorescence is also required to exclude immunobullous disease. In such cases, two biopsies may be needed; biopsies for immunofluorescence should be taken from peri-lesional skin. Inflammatory vulval lesions often have indistinct inflammatory pathology and a diagnosis should always be made based on a clinical, pathological correlation.

**Patch testing**
Patch testing by a dermatologist is indicated when allergic contact dermatitis is considered. Common allergens include topical anaesthetics, fragrances, sodium lauryl sulphate and topical neomycin. Allergic contact dermatitis to the adhesive used in sanitary pads is relatively common and should be considered, particularly if the fully keratinised epithelium is affected. Sensitisation can occur at any time, thus explaining why symptoms that are initially well controlled with topical therapies can flare. Clinical history is very important to determine potential sensitising agents, which can then be applied to the skin during the patch testing process.

**The multidisciplinary team**
Many chronic, rare and difficult vulval problems require multidisciplinary input. Experts from a local vulval clinic can help in dealing with difficult patients and those with unusual skin conditions. Other useful services might include dermatology, genitourinary medicine, physiotherapy, pain management, psychosexual therapy, pathology and urogynaecology.

**Specific vulval conditions**
Vulval itching is often the presenting complaint of a vulval skin condition. Itch is a symptom and not a diagnosis. The causes can be separated into skin disease (vulval dermatoses), infection and premalignant/malignant disease. The algorithm outlined in Figure 4 is useful for assessing patients. Many of the conditions outlined below require treatment with frequent topical steroids and emollients and a focus on patient education and compliance.

Table 3 provides a summary of the clinical features of specific skin diseases, diagnosis and treatment. Vulvodynia and vulval intraepithelial neoplasia have been discussed previously in earlier TOG articles.

**Lichen sclerosus**
Lichen sclerosus is a chronic, autoimmmune, inflammatory skin condition with a predilection for genital skin in both men and women (Figure 5). The clinical signs of early stage disease can be subtle and masked, especially if topical steroids have been used prior to referral.

The general management of lichen sclerosus is with topical steroids and emollients. There is a small (<5%) risk of cancer, so patients should be encouraged to self-examine on a regular basis (suggested monthly) to detect skin cancers. Changes may include raised and/or irregular lesions, ulceration and persistent eroded areas. In some patients, the posterior fourchette can scar, causing painful skin fissuring on penetration. Initial treatment should be to digitally massage the steroid into the fissure on a daily basis, and to encourage the use of vaginal dilators and a good lubricant. If these measures do not help then surgical division or refashioning the area of scar tissue should be considered.

**Lichen planus**
Lichen planus is another chronic autoimmune condition. Two main forms of lichen planus may affect the vulval area. ‘Classical’ lichen planus (outlined in Table 2) is usually successfully treated with topical steroids and emollients. In contrast, patients with ‘erosive’ lichen planus usually present with pain and burning because erosions occur at the entrance to the vagina and can affect the vaginal mucosal surface. This variant leads to considerable scarring and loss of anatomy (Figure 6). In contrast to the ‘classical’ plaque form of lichen planus, this disorder is painful rather than itchy and is less responsive to therapy. Referral to a vulval service is important to optimise disease management. Although the evidence is not as clear-cut as with lichen sclerosus, there is a small chance of malignant potential in lichen planus lesions.

**Vulval dermatitis**
The terms ‘dermatitis’ and ‘eczema’ are often used interchangeably. Different types of dermatitis can affect the vulval area. Importantly, vulval anatomy is normal and no scarring occurs with eczematous conditions.

Atopic eczema can affect the vulva in conjunction with typical eczema elsewhere on the body. Features of typical eczema
include poorly defined, symmetrical, scaly erythematous areas on the skin creases (especially the anteceital fossae and behind the knees). Skin is often noticeably dry. Atopic vulvitis is the commonest cause of vulval itch in children.

Contact dermatitis can be either ‘irritant’ or ‘allergic contact’. Irritant contact dermatitis is particularly common and can be triggered by soaps, perfumes, medicaments, urine, faeces and sweat. The barrier function of the skin becomes impaired by local irritants and can be subsequently worsened by continued application of the product. Clinical signs of vulval irritant dermatitis include poorly defined erythema where the irritant has been present. Small fissures and erosions may be present. Lichenification occurs in longstanding disease. All of these clinical features are demonstrated in Figure 2. Fissures may become secondarily infected with skin pathogens or candida. It is important to realise this when treatment strategies are implemented.

Allergic contact dermatitis is less common, with around one-fifth of patients with vulval skin conditions having a relevant positive patch test result. It can be difficult to distinguish from irritant contact dermatitis, especially in the acute phase when involvement can extend beyond the area of contact. This is because it is an immune-mediated hypersensitivity reaction. The only way to confidently diagnose allergic contact dermatitis is by patch testing.

Vulval seborrheic eczema is difficult to distinguish from psoriasis. It often manifests as bilaterally glazed skin in the interlabial sulci. Fine scale and erythema at other affected body sites such as the nasolabial folds, scalp and eyebrows can aid the diagnosis.

Vulvovaginal candidiasis

Acute vulval candidiasis is likely to resolve quickly with treatment. Patients are likely to be managed in primary healthcare rather than visit a gynaecologist. However, recurrent candidiasis (more than six attacks per year) or chronic infection can be subtler and more recalcitrant to treatment. Patients with an existing vulval condition can develop candidiasis as a secondary problem that might be overlooked, for example, a patient with lichen sclerosus treated with topical steroids. There should be a low threshold for taking swabs for infection, especially for women who fail to respond to treatment. A suggested treatment regime for recurrent candidiasis includes initial treatment followed by a maintenance regime for 6 months (e.g. 100 mg fluconazole weekly for 6 months). Cessation of therapy results in relapse in at least 50% of women.

Treatment principles for all vulval disease

There are no core clinical outcome measures for vulval skin disease. Suggested clinical outcomes include:
1) a reduction in symptoms (e.g. less itch, fewer flare-ups)
2) an improvement in function (e.g. in sexual function or mobility)
3) increased confidence in self management (e.g. management of flare-ups and self-examination).
| Diagnosis                | Clinical appearance                                                                 | Diagnosis                          | Primary treatment                                                                                   | Who should manage following a diagnosis?                          |
|-------------------------|--------------------------------------------------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Lichen sclerosus        | Porcelain white papules and plaques - Ecchymoses (subcutaneous purpura) - Erosions (loss of epidermis) - Fissures (Late signs: loss of anatomy, fusion, adhesions) | Clinically, if confident, or a vulval biopsy Consider biopsy if there are indurated or suspicious areas | Superpotent topical steroid and emollients                                                                                | Gynaecologist, dermatologist or GP Refer to vulval service for treatment-resistant cases, complications, and when associated with vulval intraepithelial neoplasia |
| Lichen planus           | ‘Classical’ lichen planus: violaceous, well demarcated plaques with overlying lacy white lines, usually affecting the labia majora and surrounding skin Erosive lichen planus: ‘glazed’ erythema or erosions symmetrically distributed at vaginal introitus. White, slightly raised edge to lesions. Lacy white lines (Wickham’s striae) in surrounding skin May have loss of anatomy | Clinical assessment and biopsy from the edge of an erosion Lichen planus may be seen in the mouth or normal skin | Superpotent topical steroid and emollients                                                                                | Dermatologist or gynaecologist Refer to vulval service for treatment-resistant cases, complications, and when associated with vulval intraepithelial neoplasia Erosive lichen planus is difficult to treat so refer to a vulval service |
| Atopic eczema           | Symmetrically inflamed, erythematous, weepy skin No loss of anatomy May be satellite lesions and have poorly defined edges | Clinical history and examination to include other skin sites for other signs of eczema | Moderate (e.g. clobetasone butyrate 0.05%) or potent (e.g. mometasone furoate 0.1%) topical steroid plus emollients to gain control of inflammation | Dermatologist or GP |
| Contact dermatitis      | Irritant form: poorly defined erythema present where the irritant has been applied Allergic form: erythema extends outside of area In both cases there may be excoriation of the skin caused by scratching | Clinical history and examination Patch testing if allergic contact dermatitis suspected | Moderate (e.g. clobetasone butyrate 0.05%) or potent (e.g. mometasone furoate 0.1%) topical steroid plus emollients to gain control of inflammation | Dermatologist and GP |
| Seborrhoeic eczema      | Glazed skin in the intralabial sulci | Clinical examination of other sites, e.g. scalp, eyebrows and nasolabial folds for erythema and fine scaling | Moderate (e.g. clobetasone butyrate 0.05%) or potent (e.g. mometasone furoate 0.1%) topical steroid plus emollients to gain control of inflammation | Dermatologist and GP |
| Psoriasis               | Classically well demarcated, scaly erythematous plaques, but vulval psoriatic plaques are smooth, glossy and often salmon-pink in colour Often no scale in vulval creases but surrounding skin can have scaly lesions typically seen in psoriasis No scarring or loss of anatomy (Figure 3) | Clinical assessment to include examination of ‘hidden sites’ for other signs of psoriasis, e.g. knees, elbows, umbilicus, scalp, ears, lower back and nails Biopsy if unsure | Moderate potency topical steroid plus emollients as recommended by NICE guidance Skin folds can become particularly macerated, so there is a chance of secondary bacterial or fungal infection, for which a combination topical preparation (e.g. clobetasone butyrate 0.05% and oxytetracycline 3%/nystatin) may be helpful | Dermatologist |
| Lichen simplex          | Lichenification of the skin with erosions from chronic scratching Usually no loss of anatomy but can give thick ‘leathery’ skin, often superimposed on other | Clinical history and examination | Superpotent topical steroid and emollient Once control of symptoms is achieved, moderate potency topical steroid may be required intermittently | Gynaecologist, dermatologist and GP |
Initial principles of management are the same for all vulval skin conditions and a holistic approach is required. Good education, support and counselling are required, with extra time given to address the disease process, discuss general vulval care measures and manage patient expectations. It is useful to provide information leaflets, direct women to relevant patient-oriented websites and write down instructions for applying topical agents. The use of a mirror or model in the clinic setting is helpful to show patients where to apply their topical treatments.

Correct barrier function

The goal of therapy is to correct barrier function and reduce inflammation. Soap and other routine cleaning agents (e.g. wipes) should be avoided when washing, as these can act as irritants and sensitising allergens. Irritation from urinary and faecal incontinence must be addressed; these are common causes of irritant vulvitis and make underlying skin pathology worse. ‘Soap substitution’ with a bland cream or ointment-based emollient is best for cleansing. The same agent can then be used as an emollient to both provide a barrier to the site

Table 3. (Continued)

| Diagnosis | Clinical appearance | Diagnosis | Primary treatment | Who should manage following a diagnosis? |
|-----------|---------------------|-----------|------------------|-----------------------------------------|
| Intertrigo | Flexural rash that may involve the groin, natal cleft, submammary region and abdominal ‘apron fold’ Common in overweight patients | Infection of the flexural areas with thrush (Candida albicans), erythrasma, (Corynebacterium minutissimum) and Tinea species | Secondary infection with candida or bacteria is common and may need treatment² | Gynaecologist, dermatologist or GP |

GP = general practitioner; NICE = National Institute for Health and Care Excellence

Figure 5. Advanced vulval lichen sclerosis. Whiteness, loss of anatomy, ecchymosis can be seen on the left labia, as well as scarring over the clitoral hood.

Figure 6. Erosive lichen planus. Well-demarcated, symmetrical erosions present at the vaginal introitus. Note the anatomical changes with loss of the labia minora and clitoral hood, anterior fusion and narrowing of the vaginal opening.
and soothe inflamed skin. There is no preferred emollient; some can cause irritation. Emollient creams (not ointments) placed in the refrigerator can soothe skin and lower its temperature, and are thought to reduce itch through central inhibitory pathways.19

Topical steroids and their use in the treatment of vulval skin conditions
Inflammation reduction associated with skin disease (such as in lichen planus, lichen sclerosus and eczema) is achieved using topical steroids. Topical steroids are often ineffectively used in the vulval area because of concerns from patients and non-specialists about side effects, particularly skin or mucosal atrophy. It is therefore important to use the correct strength of steroid for the necessary length of time on the appropriate body site. Mucosal surfaces such as the vulval vestibule are remarkably resistant to steroid atrophy.

In contrast, inappropriate use of potent topical steroids can cause skin thinning and striae (stretch marks) on keratinised surfaces such as the labiocrural folds, perineum, perianal area and thighs.2 Overuse of topical steroids appears as thinned, reddened skin and is reversible in the early stages. In the later stages, permanent telangiectasia and striae can develop. In the vulval region, topical calcineurin inhibitors can reduce inflammation and cause no skin atrophy. However, their role is not fully understood and there is a theoretical risk of long-term, localised immunosuppression from these agents, which can cause skin cancers.20

In lichen sclerosus and lichen planus, the use of superpotent topical steroids is recommended as first-line therapy. Cochrane systematic reviews of interventions for both lichen sclerosus21 and lichen planus22 have been published. There is reasonable randomised controlled trial evidence for the use of topical steroids in lichen sclerosus; indeed the British Association of Dermatologists suggests the use of the superpotent topical steroid clobetasol propionate (0.05%) over a 3-month reducing course.10 There are currently no specific guidelines for lichen planus; standard practice is to use a similar regimen as for lichen sclerosus. Case series evidence supports this.23,24

In general, topical steroids should be used once a day. There is no evidence to suggest that twice-daily application is superior, although this has a greater potential to cause side effects.23 Ointments are preferable to creams as they have fewer constituents and therefore have a lower chance of causing irritation/contact allergy. Once inflammation and symptoms are controlled, topical steroids should be reduced to the minimum frequency required to maintain remission. The concept of ‘weekend therapy’, that is, applying topical steroids on two consecutive days per week, is effective in atopic eczema patients26 and can extrapolated to chronic vulval diseases such as lichen sclerosus and lichen planus where long-term maintenance therapy is required. A woman with these conditions uses approximately 30–60 g of topical steroid per year as maintenance therapy.10 Topical steroids should only be used on affected areas to prevent side effects in adjacent skin.

Failure to respond to treatment
If a patient fails to respond to appropriate treatment, the following should be considered:
1. Poor adherence to prescribed treatment regimen – ‘steroid phobia’ is a well-recognised problem when treating skin conditions. Many healthcare professionals, including pharmacists, compound the issue by advising the patient to use steroids sparingly and not to use them on ‘sensitive areas’. This cautious approach can be detrimental to the patient’s treatment plan. The patient should be advised to apply the topical steroid in terms of the fingertip unit (a fingertip is from the very end of the finger to the first crease in the finger. It does not mean a blob on the fingertip). One or two fingertip units is usually required, but advice can be specifically tailored to the patient depending upon the affected surface area.27
2. Inaccurate placement of topical steroid – the patient may be applying the topical treatment to an unaffected area. This is especially common in elderly women who are unable to use a mirror to see what they are doing. In clinic, the exact location of application should be explained and diagrams, photographs or models can be used as an aid.
3. Continued exposure to irritants – urine or faeces, external products such as wipes or nonprescribed topical treatments, and overwashing with water can all contribute to continued irritation and symptoms.
4. Incorrect diagnosis – if adherence and skin care practices are assessed as adequate, the diagnosis given might be incorrect. Development of allergic contact dermatitis to topical treatments may have occurred or there may be premalignant or malignant change in the affected area. If there is any concern a biopsy should be taken.

Conclusion
Vulval skin conditions are common and generally easy to diagnose by an accurate history and examination. Sometimes, further investigations such as vulval swabs, patch tests and biopsies are needed. For patients with unusual clinical features, or who fail to respond to adequate therapy, an alternative diagnosis of pre-malignancy or malignancy should be considered. Complex, rare and treatment-resistant patients should be referred to a vulval service.

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Contribution to authorship
DN conceived the idea for the article, wrote the outline and coordinated the writing. All authors contributed to and approved the final version.

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