

Essentials of vulvovaginal dermatology

Correct terms and education can help normalize the conversation for patients

by MELISSA M. MAUSKAR, MD; HUNTER J. PYLE, BBA; AND AUDREY K. RUTHERFORD, MD

Recognizing and appropriately managing common vulvar conditions is essential to preserve patient quality of life and prevent irreversible architectural sequelae. Patients with vulvar dermatoses often report a significant delay from symptom onset to diagnosis. This delay is multifactorial and includes patient and provider reluctance to discuss vulvovaginal or other intimate symptoms. In addition, most women do not examine their vulvas.

Results of a study showed that only 15% of participants were able to correctly sketch vulvar anatomy, 67% had not heard of vulvar self-examination, and 61% approached their genitalia

with feelings of shame and embarrassment.¹ It is important that providers be comfortable initiating these conversations to prevent diagnostic delay and to give patients accurate information and timely treatment.

Lichenoid conditions

Using the correct terms allows providers to develop a wide differential diagnosis (**Figure 1**). An important concept in vulvovaginal dermatology is lichenoid eruption, a diverse group of inflammatory skin diseases sharing common morphology and/or histopathology. Distinguishing among the various lichenoid conditions of the genitalia, including vulvar lichen sclerosis (VLS), vulvovaginal lichen

planus (VLP), and vulvar lichen simplex chronicus (LSC), is important because optimal treatments vary. Although all 3 conditions may present primarily with pain or pruritus, features such as anatomic involvement, risk factors, and associations may differ. VLS and VLP are primary cutaneous disorders, whereas vulvar LSC is a secondary skin condition resulting from another underlying dermatosis, infection, or psychological or neurologic condition. VLS primarily affects external genitalia, whereas VLP may affect both the vulva and vagina.

Vulvar lichen sclerosis

VLS is a chronic, often progressive dermatologic condition that involves the anogenital region. The prevalence of VLS



MELISSA M. MAUSKAR, MD,

is an associate professor of dermatology and obstetrics and gynecology at UT Southwestern Medical Center in Dallas, Texas. She is the founder and director of the Gynecologic Dermatology clinic at UT Southwestern.



HUNTER J. PYLE,

is a fourth-year medical student at the UT Southwestern Medical Center in Dallas, Texas.



AUDREY K. RUTHERFORD, MD,

is a dermatologist who recently graduated from the dermatology residency program at UT Southwestern in Dallas, Texas. Her current practice is in Salt Lake City, Utah, where she treats women with vulvar dermatoses as well as practices general medical, surgical, and cosmetic dermatology.

is not well established, though it is likely an underrecognized and underman-aged condition. Results of large cohort study showed an estimated prevalence in the United States of 0.05%, with 79% of diagnoses in women between the ages of 45 and 65 years but 16% of diagnoses in women between the ages of 18 and 44 years.² Most patients present with vulvar pain, pruritus, or irritation, but patients may be asymptomatic. Patients eventually diagnosed with VLS may have yeast infections for years (**Figure 2-1**). Early detection of VLS is critical to preventing irreversible architectural sequelae and vulvar squamous cell carcinoma (SCC). Skin changes that may be evident upon vulvar inspection include white, atrophic papules that may coalesce into plaques, often affecting the labia minora or majora (**Figure 2-2, Figure 2-3**). Early VLS may have a nonspecific presentation, so a high degree of suspicion must be maintained. Varying degrees of architectural change may be present in later disease stages. It is important to note indurations and small erosions, which could be signs of SCC, even in younger patients. First-line treatment is early use of a superpotent topical corticosteroid with continued topical corticosteroid for maintenance therapy. Patient education emphasizing treatment adherence is critical. In a study that spanned 8 years, patients adherent to topical corticosteroid treatment did not develop SCC or precursor vulvar intraepithelial neoplasia (VIN), and adhesions and scarring developed in only 3% of patients.³ Reports of symptomatic control also were higher in adherent patients. In contrast, in patients only partially adherent with treatment, 5% developed SCC or VIN and 40% developed adhesions and scarring.³

FIGURE 1. Select Dermatology Terminology	
Macule	Small, nonpalpable lesion, < 1 cm, with color change from surrounding skin
Patch	Nonpalpable lesion, > 1 cm, with color change from surrounding skin
Papule	Palpable, discrete lesion < 1 cm
Plaque	Palpable, flat-topped lesion > 1 cm
Nodule	Palpable, discrete lesion 1-2 cm that may be solid or cystic
Tumor	Palpable, discrete lesion > 2 cm that may be solid or cystic
Vesicle	Small, > 1 cm, circumscribed skin papule with clear serous or hemorrhagic fluid; when deroofed, an erosion may be visible
Bulla	Larger, > 1 cm, circumscribed skin papule with clear serous or hemorrhagic fluid
Pustule	Small, circumscribed skin papule containing purulent (white or yellow) material
Purpura	Red-purple lesion that may be macular or palpable and does not blanch with pressure
Erosion	Superficial, focal loss of epidermis with intact dermis
Ulceration	Focal loss of epidermis and at least part of dermis
Lichenification	Dry, leathery thickening of skin with exaggeration of skin markings, secondary to chronic excoriation or rubbing
Labial adhesion	Complete or partial fusion of labia majora or minora (eg, agglutination)
Tissue paper changes	Thin, wrinkled, white skin
Vaginal obliteration	Closure of the vagina
Fissure	Thin, deep, linear skin split extending into dermis
Target lesions	Typical target: round lesion with 3 concentric color zones; targetoid lesion: targetlike in appearance, but with 2 concentric color zones

Figure provided by author

Vulvovaginal lichen planus

VLP is an inflammatory condition and subtype of lichen planus (LP) that most commonly affects women between 50 and 60 years of age.^{4,5} Although the incidence and prevalence of VLP is unknown, most women with LP have

genital lesions.⁶ Most frequently, patients will present with soreness, pruritus, or genital burning. Skin changes depend on the type of VLP and may involve erosions (**Figure 2-4**), papules, or hypertrophic lesions that appear roughened or thickened. Erosive LP



FIGURE 2. Vulvar Dermatoses, Clinical Images FIGURE 2-1: Typical hypopigmented tissue paper wrinkling in a patient with vulvar lichen sclerosis. FIGURE 2-2: Introitus erosions with surrounding lacy/reticular border in a patient with erosive vulvovaginal lichen planus. FIGURE 2-3: Hypopigmented macules in a patient with vulvar lichen sclerosis. (Figures provided by author)

may result in tissue destruction with resulting dysuria and dyspareunia, and it may also affect oral mucosa with erosions, lacelike white lines, and scarring, a helpful diagnostic clue for patients with less obvious vulvovaginal findings. Vaginal involvement is common in VLP, distinguishing it from VLS.⁷ There is high risk for vulvovaginal adhesions in these patients. Treatment with superpotent topical corticosteroid in the first line leads to symptom relief or resolution in many patients. A multimodal treatment strategy may be required: Thirty-seven percent of patients require multiple agents to control symptoms and disease progression.⁸ Systemic treatment options include methotrexate, mycophenolate

mofetil, acitretin, or others; there is no clear consensus for first-line systemic treatment. Dilators and vaginal hydrocortisone are helpful in prevention and management of vaginal adhesions and scarring.⁹ Patients with VLP also may develop pelvic floor dysfunction and chronic vulvodynia, even upon disease control, due to nerve sensitization.

Allergic and irritant contact dermatitis of the vulva

Allergic and irritant contact dermatitis (ACD/ICD) frequently occur concomitantly with other vulvar conditions as preexisting dermatosis impairs skin barrier function. In patients with vulvar ACD, the most common concomitant vulvar diagnoses are VLS followed by

LSC.¹⁰ This may complicate the clinical picture and lead to diagnostic and management delays. Therefore, vulvar ACD/ICD should be considered when patients with vulvar disease are not improving with standard treatment.

Vulvar ICD may occur acutely or, more commonly, chronically. Symptoms in vulvar ACD may become apparent 1 to 2 days after allergen exposure, but commonly the exposure is unrecognized and may only slowly produce symptoms and eruption. This frequently leads to difficulty in identifying the culprit allergen. Patients with ACD/ICD often present with nonspecific vulvar pruritus or burning. Skin changes in vulvar ACD/ICD are similar and include erythema, edema, vesicles, bullae, and oozing.

FIGURE 2-4



FIGURE 2-5



FIGURE 2-4: Pustules on an erythematous base in a patient with vulvovaginal candidiasis. **FIGURE 2-5:** Erythematous thickened, corrugated plaques with accentuation of skin markings on the labia majora and inguinal folds characteristic of lichenification found in lichen simplex chronicus. There is also a thin white scale on the left inguinal fold. (Figures provided by author)

Thus, clinical differentiation of vulvar ACD/ICD is not reliable. The diagnosis of vulvar ICD is based on history and establishment of a potential irritant, whereas vulvar ACD may be established with patch testing.

Patients with vulvovaginal symptoms have often tried various topicals for symptom resolution before seeking medical attention. Common vulvar irritants include body fluids, hygiene or personal care products, heat, excessive

bathing, medications, soaps, and detergents.¹¹ The most commonly identified allergens in ACD are fragrances, preservatives, and medications including neomycin and topical anesthetics.^{10,12,13} Patients may have an allergy to topical corticosteroids,^{10,14} which are an important first-line treatment for many vulvar dermatoses (**Figure 3**¹⁵). ACD/ICD treatment includes discontinuing potential irritants and allergens, using petroleum on erosions, and educating

patients. Patients should be counseled on the importance of cleaning the vulva with lukewarm water without harsh or fragranced soaps, cleansers, or detergents, and using sitz baths for additional symptomatic relief. Topical corticosteroid ointments may be used in severe or chronic disease, and antihistamines may be used for pruritus. Patients may benefit from a dermatology referral for patch testing to identify possible culprit allergens, which is a more appropriate testing modality to identify contact allergens than the skin prick test commonly performed by allergist physicians.

Lichen simplex chronicus

LSC is a reactive skin disorder secondary to chronic skin rubbing or scratching, often in response to persistent pruritus or irritation, regardless of primary problem. It results in secondary changes of skin including thickening and lichenification (**Figure 2-5**), with a moderately well-defined scaly plaque. Patients with other vulvar dermatoses often develop LSC in response to chronic scratching. Patients with LSC can pose a diagnostic challenge as primary skin conditions cannot be appropriately diagnosed until there is improvement in LSC symptoms and cutaneous changes. LSC is typically a clinical diagnosis, and management centers on disrupting the itch-scratch cycle, in which pruritus leads to scratching, which perpetuates and worsens inflammation. First-line medical treatment often includes a short course of medium-potency topical corticosteroid to promote active lesion resolution. Upon treatment of LSC, an underlying primary vulvovaginal dermatosis may be more readily identifiable and addressed.

FIGURE 3. Topical Corticosteroid Pearls¹⁵

- 1 Steroid absorption varies by location on vulva. Steroid-resistant areas include glabrous skin of clitoral hood, clitoris, interlabial folds, labia minora, vestibule, and perineum. Steroid-sensitive areas includes labia majora and perianal regions.
- 2 Demonstrate and emphasize appropriate placement of topical steroids with patients. Apparent ineffectiveness may be the result of misapplication or insufficient patient education.
- 3 Topical steroids are safe when used correctly. Long-term inappropriate use may lead to atrophy, neovascularization, hypertrichosis, or steroid acne.
- 4 It is important to note that patients with vulvovaginal dermatologic conditions often require high- or super-high potency topical steroids for extended periods of time. These patients can safely use these products due to their conditions, and providers should emphasize the safety of using these products longer-term if appropriately followed by a knowledgeable provider.
- 5 Systemic absorption of topical corticosteroids is uncommon.
- 6 Corticosteroid ointments are stronger and generally better tolerated by patients.
- 7 Based on appropriate use of less than a pea-sized or lentil-sized amount of topical medication to the anogenital area, appropriate prescription sizes include: 15 g for an approximate 3-month supply and 30 g for an approximate 6-month supply.
- 8 Counsel patients that it is not necessary to reapply the steroid after using the toilet. If the patient desires to use a topical product after toileting, plain petroleum jelly and zinc oxide barrier paste are safe alternatives.
- 9 Tell patients that if topical steroid has been rubbed in well, it is absorbed after approximately 30 minutes.
- 10 Exercise caution when prescribing combination antifungal and topical steroids.

Genitourinary syndrome of menopause

Genitourinary syndrome of menopause (GSM), formerly called vulvovaginal atrophy or atrophic vaginitis, refers to a collection of signs and symptoms that occur in menopausal women secondary to decreased stimulation of estrogen-sensitive tissues, including the vulva, vagina, urethra, and bladder. GSM is very common. In fact, vulvovaginal symptoms occur in 39% to 51% of postmenopausal women, with the majority having moderate to severe symptoms,

and one-third stopping sexual activity because of their symptoms.¹⁶ Unfortunately, many women do not recognize vulvovaginal atrophy and are reluctant to discuss vaginal or sexual symptoms with health care professionals.¹⁶ Most women with GSM believe that their vaginal symptoms are a normal part of aging.¹⁶ Symptoms seen in GSM include genital dryness, discomfort, burning, dyspareunia, dysuria, urinary incontinence, and recurrent urinary tract infections. Physical changes may include a vaginal epithelium that is a

FIGURE 4. Intake Questionnaire, Select Example Questions²⁰

- 1 What is your vagina/vulvar diagnosis, if it is known?
- 2 When did the problem first begin?
- 3 What are your vaginal/vulvar symptoms (itching, burning, rawness, pain with sexual activity, etc)?
- 4 If you are itchy, is this an itch that makes you want to rub and scratch? If you rub or scratch, does this feel good at first?
- 5 Has this been a constant problem?
- 6 Do you ever have pain/burning/rawness or soreness when nothing is touching or has recently touched the area?
- 7 Have you noticed anything that worsens this problem? If yes, what?
- 8 Do symptoms interfere with your sleep?
- 9 If you are sexually active, do you have pain with intercourse or sexual activities?

paler pink hue with decreased rugation, diminished pubic hair, decreased turgor and elasticity of the vulva, and minimization of the labia minora. GSM is a clinical diagnosis. Women have a strong desire for health care professionals to initiate conversations regarding GSM.¹⁶ First-line treatment includes vaginal moisturizers, personal lubricants, and low-dose vaginal estrogen. Of note, multiple studies have shown no increase in risk of cardiovascular disease or cancer with low-dose vaginal estrogen use.^{17,18} In addition, low-dose vaginal estrogen has minimal systemic absorption and

does not increase plasma estradiol to premenopausal levels, study results show.¹⁹ In cases of advanced symptoms, pelvic physical therapy may be beneficial, particularly for urinary incontinence and dyspareunia.

Talking to a patient about vulvovaginal concerns

Before the clinic visit, intake questionnaires provide the patient with space to answer sensitive questions (**Figure 4**²⁰). During evaluation, review the patient's hygienic practices and product usage. Patients should be asked whether they engage in a vulvar washing or cleaning practice. In our society, where patients unfortunately are taught that their vulvas are unclean, patients may believe that symptom resolution is only a matter of washing more thoroughly or vigorously. Such aggressive cleaning can lead to recalcitrant vulvar disease. Also note any products that patients may be using after toileting, such as wet wipes, that could lead to vulvar ACD/ICD. In reviewing medication and product usage, document the location of genital application. This can be completed during the exam with direct patient demonstrations by having the patient apply plain petroleum jelly to herself as if it were medication. Frequently patients do not directly visualize where they are applying products or are using inappropriate amounts of topical therapies, which may lead to inadequate undertreatment of some locations or inappropriate overtreatment of others.



FIGURE 5. Annotated patient photograph (Figure provided by author)

Prior to physical examination, have a chaperone or assistant enter the room and obtain patient verbal consent. Patient communication before and during examination increases participation and facilitates patient control and autonomy. For new patients or those with notable vaginal discharge, obtain wet and KOH preps to assess for infection and diagnostic clues (such as parabasal cells in GSM). Using a hand mirror allows patients to see where medication should be applied. The patient's position on the examination table is crucial to optimize their viewing of medication application. The patient may use petroleum jelly at this point to demonstrate how they apply

medication, which provides another opportunity for redirection or educational intervention if application is incorrect.

A vulvar biopsy may be needed to diagnose conditions when the clinical diagnosis is uncertain. Biopsy type depends on clinical impression. Shave biopsy may be used for suspected VLS or VLP, whereas punch biopsy should always be used for ulcerations or suspected malignancy. Get a biopsy for suspected VLS in the crinkly area, suspected VLP at the edge of defect such that normal skin is included, and suspected malignancy in the center or border of the lesion.

During the management portion of the clinic visit, patient handouts and literature reinforce information covered during the clinic visit, and a photograph of the patient's genital area may be obtained and annotated for patient medical or personal records after patient consent. Reviewing this photograph with the patient allows them to clearly see affected areas and visualize where topical medications should be applied. The photograph may be annotated to specify the location, amount, and frequency of topical medication application (**Figure 5**). After the clinic visit, give the patient this annotated photograph to take home to use as a guide for treatment application. At future clinic visits, this initial photograph may be reviewed to demonstrate clinical improvement or changes, and a new photograph may be taken and annotated to help communicate any necessary adjustments to areas of topical application.

At subsequent visits, the differential should be revisited, especially if the patient is not improving, as treatment failure may be the result of missed diagnoses. A patient may have more than 1 condition concurrently affecting the vulva and vagina, which may be causal or only associated with one another. It is equally important to rediscuss exposures, hygiene, and medications, as patient habits may evolve and complicate conditions or be misinterpreted as flares of primary processes when instead they represent a new secondary or concomitant process, such as development of new ICD. ■

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- Appropriate descriptions of cutaneous vulvovaginal findings are essential for accurate diagnosis.
- The most common vulvovaginal dermatologic conditions include vulvar lichen sclerosis, vulvovaginal lichen planus, allergic and irritant contact dermatitis, genitourinary syndrome of menopause, and secondary cutaneous change of lichen simplex chronicus.
- In obtaining patients' vulvovaginal histories, strive to understand everything that the patient is doing at home and normalize the conversation with the patient.
- When managing vulvovaginal disease, emphasize patient education and demonstrations, and consider using photographs.
- Vulvovaginal disease is multifactorial in etiology and manifestations. Appropriate referrals to dermatology, urology, psychology, and pelvic floor rehabilitation are important. Advise patients that purposefully being treated with a multidisciplinary strategy allows for optimal healing.

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