National Vulvodynia Association

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Vulvodynia: Definitions, Diagnosis and Management A State-of-the-Art Consensus

Adapted from an article by Gloria Bachmann, MD, Raymond Rosen, MD, Vivian Pinn, MD, Wulf Utian, MD, PhD, et al

In October 2004, a multidisciplinary group of vulvodynia experts convened in conjunction with the 3rd meeting of the International Society for Women's Sexual Health. This important conference was co-chaired by Dr. Vivian Pinn, director of the NIH Office of Research on Women's Health, and Dr. Wulf Utian, founding President of the North American Menopause Society. Program co-chairs were Dr. Gloria Bachmann and Dr. Raymond Rosen, both of Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey.

The primary goal of the conference was to critically assess current research on vulvodynia and related syndromes and create a consensus paper with recommendations for future basic science and clinical research. The conference addressed broad areas, including the definition of vulvodynia, diagnosis and work-up of the patient with vulvodynia, disease progression, clinical management, comorbid conditions, and research needs. (The proceedings were summarized in the Spring 2005 issue of *NVA News*.) In preparation for the consensus paper, a 22-member panel of vulvodynia research investigators, as well as NIH and NVA representatives, reviewed (i) guidelines and publications from professional organizations; (ii) research findings of NIH-funded studies presented at the conference; and (iii) the recent peer-reviewed literature on vulvodynia. The panel's major focus was topics or concerns deemed priority areas for future investigation. The final consensus document titled, *Vulvodynia: A state-of-the-art consensus on definitions, diagnosis and management*, appeared in the June 2006 issue of the *Journal of Reproductive Medicine*. The following article is an adaptation of the consensus document.

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Dermatologic Diseases of the Vulva

By Andrew Goldstein, MD, FACOG

Dr. Goldstein is the director of the Centers for Vulvovaginal Disorders in Washington, DC, New York City, and Annapolis, Maryland. He is also an instructor in the division of gynecologic specialties in the Department of Obstetrics and Gynecology at Johns Hopkins School of Medicine.

The International Society for the Study of Vulvovaginal Disease (ISSVD) defines vulvodynia as chronic vulvar discomfort or pain, characterized by burning, stinging, irritation or rawness of the female genitalia in the absence of infection or identifiable disease of the vulva or vagina. Therefore, before a woman is given the diagnosis of vulvodynia, it is extremely important that her health care provider rules out several different dermatoses (skin diseases) that can affect the vulva and vagina. Most gynecologists receive very little training in the diagnosis and treatment of dermatologic diseases of the vulva, and many dermatologists feel uncomfortable or lack the equipment to perform a thorough

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Background

Vulvodynia is a chronic disorder in women, characterized by provoked or constant vulvar pain of varying intensity, without an obvious concomitant clinical pathology. Two subsets of vulvodynia are recognized: a generalized pain subtype and a localized pain subtype, the latter currently referred to as vestibulodynia or Vulvar Vestibulitis Syndrome. Vulvodynia has been shown to affect from 8 percent to 16 percent of adult women in the US, at some point during their lives.[1] In addition to vulvar pain, there is typically burning and less often, itching. Pathological findings include those of chronic inflammation (thought to be due to up-regulation of local mast-cells), proliferation of local pain fibers (indicating up-regulation of the local pain system) and contraction of the levator ani muscle in response to the pain (indicating up-regulation of pelvic muscle tone). Despite the high prevalence and significant burden of distress associated with this disorder, few large-scale surveys of vulvodynia have been conducted and laboratory models of the disorder are lacking.

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Diagnosis and Work-up

In 1987, Friedrich proposed the following specific diagnostic criteria for Vulvar Vestibulitis Syndrome: vulvar erythema (redness) of varying degrees, pain on vestibular touch or vaginal entry, and tenderness upon localized vestibular pressure. The evaluation and diagnosis of vulvodynia changed little over the ensuing two decades and it has remained largely a diagnosis of exclusion. Recent investigators have emphasized the need to clarify the definition of vulvodynia and its subsets and to establish criteria for a standardized work-up.

Clinicians usually suspect a diagnosis of vulvodynia after treatment for vulvovaginal inflammatory and infectious etiologies have failed. Prior to an initial diagnosis, clinicians record a detailed history of the pain, perform a pelvic examination and, in some instances, do a vaginal wet prep and culture. When treatment for an infectious or inflammatory etiology fails, however, it appears that few clinicians proceed with a careful vulvar examination and pain mapping of the vestibule. This essential "pain map" recording should include an examination of the vulva, perineal area and inner thighs. Bilateral tenderness and trigger points at the insertion of the levator ani on the spine, suggestive of a referred myalgic component of the vulvar pain and a key contributor to the associated dyspareunia (painful sexual intercourse), should be elicited. This trigger point finding suggests the possibility of a referred component of vulvar pain and indicates the necessity for a routine examination of pelvic floor tone. Spontaneous or elicited pain in the lower third of the anterior vaginal wall also should be part of the pelvic examination, since it may be associated with bladder-related comorbidities (urethralgia, post-coital cystitis, interstitial cystitis) reported in up to one-third of vulvodynia patients.[2]

The standard method for vulvar pain mapping uses a cotton-tipped applicator. Systematically, the examiner applies pressure to various parts of the vulva to

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assess the extent and character of the pain, and to quantify the amount of pressure required to provoke pain.[3] The patient typically rates the sensation on a nominal pain scale, such as one (minimal pain) to three (mild pain) to five (maximum pain). However, this common test has limited utility, because the outcome depends upon both the clinician's skill and consistency and the patient's subjective rating of the pain. Recent investigators have proposed the use of a more standardized measure of pressure-evoking pain, an algesiometer or vulvalgesiometer, a simple mechanical device allowing more precise measurement of pressure applied to the vulva.[4,5]

In addition to systematically testing pain in the vulva, a simple set of questions can aid the clinician in the assessment of pain and the patient's reaction to it. These questions are as follows: "*Where* do you feel pain?" (to record an accurate pain map), "*When* do you feel pain?" (to differentiate spontaneous versus provoked vulvodynia), "What are your thoughts when you feel the pain?," and "What are the associated problems or symptoms you experience?" The responses to these questions can help the clinician substantiate the nature of the woman's pain complaint and affirm the woman's subjective assessment of her condition. This latter objective may be especially important for both the woman herself, *and* for the couple, particularly in cases where there have been inaccurate diagnoses of the vulvodynia symptoms for months or years.

The panel had several recommendations regarding assessment:

1. *Specific education on the diagnosis and treatment of vulvodynia should be offered during both medical school and residency training programs that focus on women's health.* The panel felt that clinicians who treat women should have direct training in assessment of vulvodynia, so that diagnosis is not delayed. Many women are told erroneously that they have an infectious vaginitis, which may or may not be present, and are treated for extended periods with unnecessary and ineffective medications.

2. *Evidence-based guidelines for assessment should be developed.*

A standardized medical assessment, including past and current medical, sexual, psychological, and surgical issues, as well as a detailed, structured physical exam, should be developed. Certain questions, such as whether or not the woman can use tampons and/or wear tight undergarments or trousers without discomfort, appear helpful in making the diagnosis. Vulvar burning after intercourse attempts, the presence of post-coital dysuria (painful urination), and vulvar burning from a male partner's ejaculate are other typical symptoms that women with vulvodynia may experience.

The panel noted that standard pelvic examination guidelines for evaluation of women with chronic vulvar pain are not available and that protocols outlining how the genitalia and pelvic floor should be optimally assessed need to be developed. Future research should determine the utility of the following procedures in diagnosing vulvodynia and assessing the patient's response to treatment: colposcopy (use of a lighted magnifying instrument to examine the vagina and cervix), vulvoscopy[6], wet-prep of vaginal secretions, vaginal culture, yeast sub-typing, bacterial markers, pH evaluation, and cytology (cell) markers.[7] The clinical advantages of vulvalgesiometer versus cotton swab testing, pain threshold testing, and the use of graphic representation to map areas of allodynia, should also be evaluated. Additionally, the possible role of comprehensive neurological evaluation and immune function assessment should be investigated.

Some panelists felt that, for study purposes, a vestibular biopsy was useful in determining the subtype of vulvodynia, since an inflammatory component with up-regulation of the mast cells (specialized cells involved in allergic reactions) has been histologically documented with immunotryptase staining.[8] Biopsy also has been reported to demonstrate the proliferation (up to 10 times) and more superficial location of pain fibers in vestibular specimens of VVS patients.[8,9] This proliferation, likely induced by the nerve growth factor (NGF) produced by the up-regulated mast cells, and the superficial location of pain fibers may be responsible for the symptoms of hyperalgesia (lowered threshold to pain) and allodynia (pain produced by non-painful stimulation), respectively.[10] These histologic (tissue) findings support the hypothesis that VVS is an expression of hyper-regulation of local immune and pain systems that may be induced in

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susceptible individuals by a variety of etiologies. Performing biopsies may help to differentiate women with an inflammatory (not necessarily infectious) etiology of pain from those with a neurogenic (originating in the nervous system) or other etiology, although current criteria for this differentiation is lacking.

Need to Expand Research

With 8 percent to 16 percent of US women experiencing chronic vulvar pain at some point in their adult lives (only 70 percent of whom consult a clinician), there is a need to add more well-controlled, epidemiological studies and clinical trials directed to this medical condition. Because of the scant data available, important information on incidence and etiology is lacking.

Limited investigation of vulvodynia may be attributed to the following three reasons: (i) the condition was unrecognized for years; (ii) there has been a lack of consensus on terminology and diagnosis of the condition in the medical literature; and (iii) many clinicians have not recognized vulvodynia as a legitimate, medical disorder. Therefore, funding for vulvodynia research has been virtually non-existent until recently.

In 1998, the National Institutes of Health recognized the need for research in this field and issued an invitation for grant applications to study the prevalence, pathology, diagnosis and treatment of vulvodynia. Since that time, investigators at seven academic institutions have been awarded NIH funding to examine the epidemiologic, pathologic, and treatment aspects of vulvodynia. The recipient institutions include Robert Wood Johnson Medical School-UMDNJ (epidemiology, therapeutic interventions), Harvard University (epidemiologic studies), Yale University (cognitive behavior therapy intervention), University of Rochester (lidocaine and desipramine clinical trials), University of Michigan (neuroimmunology and sensory processing), Johns Hopkins University (underlying pathophysiological mechanisms) and University of Iowa (bowel and bladder comorbidity).

Current basic research suggests that certain genetic variations are associated with specific subsets of women with Vulvar Vestibulitis Syndrome (VVS), with clusters of these genetic variations expressed differently among various races and ethnicities. For example, data suggest that American and Swedish VVS patients have a higher rate of carrying a variant of the mannose binding lectin (MBL) gene than controls.[11] Increased duration, severity and frequency of infection have been observed in patients with this MBL gene variant, including an increased susceptibility to candidal infection of the genital tract and a reduced capacity to inhibit proliferation of candida. Steven Witkin, MD, of Cornell University's Weill Medical College, found that women with VVS had an increased prevalence of specific polymorphisms (variations) in genes coding for the interleukin-1 receptor antagonist (IL-1ra) and interleukin-1(IL-1) compared to pain-free controls, and that these variations are associated with susceptibility to inflammation and prolong the pro-inflammatory response.[12] Both of these findings indicate that specific subsets of women with VVS are genetically more susceptible to vulvovaginal infection and/or inflammation and may respond with an exaggerated inflammatory reaction. Data from studies by David Foster, MD, of the University of Rochester Medical Center, complement these findings. Foster reported that genetic polymorphisms of the Melanocortin-1 receptor (MC1r) and IL-1ra may interact to enhance the inflammatory and pain response in VVS[13]. Of 36 VVS patients and 69 pain-free controls studied, the combined presence of the allele 2 IL-1ra gene polymorphism and at least one of six MC1r polymorphisms resulted in an eight-fold additive risk of having VVS. Based on the MCIr polymorphisms, women with fair skin and red hair have an increased risk of VVS. This research finding suggests that Melanocortin analogues may have potential preventive and treatment indications in the future.

Dr. Barbara Reed, of the University of Michigan Medical School, also presented data supporting immunologic alterations in women with VVS. Fifty-two VVS subjects exhibited increased levels of stimulated nerve growth factor (NGF) compared to their matched controls. This finding might explain the increased branching of distal nerve fibers noted in VVS patients.

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In Memory and Appreciation of Dr. John M. Gibbons, Jr.

The NVA is saddened by the loss of women's health pioneer and our medical advisory board member Dr. John M. Gibbons. In his esteemed career, Dr. Gibbons served as the 54th President of the American College of Obstetricians and Gynecologists, and as long-time chair of the department of obstetrics and gynecology at St. Francis Hospital in Hartford, Connecticut. He was a professor of obstetrics and gynecology at the University of Connecticut School of Medicine and treated patients in his private practice until shortly before his death from cancer on July 22nd 2006. Dr. Gibbons was known in the Hartford community as a pioneer in maternal and fetal medicine and as an innovator in handling high-risk obstetrics. He joined the St. Francis Hospital and Medical Center staff in 1970, serving as the first full-time chair of ob-gyn for more than 20 years. His exceptional dedication to the hospital was recognized in 1996 when the new labor and delivery suite was named the John M. Gibbons Pavilion.

Dr. Gibbons recognized the importance of medical school recruitment and of mentoring young physicians. In his honor, the American College of Obstetricians and Gynecologists (ACOG) created *The John Gibbons Medical Student Award* which encourages medical students to choose ob-gyn as their specialty. In recent years, he became a leading proponent of physician education in the diagnosis and treatment of vulvodynia, and was instrumental in establishing an ongoing collaborative relationship between the National Vulvodynia Association and ACOG. A committed and vocal advocate of increased federal funding for vulvodynia research, Dr. Gibbons gave an illuminating and persuasive presentation at a Capitol Hill briefing in June 2005. Subsequently, the US House of Representatives joined the US Senate in urging the National Institutes of Health to increase funding of vulvodynia research. In 2006, Dr. Gibbons continued to advocate for women with vulvodynia and served as an advisor to the NVA. He also lectured on the condition at educational seminars at St. Francis Medical Center. Dr. Gibbons was a compassionate, caring physician and will be greatly missed by his patients and all of us at NVA. We extend our heartfelt condolences to John's wife, Mary Peyser Gibbons, and to their five children and twelve grandchildren. ■

Dermatologic

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exam of the vulva, vagina and anus. As a result, women with dermatologic diseases of the urogenital area are frequently caught in a medical "no-woman's land."

The purpose of this article is to describe briefly the four most common dermatologic diseases of the vulva (and vagina) in an effort to assist you, and possibly your health care provider, in determining whether one of these diseases is the cause of your vulvar discomfort. Although there are other rare skin disorders that affect the vulva, this discussion focuses on the four most common vulvar dermatoses: irritant (and allergic) contact dermatitis, lichen sclerosus (LS), lichen planus (LP), and lichen simplex chronicus (LSC). Before we begin, however, it is essential to recognize that even though the names of these diseases are similar, they are separate, distinct diseases, and to avoid confusion, it is important to remember the *entire* name of each condition. Secondly, we need to discuss the body's immune system because it plays a central role in three of the four skin disorders.

Immune System

The immune system protects the body from potentially harmful substances, i.e., antigens such as microorganisms, toxins, and foreign blood or tissue from another person. Antigens are destroyed by the immune response, which includes the production of antibodies (molecules that attach to the antigen and make it more susceptible to destruction) and sensitized lymphocytes (specialized white blood cells that recognize and destroy particular antigens). An *autoimmune* disorder develops when the immune system destroys healthy body tissue.

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Findings from these studies support the need for basic research in helping to identify genetic, immunologic and infectious variations that influence susceptibility to vulvodynia in, as yet, undefined subsets of women.

The panel considered several other specific issues, including vulvodynia's role in predisposing a woman to sexual dysfunction. An important question is whether dyspareunia is a core symptom that can precede, be concomitant to, or consequent to, vulvodynia. Also, does the identification of a primary, lifelong sexual dysfunction associated with vulvodynia identify a subset of women/couples deserving specific psychosexual support?

The role of co-factors in vulvodynia, such as a primary hyperactive pelvic floor (alerting symptom is difficulty with tampon use), fear of sexual penetration and the use of hormonal contraception (especially from an early age) should be explored. Specifically, in the case of hormonal contraception, "Do women reporting vaginal dryness during low-dose oral contraception use have an increased vulnerability to vulvodynia?" Assuming certain co-factors are confirmed, "Would early interventions such as teaching a woman how to relax the pelvic floor[13] and/or prescribing hormonal contraception with higher ethinyl estradiol content (e.g., 30mcg)[14] reduce the vulnerability to dyspareunia and vulvodynia?

Since many vulvodynia patients may be exposed to several treatment cycles with an anti-infectious agent, there is a need for data on the effects of repeated antibiotic and antifungal courses of treatment, especially in the subset of women reporting comorbidity with recurrent cystitis/irritative bladder symptoms. Relevant to this issue, it appears that recurrent candida infection may be a precursor to vulvodynia. More than 58 percent of vulvodynia patients have a history of positive swabs for candida compared to the 5 percent to 8 percent prevalence rate in the general population.[15]

Lastly, what are the common pathophysiologic pathways behind medical comorbidities that appear to be more prevalent in women with vulvodynia? The panel made the following recommendations regarding future research:

1. *Investigate the biological and genetic basis of vulvodynia*. Investigation into the biological and genetic basis of vulvodynia is needed. There may be genetic linkages with other well-known pain disorders in women, e.g., fibromyalgia, and further research in this area may help to elucidate the pathophysiology of the disorder.
2. *Increase the number of clinical trials*. Multicenter, randomized clinical trials with defined outcomes, using assessment instruments with reproducible outcome measures, should be conducted. Randomized clinical trials and observational studies should address the role of non-pharmacological and self-management approaches, as well as medical and surgical interventions for vulvodynia. Multi-center trials are feasible given the presence of approximately 20 clinical sites in North America that have participated in clinical studies and have clinical and/or research expertise in this area. In addition, the immunologic, genetic or other biochemical markers in women with vulvodynia should be further studied and compared to treatment response. Also advocated were qualitative studies, e.g., focus groups and surveys, to obtain clinical impressions and subjective data, with an emphasis on how subjective data can be combined with objective or laboratory-based results.
3. *Establish a vulvodynia registry*. Outcome data from multi-center randomized clinical trials and long-term registry studies are needed. A registry study should be developed that includes baseline and follow-up data from multiple practice settings. Such a registry study might evaluate outcomes associated with first- and second-line interventions, long-term care, education and prevention initiatives, and the progression and natural history of the condition.
4. *Establish a national vulvodynia referral network*. It is important to establish a national network that can refer vulvodynia patients to medical practitioners who are using set protocols, pooling their outcome data and working with health insurance agencies. Many women are challenged trying to find health care providers familiar with the diagnosis and treatment of vulvodynia. A national, or ideally an international, registry of health care providers interested in treating this patient population is needed. These practitioners should be willing to monitor responses to interventions, collect and pool outcome data, and most of all, follow vulvodynia patients longitudinally and prospectively.

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Congress Directs NIH to Fund Research

This past summer, both the US House of Representatives and US Senate introduced appropriations bills recommending that $28.5 billion dollars be allocated to the National Institutes of Health (NIH) in fiscal year 2007. The Senate's appropriations reports have included language directing NIH to fund vulvodynia research since the late 1990s. However, this is the *very first year* that the House has also included vulvodynia language in its NIH appropriations report!

The vulvodynia language in the Senate FY 2007 report is directed at the Office of the NIH Director, the National Institute of Child Health and Human Development (NICHD), and the National Institute of Neurologic Disorders and Stroke (NINDS). The following is the complete language on vulvodynia contained in the Senate's report.

Office of the Director

In recent years, NIH has supported two important research conferences on vulvodynia, as well as the first prevalence study and clinical trial on the disorder. These efforts have both clearly demonstrated the need for substantial additional research and served to heighten the research community's level of interest in studying vulvodynia. The Committee calls upon the Director to build upon these initial successes by coordinating through the Office of Research on Women's Health (ORWH) an expanded, collaborative extramural and intramural research effort into the causes of, and treatments for, vulvodynia. This expanded effort should involve ORWH, NICHD, NINDS and other relevant Institutes, as well as the NIH Pain Consortium. The Committee commends ORWH for initiating a dialogue with the National Vulvodynia Association to determine the best approach for launching an educational outreach campaign on vulvodynia, as the Committee requested last year. ORWH is encouraged to implement this effort with the help of other relevant Institutes and women's health offices in governmental agencies including Health and Human Services, the Food and Drug Administration, Health Resources and Services Administration, and Center for Disease Control. Finally, the Committee encourages the Director to work with the Center for Scientific Review and the Institutes to ensure that experts in vulvodynia, and related chronic pain and female reproductive system conditions, are adequately represented on peer review panels.

National Institute of Child Health and Human Development

As a result of efforts funded by the NICHD, the number of highly qualified scientists interested in researching vulvodynia has greatly increased. The Committee commends NICHD for reissuing its Program Announcement in this area and recommends that a Request for Applications be issued. The Committee strongly urges NICHD to increase the number of awards for vulvodynia studies, with a particular emphasis on etiology and multi-center therapeutic trials. Finally, the Committee calls upon NICHD to work with ORWH and other relevant Institutes and Government agencies, as well as patient and professional organizations, to implement an educational outreach campaign on vulvodynia.

National Institute of Neurologic Disorders and Stroke

NIH-supported research indicates that millions of women suffer from chronic pelvic and genitourinary pain conditions such as vulvodynia. Therefore, the Committee calls upon the NINDS, in coordination with the NICHD, ORWH, the NIH Pain Consortium and other Institutes, to expand its support of research in this area, with a focus on etiology and multi-center therapeutic trials. The Committee also calls on NINDS to work with ORWH and other relevant Institutes and government agencies, as well as patient and professional organizations, to implement an educational outreach campaign on vulvodynia. ■

NVA Launches Online Resource Center

NVA has completely revised its website to add an exciting new feature. Go to www.nva.org and visit our Online Resource Center to gain immediate access to NVA's materials. Our 24-page self-help guide, containing treatment information and coping strategies, is available at no charge to current members. All 34 back issues of the newsletter are available online for a $55 fee. Current NVA members will need a user-name and password to access the Resource Center. Contact Gigi Brecheen at gigi@nva.org or 301-949-5114 to set up an account. ■

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Conclusion

Vulvodynia is an understudied condition in women. In particular, evidence-based guidelines are needed to define, diagnose and treat this common disorder. Specific issues to be addressed include standardization of definition, requirements for diagnosis and the selection of outcome measures for clinical and research practice.

Of utmost importance, there should be an increase in the number of Requests for Applications for collaborative research projects with strict inclusion criteria. These projects should ideally focus on the etiology, pathophysiologic mechanisms, risk factors and comorbidities associated with vulvodynia. Treatment interventions should also be systematically evaluated in randomized, prospective clinical trials, particularly multi-center trials where possible. Vulvodynia studies should be designed to determine the predictors of response to treatment and answer questions as to whether genetic, epidemiological, infectious, pelvic floor hyperactivity and/or psychosocial factors are predictive of treatment outcome.

It is anticipated that significant advances will occur in this field in the next several years, as the results of ongoing studies become available and greater clinical experience with the disorder is developed. Hopefully these studies will not only provide some immediate answers to management issues, but contribute to the direction of future research.

Footnotes:

1. Harlow BL, Stewart EG. A population-based assessment of chronic unexplained vulvar pain: Have we underestimated the prevalence of vulvodynia ? *J Am Med Women's Assoc* 2003;58:82-88.
2. Wesselman U, Burnett AL, Heinberg LJ. The urogenital and rectal pain syndromes. *Pain* 1997;73:269-294.
3. Bergeron S, Binik YM, Khalife S, et al: Vulvar vestibulitis syndrome: Reliability of diagnosis and evaluation of current diagnostic criteria. *Obstet Gynecol* 2001; 98:45-51.
4. Pukall CF, Binik YM, Khalife S, Amsel R, Abbott FV. Vestibular tactile and pain thresholds in women with vulvar vestibulitis syndrome. *Pain* 2002;96: 163-175.
5. Curnow JS, Barron L, Morrison G, Sergeant P. Vulval algesiometer. *Med Biol Eng Comput* 1996; 34:266-9.
6. Reid R, Greenberg MD, Daoud Y, Hussain M, Selvaggi S, Wilkinson E. Colposcopic findings in women with vulvar pain syndromes. A preliminary report. *J Reprod Med* 1988; 33(6):523-32.
7. Tchoudomirova K, Mardh PA, Hellberg D. Vaginal microbiological flora, and behavioral and clinical findings in women with vulvar pain. *BJOG* 2001;108(5):451-5.
8. Bornstein J, Goldschmid N, Sabo E. Hyperinnervation and mast cell activation may be used as histopathologic diagnostic criteria for vulvar vestibulitis. *Gynecol Obstet Invest* 2004;58(3):171-8.
9. Bohm-Starke N, Hilliges M, Brodda-Jansen G, Rylander E, Torebjork E. Psychophysical evidence of nociceptor sensitization in vulvar vestibulitis syndrome. *Pain* 2001;94(2):177-83.
10. Foster DC, Sazenski TM, Stodgell CJ. Impact of genetic variation in interleukin-1 receptor antagonist and melanocortin-1 receptor genes on vulvar vestibulitis syndrome. *J Reprod Med* 2004;49(7):503-9.
11. Babula O, Danielsson I, Sjoberg I, Ledger WJ, Witkin SS. Altered distribution of mannose-binding lectin alleles at exon 1 codon 54 in women with vulvar vestibulitis syndrome. *Am J Obstet Gynecol* 2004;191(3):762-6.
12. Witkin SS, Gerber S, Ledger WJ. Differential characterization of women with vulvar vestibulitis syndrome. *Am J Obstet Gynecol* 2002;187:589-94.
13. Graziottin A. Female sexual dysfunction, In Evidence Based Physiology for the Pelvic Floor – Bridging Research and Clinical Practice. (K Bo, B Berghmans, M van Kampen M, S Morkved S, Eds.) Oxford UK, Elsevier, 2005.
14. Caruso S, Agnello C, Intelisano G, Farina M, Di Mari L, Cianci A. Sexual behavior of women taking low-dose oral contraceptive containing 15 microg ethinylestradiol/60 microg gestodene. *Contraception* 2004;69(3):237-40.
15. Sobel JD, Wiesenfeld HC, Martens M, Danna P, Hooton TM, Rompalo A, et al. Maintenance fluconazole therapy for recurrent vulvovaginal candidiasis. *N Eng J Med* 2004; 351(9):876-83.

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Dermatologic

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This is caused by a hypersensitivity reaction, in which the immune system reacts to a substance that it normally would ignore. Typically, the immune system is capable of differentiating "self" from "non-self" tissue, but with autoimmune disorders, the immune system reacts to healthy "self" body tissues. In autoimmune disorders, some lymphocytes become sensitized against "self" tissue cells and attack healthy tissue as if they were attacking a foreign antigen.

The mechanisms that cause these lymphocytes to lose the ability to differentiate between "self" and "non-self" are not completely understood. One theory holds that various microorganisms and drugs may trigger some of these changes, particularly in people with a genetic predisposition to an autoimmune disorder. It is believed that both LS and LP are autoimmune diseases of the skin. In the case of LS it has been theorized that, in some women, the process starts as a result of exposure to the bacteria that causes Lyme disease.

In both LS and LP, abnormal lymphocytes may accumulate in the skin of the vulva and cause severe chronic inflammation. This chronic inflammation causes itching, burning and pain, and can eventually lead to scarring of the vulva.

Irritant and Allergic Contact Dermatitis

Irritant contact dermatitis (ICD) is a skin condition in which women report vulvar itching, burning and irritation. An examination of the vulva reveals intense redness and mild swelling of the labia. ICD is caused by exposing the relatively sensitive skin and mucosa of the vulva to chemicals that can cause irritation. ICD is one of the most common vulvar skin conditions, affecting approximately 25 percent of women who present to vulvar specialty clinics. As women increasingly apply products to the vulva that contain many different chemicals, the incidence of ICD rises. For example, although Dove soap is advertised as being 99 percent pure, it contains 14 different chemicals, any of which can cause an irritant contact dermatitis. In addition to soaps, common products containing chemicals that may cause ICD include menstrual pads, panty liners, toilet paper, diapers, fabric detergents and softeners, feminine sprays and medications for yeast infection. Even products marketed to treat vaginal itching, such as Vagisil, contain chemicals that can significantly worsen ICD.

A condition closely related to ICD is allergic contact dermatitis (ACD). In ACD, the offending chemical not only causes irritation, but also activates the body's immune system. Because the immune system is activated in ACD, symptoms tend to be worse than in ICD and exacerbated by repeated exposure to the offending chemical. In both ICD and ACD, the most important aspect of treatment is eliminating exposure to the offending chemical. As it is often difficult to determine precisely which one caused the problem, it is essential to avoid exposing the vulva to all chemicals. I usually recommend to these patients that they stop using soap and use only unscented toilet paper and menstrual pads that do not contain any dyes. In addition, I recommend hand-washing all underwear in hot water only and then letting it drip dry to avoid any possible exposure to laundry detergents and fabric softener. Finally, it is often necessary to use a mid-potency topical steroid on the vulva, for up to one month, to completely eliminate the inflammation of ICD and ACD.

Lichen Sclerosus

Lichen sclerosus (LS) is a chronic, autoimmune inflammatory condition most commonly affecting the skin of the vulva and surrounding the anus. Women with LS frequently experience pain during sex, as well as intense vulvar itching, burning, pain, tearing, decreased clitoral sensation and changes of their vulvar anatomy. The vulvar skin loses pigmentation, becomes crinkled or waxy (with an appearance similar to wax paper) and may fissure or tear easily. The labia may become agglutinated, i.e., stuck together, which causes narrowing of the opening of the vagina and recurrent tearing upon attempted penetration during intercourse. The prepuce (hood) of the clitoris may scar down on top of the clitoris, thereby burying it, a condition known as phimosis. Frequently, and unfortunately, these symptoms can be present for years before a diagnosis is made.

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The name Lichen Sclerosus is derived from both ancient Greek and Latin. "Lichen" refers to the thickened and scaly skin associated with LS. "Sclerosus" describes the frequently observed hardening and scarring of the skin. LS can affect men, women and children, but women are 13 times more likely to be affected than men. Caucasians are more commonly affected than people of Asian or African ancestry. Approximately 10 percent of people affected by LS are pre-pubertal girls, 40 percent are pre-menopausal women and 50 percent are post-menopausal women. Whereas earlier medical papers inaccurately stated that LS is rare (affecting only one in 1,000 women), in fact, recent research shows that approximately one in 70 women have LS. Familial links have been described with identical and non-identical twins, siblings, and parents and children. In approximately 10 percent of patients, LS affects non-vulvar skin.

As described above, lymphocytes accumulate in the vulvar skin causing a chronic inflammatory response that causes the symptoms and scarring seen with LS. In addition, this chronic inflammation causes approximately four percent of women with LS to develop cancer of the vulva. Fortunately, with proper treatment, the symptoms of LS can completely resolve, future scarring can be prevented and the risk of cancer can be significantly reduced. As LS is an autoimmune disorder, the goal of treatment is to suppress the immune system. However, a generalized, suppressed immune system increases one's susceptibility to other infections; therefore, the goal of treatment is to suppress only the immune system on the vulvar skin.

Since the early 1990s, the mainstay of treatment for LS has been clobetasol (brand name Temovate), an ultra-potent topical corticosteroid. If used correctly, the medication should cause LS to go into complete remission within two to eight weeks. There are well-known risks associated with topical corticosteroids, including thinning of the skin, rebound reactions after terminating treatment, stria formation (stretch marks), suppression of the adrenal glands, and increased risk of fungal infections. However, with proper use, these risks are minimal. Newer medications, known as topical *macrolide immunosuppressants* (i.e., pimecrolimus and tacrolimus) have also shown promise in the treatment of LS. These medications also suppress the immune system in the skin and have been approved for the treatment of eczema, another skin disorder. They have the added benefit of not inhibiting the cells that produce collagen in the skin. Therefore, unlike topical corticosteroids, they do not cause thinning of the skin. (I am currently conducting a clinical trial comparing the newer medication, pimecrolimus, to clobetasol, to determine which one offers the best long-term treatment for LS.) After all active LS has been resolved, surgery can be performed to fix the scarring and to allow women to regain full sexual function and clitoral sensitivity.

Because LS is an autoimmune disorder, it is a lifelong disease. Additionally, women with LS are at greater risk for other autoimmune disorders, including thyroid disease, vitiligo and pernicious anemia.

The recommendations for treating LS patients are as follows:

· Use Temovate brand instead of generic clobetasol if possible.
· Use Temovate or clobetasol *ointment* instead of cream.
· Soak in warm water for 15 minutes to soften the skin before applying the ointment.
· Use a hand-held mirror to observe the areas affected by LS.
· Depending on the size of the vulvar area affected, use between a "pea" sized up to "lima bean" sized amount of the ointment.
· Rub in the ointment for two to three minutes until very well absorbed by the skin.
· Use the ointment daily until all active LS has resolved. Then slowly taper to applying it one or two times per week and *maintain this level for at least one or two years.* (Disregard the package insert's instruction to use for only two weeks.) An oral antifungal and antibiotic are often concurrently prescribed for the first one to two weeks of treatment, because infection often accompanies

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the cracks, fissures and erosions in the skin. Finally, topical estrogen and testosterone cream can be used to improve the tissue quality of the vulvar skin after all active LS has resolved.

Lichen Planus

Although LP and LS are both chronic, autoimmune inflammatory skin conditions, there are several clinically relevant differences between the two diseases that can aid in diagnosis. In LS, only a small percentage of women exhibit non-vulvar involvement. In contrast, most cases of LP involve the mucosa of the mouth and gums, not the vulva. Of the one percent of women in the general population who have LP, only 25 percent exhibit vulvovaginal involvement.

Another major distinction between LS and LP is that, whereas LS never occurs above the hymen into the vagina, LP can affect *both* the vulvar and vaginal mucosa. Therefore, LP can cause severe scarring inside the vagina, as well as scarring of the vulva. Furthermore, in LP the skin does not have the crinkled wax paper appearance of LS; instead, the skin is more likely to have erosions on the mucosa of the vulva, often characterized by lacy borders called Wickham's stria.

Unfortunately, LP is typically much more difficult to control than LS. While the ultra-potent corticosteroids such as clobetasol (and more recently the macrolide immunosuppressants) are the first-line treatment for LP, it is often necessary to use systemic immunosuppressants such as prednisone or Methotrexate to control advanced LP. In addition, it is very important that LP sufferers with vaginal involvement use a dilator to prevent scarring within the vagina.

Lichen Simplex Chronicus

Unlike LS, LP and ACD, lichen simplex chronicus (LSC) is not mediated by the immune system. Instead, LSC is caused by chronic itching and scratching. There are multiple initiating factors that may cause an affected woman to start scratching. The most common initiating factors are an allergic reaction, a fungal infection and/or irritation caused by heat and moisture. Regardless of the initiating insult, in predisposed individuals the scratching starts a "chain reaction." The itching causes *mast cells* (a specialized type of white blood cell) to migrate to the area. These mast cells secrete a chemical called *histamine* which causes even more itching. This itching leads to more scratching and the itch-scratch-itch cycle takes on "a life of its own", even if the initiating insult no longer exists. The skin responds to the chronic scratching by becoming lichenified (thickened). The scratching, which often takes place when a woman is asleep, can be so severe that all pubic hair is scratched away and visible pits in the skin are visible upon examination.

The goal of treatment of LSC is to break the itch-scratch-itch cycle. This requires that the woman eliminate all chemical exposure (as in ICD) and that all infections be treated. The inflammation caused by the chronic scratching must be treated with topical corticosteroids. Scratching the vulva during sleep can be addressed in two different ways. The itch sensation can be inhibited by taking a low-dose tricyclic antidepressant, such as amitriptyline, and by applying ice (or a bag of frozen peas) to the vulva during sleep. Once the itch-scratch-itch cycle has been broken, the topical corticosteroid will quickly resolve all remaining inflammation and the LSC will resolve. Unlike LS or LP, once successfully treated, LSC is cured and should not recur unless the itch-scratch-itch is allowed to start again. ■

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