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Vulvodynia

Remission, Relapse, and Persistence of Vulvodynia: A Longitudinal Population-Based Study.

Reed BD, Harlow SD, Plegue MA, Sen A.

J Womens Health (Larchmt). 2016 Jan 11.

<http://www.ncbi.nlm.nih.gov/pubmed/26752153>

BACKGROUND: Vulvodynia has been considered to be a chronic disorder. We sought to estimate the probability of and risk factors for remission, relapse, and persistence among women screening positive for vulvodynia. **METHODS:** Survey-based assessment in a longitudinal population-based study of women (the Woman to Woman Health Study) who screened positive for vulvodynia and completed at least four follow-up surveys. Outcome measures included remission without relapse, relapse (after remission), and persistence of a positive vulvodynia screen. Multinomial regression was used to assess factors associated with outcomes. **RESULTS:** Of 441 women screening positive for vulvodynia during the study, 239 completed 4 additional surveys. Of these, 23 (9.6%) had consistently positive vulvodynia screens, 121 (50.6%) remitted without relapse, and 95 (39.7%) relapsed following remission. Overall, factors associated with both relapse and persistence (compared with remission alone) included increased severity of pain ever ($p < 0.001$) or after intercourse ($p = 0.03$), longer duration of symptoms ($p \leq 0.001$), and screening positive for fibromyalgia ($p < 0.001$). Factors associated with persistence (but not relapse) included more severe symptoms with intercourse ($p = 0.001$) and pain with oral sex ($p = 0.003$) or partner touch ($p = 0.04$). Factors associated with relapse (but not persistence) included having provoked pain ($p = 0.001$) or screening positive for interstitial cystitis ($p = 0.05$) at first positive vulvodynia screen. Demographic characteristics, age at pain onset, and whether vulvodynia was primary or secondary did not predict outcome. **CONCLUSION:** Remission of vulvodynia symptoms is common with approximately half of remitters experiencing a relapse within 6-30 months. Persistence without remission is the exception rather than the rule. Pain history and comorbid conditions were associated with the more severe outcomes of relapse and/or persistence compared with those who remitted only. These findings provide further support that vulvodynia is heterogeneous and often occurs in an episodic pattern.

Presence of Spontaneous Pain and Comorbid Pain Conditions Identifies Vulvodynia Subgroups.

Reed BD, Plegue MA, Williams DA, Sen A.

J Low Genit Tract Dis. 2016 Jan;20(1):57-63. doi: 10.1097/LGT.000000000000166.

<http://www.ncbi.nlm.nih.gov/pubmed/26704330>

OBJECTIVE: The aims of the study were to define the heterogeneity of vulvodynia by determining data-driven subgroups within the vulvodynia diagnosis using exploratory cluster analysis and to characterize the subgroups identified. **MATERIALS AND METHODS:** Included were participants in the longitudinal population-based study of vulvodynia in southeast Michigan who screened positive for vulvodynia at

least once during the study. A cluster analysis using variables reflecting vulvar pain characteristics and comorbid pain conditions was conducted. Variables reflecting best separation of clusters were used to assign participants to subgroup categories. Demographic, psychiatric, general health, and other vulvar pain characteristics were summarized for each subgroup, followed by multinomial regression and pairwise comparisons of subgroups on these factors. **RESULTS:** Of 441 women screening positive for vulvodynia during the course of the study, 393 were eligible on the basis of data requirements. Cluster analysis suggested that best subgroup separation was based on the following 2 variables: (1) presence or absence of spontaneous vulvar pain and (2) presence or absence of other comorbid pain conditions. Subgroups did not differ by age or ethnicity. The subgroup having spontaneous pain and other comorbid conditions demonstrated greatest morbidity in general health measures, psychiatric disorders, and other vulvar pain measures. Primary versus secondary vulvodynia did not vary between subgroups and did not assist in subgroup separation in the cluster analysis. **DISCUSSION:** Subgroups based on exploratory cluster analysis demonstrated that presence of spontaneous pain and the presence of comorbid pain conditions resulted in best separation of groups. Presence of both spontaneous pain and other comorbid pain conditions identified the group with greatest morbidity.

Vulvodynia.

Ben-Aroya Z, Edwards L.

Semin Cutan Med Surg. 2015 Dec;34(4):192-8. doi: 10.12788/j.sder.2015.0181.

<http://www.ncbi.nlm.nih.gov/pubmed/26650698>

Vulvodynia is a pain syndrome affecting the vulva. It occurs in about 16% of women at some time of their lives. The etiology of vulvodynia is still enigmatic and is probably multifactorial-including physiological concerns (eg, pelvic floor muscle dysfunction, neuropathic pain, and psychosocial) and sexual issues (eg, anxiety and sexual dysfunction). Although it is a common syndrome, most patients are neither correctly diagnosed nor treated. A diagnosis of vulvodynia is based upon patient history and lack of physical findings upon careful examination. No clinical or histological findings are present to aid in diagnosis. Most treatment options for vulvodynia are neither well studied nor have an evidence base, relying instead upon expert opinion, care provider experience, and use of data from other pain syndromes. However, many patients show marked improvement after physical therapy for the pelvic floor, medications for neuropathic pain, and psychosexual therapy.

Provoked Vestibulodynia

Reliability and Convergent Validity of the Algometer for Vestibular Pain Assessment in Women with Provoked Vestibulodynia.

Cyr MP, Bourbonnais D, Pinard A, Dubois O, Morin M.

Pain Med. 2015 Dec 16. pii: pnv069.

<http://www.ncbi.nlm.nih.gov/pubmed/26814295>

OBJECTIVE: Women with provoked vestibulodynia (PVD) suffer pain at the entry of the vagina elicited by pressure as during vaginal penetration. To quantify vestibular pain, we developed a new instrument, an algometer. The aim of this study was to investigate the test-retest reliability of the algometer and evaluate its convergent validity for vestibular pain assessment in women with PVD. **METHODS:**

Twenty-six women with PVD participated in the study. Vestibular pain was assessed with the new algometer and the already known vulvalgesiometer during two different sessions 2 to 4 weeks apart. At each session, the pressure pain threshold (PPT) and pressure pain tolerance (PPTol) were measured twice at the 3, 6, and 9 o'clock sites of the vestibule in random order. The test-retest reliability (intra- and inter-session) of the algometer was calculated using the intraclass correlation coefficient (ICC) and standard error of measurement (SEM). Its convergent validity was evaluated by the correlation coefficients between PPTs and PPTols measured by the algometer and those measured with the vulvalgesiometer. **RESULTS:** Intra-session reliability at all three sites for PPTs and PPTols in both sessions was excellent (ICC = 0.859 to 0.988, $P \leq 0.002$). Inter-session reliability was good to excellent (ICC = 0.683 to 0.922, SEM = 15.06 to 47.04 g, $P \leq 0.001$). Significant correlations were found between the two tools for all sites for PPTs ($r = 0.500$ to 0.614 , $P \leq 0.009$) and PPTols ($r = 0.809$ to 0.842 , $P < 0.001$). **DISCUSSION:** Findings showed that the algometer is a reliable and valid instrument for measuring PPTs and PPTols in the vestibular area in women with PVD. This technology is promising for pinpointing treatment mechanisms and efficacy.

Presenting symptoms among premenopausal and postmenopausal women with vulvodynia: a case series.

Phillips NA, Brown C, Foster D, Bachour C, Rawlinson L, Wan J, Bachmann G.
Menopause. 2015 Dec;22(12):1296-300. doi: 10.1097/GME.0000000000000526.
<http://www.ncbi.nlm.nih.gov/pubmed/26325083>

OBJECTIVE: The aim of the study was to determine whether there are differences in the clinical presentation of symptoms and vulvar pain ratings in postmenopausal women compared with premenopausal women with provoked vestibulodynia (PVD) enrolled in a clinical trial, after correcting for estrogen deficiency. **METHODS:** Questionnaire data were collected from 76 premenopausal and 24 postmenopausal women enrolled in a clinical trial for PVD. The questionnaire obtained information about the presence or absence of vulvar pain, the characteristics of this pain, and information about the women's demographic characteristics and reproductive health history. Participants were clinically confirmed to have PVD by a positive cotton swab test on pelvic examination and either absence of or corrected vulvovaginal atrophy based on Ratkoff staining with less than 10% parabasal cells. Women completed a standardized questionnaire describing their vulvar symptoms and rated daily pain on a visual analog scale (0 = no pain to 10 = worse pain imaginable) from sexual intercourse, tampon insertion (as a surrogate measure of intercourse) and 24-hour vulvar pain for 2 weeks during the screening period. Pretreatment data were analyzed before pharmacologic intervention. Chi-square was used to determine differences between pre- and postmenopausal women in demographic characteristics and clinical presentation, and independent t tests were used to analyze pain ratings by (0-10) numeric rating scale (NRS). **RESULTS:** The average ages of premenopausal and postmenopausal women were (30.6 ± 8.6 y) and (54.4 ± 6.5 y), respectively. The groups significantly differed with regard to relationship status ($P = 0.002$) and race ($P = 0.03$), but did not differ in years of education ($P = 0.49$), income level ($P = 0.29$), or duration of symptoms ($P = 0.09$). Postmenopausal women reported significantly more vulvar burning (70.00% vs 43.42%, $P = 0.03$), but there were no differences in vulvar itching (20.00% vs 22.37%, $P = 0.82$), vulvar stinging (40.00% vs 36.84%, $P = 0.79$), vulvar aching (50.00% vs 63.16%, $P = 0.28$), and vulvar stabbing (60.00% vs 71.06% $P = 0.34$) or in mean number of symptoms (2.40 ± 1.0 vs 2.37 ± 1.4 , $P = 0.92$). Of the 70 participants completing diaries and meeting tampon insertion pain, there were no significant differences in mean (\pm SD) NRS pain ratings of postmenopausal compared with premenopausal women for tampon insertion (5.66 ± 1.93 vs 5.83 ± 2.15 , $P = 0.77$), daily vulvar pain (3.20 ± 2.55 vs 3.83 ± 2.49 , $P = 0.38$) and sexual intercourse (6.00 ± 2.53 vs 5.98 ± 2.29 , $P = 0.98$).

CONCLUSIONS: Pre- and postmenopausal women with PVD have similar pain scores, and with the exception of a higher incidence of burning in postmenopausal women, similar presenting clinical symptoms. The statistical power of this conclusion is limited by the small number of postmenopausal women in the study. Further research on the vulvar pain experience of the older woman with PVD is warranted.

A Randomized Clinical Trial Comparing Group Cognitive-Behavioral Therapy and a Topical Steroid for Women With Dyspareunia.

Bergeron S, Khalifé S, Dupuis MJ, McDuff P.

J Consult Clin Psychol. 2016 Jan 4.

<http://www.ncbi.nlm.nih.gov/pubmed/26727408>

OBJECTIVE: This 13-week randomized clinical trial aimed to compare group cognitive-behavioral therapy (GCBT) and a topical steroid in the treatment of provoked vestibulodynia, the most common form of dyspareunia. **METHOD:** Participants were 97 women randomly assigned to 1 of 2 treatment conditions and assessed at pretreatment, posttreatment and 6-month follow-up via structured interviews and standard questionnaires pertaining to pain (McGill Pain Questionnaire, 11-point numerical rating scale of pain during intercourse), sexual function (Female Sexual Function Index, intercourse frequency), psychological adjustment (Pain Catastrophizing Scale, Painful Intercourse Self-Efficacy Scale), treatment satisfaction, and participant global ratings of improvements in pain and sexuality. **RESULTS:** Intent-to-treat multilevel and covariance analyses showed that both groups reported statistically significant reductions in pain from baseline to posttreatment and 6-month follow-up, although the GCBT group showed significantly more pain reduction at 6-month follow-up on the McGill Pain Questionnaire. The 2 groups significantly improved on measures of psychological adjustment, and the GCBT group had significantly greater reductions in pain catastrophizing at posttreatment. Both groups' sexual function significantly improved from baseline to posttreatment and 6-month follow-up, and the GCBT group was doing significantly better at the 6-month follow-up. Treatment satisfaction was significantly higher in the GCBT group, as were self-reported improvements in pain and sexuality. **CONCLUSIONS:** Findings suggest that GCBT may yield a positive impact on more dimensions of dyspareunia than a topical steroid, and support its recommendation as a first-line treatment for provoked vestibulodynia.

Pain Rating in Women with Provoked Vestibulodynia: Evaluating Influence of Race.

Brown C, Bachmann GA, Wan J, Foster D.

J Womens Health (Larchmt). 2016 Jan;25(1):57-62. doi: 10.1089/jwh.2015.5223. Epub 2015 Nov 18.

<http://www.ncbi.nlm.nih.gov/pubmed/26580986>

BACKGROUND: Chronic pain may be perceived differently according to gender and race, which may affect physical health and psychological wellbeing. We evaluated daily pain ratings in black women as compared to white women with provoked vestibulodynia (PVD). **METHODS:** Seventy-one women (44 black, 27 white) rated pain severity with tampon insertion and sexual intercourse and recorded daily vulvar pain level on a visual analogue scale (0 = no pain to 10 = worst pain imaginable). In addition, they completed the Brief Pain Inventory (BPI) Interference Scale and Hamilton Anxiety Depression Scale (HADS). Multivariate analysis was performed to determine the effect of race on pain intensity after adjusting for functional impairment, affective distress and demographic characteristics. **RESULTS:** Pain ratings from tampon insertion (6.37 ± 1.89 vs. 5.61 ± 1.98 , $p = .12$) and sexual intercourse (6.28 ± 2.11 vs. 5.29 ± 2.50 , $p = 0.24$) were similar, but daily vulvar pain (4.57 ± 2.27 vs 2.74 ± 2.43 ,

$p < .01$) was significantly higher in black women. BPI-interference scores were associated with small, but significant increases in tampon insertion pain ($p < .01$, $\beta = .06$ units) and daily pain ($p < .01$, $\beta = .10$ units) and to a lesser degree with sexual intercourse pain when corrected for multiple comparisons ($p = .05$, $\beta = .06$ units). Race had no effect on pain after adjusting for other variables. **CONCLUSION:** While race was associated with functional impairment, after accounting for this, race was not associated with level of vulvar pain with PVD.

Physical Therapy

Randomized clinical trial of multimodal physiotherapy treatment compared to overnight lidocaine ointment in women with provoked vestibulodynia: Design and methods.

Morin M, Dumoulin C, Bergeron S, Mayrand MH, Khalifé S, Waddell G, Dubois MF; Provoked vestibulodynia (PVD) Study Group.

Contemp Clin Trials. 2016 Jan;46:52-9. doi: 10.1016/j.cct.2015.11.013. Epub 2015 Nov 18.

<http://www.ncbi.nlm.nih.gov/pubmed/26600287>

Provoked vestibulodynia (PVD) is a highly prevalent and debilitating condition yet its management relies mainly on non-empirically validated interventions. Among the many causes of PVD, there is growing evidence that pelvic floor muscle (PFM) dysfunctions play an important role in its pathophysiology. Multimodal physiotherapy, which addresses these dysfunctions, is judged by experts to be highly effective and is recommended as a first-line treatment. However, the effectiveness of this promising intervention has been evaluated through only two small uncontrolled trials. The proposed bi-center, single-blind, parallel group, randomized controlled trial (RCT) aims to evaluate the efficacy of multimodal physiotherapy and compare it to a frequently used first-line treatment, topical overnight application of lidocaine, in women with PVD. A total of 212 women diagnosed with PVD according to a standardized protocol were eligible for the study and were randomly assigned to either multimodal physiotherapy or lidocaine treatment for 10 weeks. The primary outcome measure is pain during intercourse (assessed with a numerical rating scale). Secondary measures include sexual function, pain quality, psychological factors (including pain catastrophizing, anxiety, depression and fear of pain), PFM morphology and function, and patients' global impression of change. Assessments are made at baseline, post-treatment and at the 6-month follow-up. This manuscript presents and discusses the rationale, design and methodology of the first RCT investigating physiotherapy in comparison to a commonly prescribed first-line treatment, overnight topical lidocaine, for women with PVD.

Effectiveness of Cognitive-Behavioral Therapy and Physical Therapy for Provoked Vestibulodynia: A Randomized Pilot Study.

Goldfinger C, Pukall CF, Thibault-Gagnon S, McLean L, Chamberlain S.

J Sex Med. 2016 Jan;13(1):88-94. doi: 10.1016/j.jsxm.2015.12.003.

<http://www.ncbi.nlm.nih.gov/pubmed/26755091>

INTRODUCTION: Non-medical and non-surgical treatments for provoked vestibulodynia target psychological, sexual, and pelvic floor muscle factors that maintain the condition. **AIM:** The goal of the study was to compare the effects of cognitive-behavioral therapy (CBT) and physical therapy (PT) on pain and psychosexual outcomes in women with provoked vestibulodynia. **METHODS:** In a clinical trial, 20 women with provoked vestibulodynia were randomly assigned to receive CBT or comprehensive PT.

Participants were assessed before treatment, after treatment, and at 6-month follow-up by gynecologic examination, structured interviews, and standardized questionnaires measuring pain, psychological, and sexual variables. **MAIN OUTCOME MEASURES:** Outcome measurements were based on an adaptation of the Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials recommendations. The primary outcome was change in intercourse pain intensity. Secondary outcomes included pain during the cotton swab test, pain with various sexual and non-sexual activities, and sexual functioning and negative pain cognitions. **RESULTS:** The two treatment groups demonstrated significant decreases in vulvar pain during sexual intercourse, with 70% and 80% of participants in the CBT and PT groups demonstrating a moderate clinically important decrease in pain ($\geq 30\%$) after treatment. Participants in the two groups also had significant improvements in pain during the gynecologic examination, the percentage of painful intercourse attempts, the percentage of activities resulting in pain, and the ability to continue intercourse without stopping because of pain. Psychological outcomes, including pain catastrophizing and perceived control over pain, also showed improvement in the two groups. Significant improvements in sexual functioning were observed only in participants who completed CBT. Few between-group differences were identified other than the PT group showing earlier improvements in some outcomes. Nearly all improvements were maintained at the 6-month follow-up. **CONCLUSION:** The results of the study suggest that CBT and PT can lead to clinically meaningful improvements in pain and areas of psychosexual functioning.

Active and Passive Components of Pelvic Floor Muscle Tone in Women with Provoked Vestibulodynia: A Perspective Based on a Review of the Literature.

Thibault-Gagnon S, Morin M.

J Sex Med. 2015 Nov;12(11):2178-89. doi: 10.1111/jsm.13028.

<http://www.ncbi.nlm.nih.gov/pubmed/26745618>

AIM: Pelvic floor muscle (PFM) dysfunctions, especially elevated tone or tension, are suggested to play an important role in the pathophysiology of provoked vestibulodynia (PVD). However, the involvement of the PFMs remains misunderstood as the assessment of muscle tone is complex and requires a thorough understanding of muscle physiology in relation to the characteristics and limitations of current PFM assessment tools. The aim of this review was to describe the structures and mechanisms involved in muscle tone in normally innervated muscle, and to discuss and relate these concepts to the PFM findings in women with PVD. **METHODS:** A narrative overview of the literature retrieved from searches of electronic databases and hand searches. **RESULTS:** Muscle tone in a normally innervated muscle comprises both active (contractile) and passive (viscoelastic) components. Current methods for evaluating PFM tone such as digital palpation, ultrasound imaging, pressure perineometry, dynamometry, and electromyography may evaluate different components. Research findings suggestive of PFM hypertonicity in women with PVD include elevated general PFM tone, changes in viscoelastic properties, and at least in some women, abnormal increases in electrogenic activity. **CONCLUSION:** There is a growing body of evidence to support the involvement of PFM hypertonicity in the pathophysiology of PVD. Limitations of the instruments as well as their properties should be considered when evaluating PFM tone in order to obtain better insight into which component of PFM tone is assessed. Future research is required for further investigating the underlying mechanisms of PFM hypertonicity, and studying the specific effects of physiotherapeutic interventions on PFM tone in women with PVD. Thibault-Gagnon S and Morin M. Active and passive components of pelvic floor muscle tone in women with provoked vestibulodynia: A perspective based on a review of the literature.

Differences in the Biometry of the Levator Hiatus at Rest, During Contraction, and During Valsalva Maneuver Between Women With and Without Provoked Vestibulodynia Assessed by Transperineal Ultrasound Imaging.

Thibault-Gagnon S, McLean L, Goldfinger C, Pukall C, Chamberlain S.

J Sex Med. 2016 Jan 21. pii: S1743-6095(15)00025-9. doi: 10.1016/j.jsxm.2015.12.009.

<http://www.ncbi.nlm.nih.gov/pubmed/26805942>

INTRODUCTION: Pelvic floor muscle (PFM) involvement is suspected in the pathophysiology of provoked vestibulodynia (PVD); however, the underlying mechanisms are unclear. PFM morphology can be inferred from the biometry of the levator hiatus determined through dynamic ultrasound imaging.

AIMS: The aim of this study was to determine the nature of PFM involvement in women with PVD via an evaluation of the biometry of the levator hiatus at rest, upon maximal voluntary contraction (MVC) of the PFM, and upon maximal Valsalva maneuver (MVM). **METHODS:** Thirty-eight women with PVD and 39 asymptomatic controls were imaged using 3D transperineal ultrasound. Levator hiatal dimensions (area; left-right [LR] and anteroposterior [AP] diameters) were measured at rest, on MVC, and on MVM.

Differences in hiatal dimensions and in relative changes in dimensions from rest to MVC and from rest to MVM were compared between groups using separate 1-way analyses of variance for each measure and task. Analysis of covariance models were used to investigate the impact of levator hiatal dimensions at rest on the relative changes in the levator hiatal dimensions during MVC and MVM. **MAIN OUTCOME**

MEASURES: Levator hiatal area, LR, and AP diameters, at rest, on MVC, and on MVM were the main outcome measures. Relative changes in hiatal dimensions were assessed as the percent change in hiatal area, LR diameter, and AP diameter. **RESULTS:** In comparison with controls, women with PVD had smaller hiatal areas at rest, on MVC, and on MVM, concurrent with smaller LR diameters on MVM.

Women with PVD had a significantly smaller change in hiatal area on MVM than controls, but no differences were evident on MVC. In both groups, smaller levator hiatal dimensions at rest were associated with smaller relative decreases in dimensions on MVC and larger relative increases in dimensions on MVM. **CONCLUSION:** In comparison to controls, women with PVD appear to have narrower levator hiatus' and less capacity to distend their hiatus on Valsalva. The state of the PFM at rest appears to significantly influence biometric changes in the PFM during contraction and Valsalva.

Dyspareunia

Talking About Sex When Sex Is Painful: Dyadic Sexual Communication Is Associated With Women's Pain, and Couples' Sexual and Psychological Outcomes in Provoked Vestibulodynia.

Rancourt KM, Rosen NO, Bergeron S, Nealis LJ.

Arch Sex Behav. 2016 Jan 6.

<http://www.ncbi.nlm.nih.gov/pubmed/26739823>

Provoked vestibulodynia (PVD) is a recurrent vulvovaginal pain condition associated with psychological and sexual consequences for affected women and their partners, including lower quality of dyadic sexual communication compared to pain-free couples. Although greater sexual communication is associated with positive sexual and relational outcomes for both pain-free couples and couples experiencing painful sex, little is known about its role in women's pain and psychological outcomes, especially in a relational context. The present study examined associations between dyadic sexual communication and pain, sexual satisfaction, sexual functioning, and depressive symptoms in a sample of 107 couples in which the woman was diagnosed with PVD via a standardized gynecological

assessment. Women completed a measure of pain intensity, and both members of the couple completed measures of their dyadic sexual communication, sexual satisfaction, sexual functioning, and depressive symptoms. Analyses were guided by the actor-partner interdependence model. Women and partners' own perceptions of greater dyadic sexual communication were associated with their own greater sexual satisfaction and sexual functioning, and lower depressive symptoms. Partners' perceptions of greater dyadic sexual communication were also associated with women's lower pain and greater sexual satisfaction. Results point to the importance of dyadic coping conceptualizations for both individual and interpersonal outcomes in PVD. Dyadic sexual communication may be a key treatment target for interventions aimed at improving the pain and psychological and sexual impairments of women with PVD and their partners.

Associations Between Penetration Cognitions, Genital Pain, and Sexual Well-being in Women with Provoked Vestibulodynia.

Anderson AB, Rosen NO, Price L, Bergeron S.

J Sex Med. 2016 Feb 4. pii: S1743-6095(15)00059-4. doi: 10.1016/j.jsxm.2015.12.024.

<http://www.ncbi.nlm.nih.gov/pubmed/26853045>

INTRODUCTION: Provoked vestibulodynia (PVD) is a common vulvovaginal pain condition that negatively impacts women's psychological and sexual well-being. Controlled studies have found that women with PVD report greater negative and less positive cognitions about penetration; however, associations between these types of cognitions and women's pain and sexual well-being remain unknown. Further, researchers have yet to examine how interpersonal variables such as sexual communication may impact the association between women's penetration cognitions and PVD outcomes. **AIM:** We examined associations between vaginal penetration cognitions and sexual satisfaction, sexual function, and pain in women with PVD, as well as the moderating role of sexual communication. **METHODS:** Seventy-seven women (M age = 28.32, SD = 6.19) diagnosed with PVD completed the catastrophic and pain cognitions and positive cognitions subscales of the Vaginal Penetration Cognition Questionnaire, as well as the Dyadic Sexual Communication Scale. Participants also completed measures of sexual satisfaction, sexual function, and pain. **MAIN OUTCOME MEASURES:** Dependent measures were the (i) Global Measure of Sexual Satisfaction Scale; (ii) Female Sexual Function Index; and (iii) Present Pain Intensity scale of the McGill Pain Questionnaire, with reference to pain during vaginal intercourse. **RESULTS:** Women's lower catastrophic and pain cognitions, higher positive cognitions, and higher sexual communication were each uniquely associated with higher sexual satisfaction and sexual function. Lower catastrophic and pain cognitions also were associated with women's lower pain. For women who reported higher sexual communication, as positive cognitions increased, there was a significantly greater decrease in pain intensity during intercourse compared to women who reported lower levels of sexual communication. **CONCLUSION:** Findings may inform cognitive-behavioral interventions aimed at improving the pain and sexual well-being of women with PVD. Targeting the couple's sexual communication and women's penetration cognitions may improve women's sexual adjustment and reduce pain.

Intimacy, Sexual Satisfaction, and Sexual Distress in Vulvodynia Couples: An Observational Study.

Bois K, Bergeron S, Rosen N, Mayrand MH, Brassard A, Sadikaj G.

Health Psychol. 2015 Dec 21.

<http://www.ncbi.nlm.nih.gov/pubmed/26690636>

OBJECTIVE: Vulvodynia is a prevalent idiopathic pain condition with deleterious consequences for the sexuality of affected women and their spouses. Intimacy has been identified as a facilitator of adjustment to health difficulties in couples. Two components of intimacy were examined among couples with vulvodynia—empathic response and disclosure—in relation to their sexual satisfaction and sexual distress. **METHOD:** Using an observational design, 50 women (Mage = 24.50 years, SD = 4.03) diagnosed with vulvodynia and their spouses (Mage = 26.10 years, SD = 5.70) participated in a filmed discussion focusing on the impact of vulvodynia on their lives. Empathic response and disclosure were assessed by a trained observer and self-reported by participants after engaging in the discussion. The actor-partner interdependence model guided the data analyses. **RESULTS:** Women's and spouses' higher observed and perceived empathic responses were associated with their own and their partners' greater sexual satisfaction. Women's and spouses' higher perceived disclosures were associated with their own and their partners' greater sexual satisfaction. Women's and spouses' higher observed empathic responses were associated with their own lower sexual distress. Women's higher observed empathic responses were associated with their spouses' lower sexual distress. Women and spouses' perceived greater empathic responses were associated with their own lower sexual distress. Women's and spouses' greater perceived disclosures during the discussion were associated with their own and their partners' lower sexual distress. **CONCLUSION:** Promoting empathic response and disclosure through couple interventions may buffer against the sexual distress and sexual dissatisfaction of couples coping with vulvodynia.

Co-morbid Disorders

Genitofemoral neuralgia: adding to the burden of chronic vulvar pain.

Verstraelen H, De Zutter E, De Muynck M.

J Pain Res. 2015 Nov 30;8:845-9. doi: 10.2147/JPR.S93107. eCollection 2015.

<http://www.ncbi.nlm.nih.gov/pubmed/26664155>

The vulva is a particularly common locus of chronic pain with neuropathic characteristics that occurs in women of any age, though most women with neuropathic type chronic vulvar pain will remain undiagnosed even following multiple physician visits. Here, we report on an exemplary case of a middle-aged woman who was referred to the Vulvovaginal Disease Clinic with debilitating vulvar burning and itching over the right labium majus that had been persisting for 2 years and was considered intractable. Careful history taking and clinical examination, followed by electrophysiological assessment through somatosensory evoked potentials was consistent with genitofemoral neuralgia, for which no obvious cause could be identified. Adequate pain relief was obtained with a serotonin-noradrenaline reuptake inhibitor and topical gabapentin cream. We briefly discuss the epidemiology, diagnosis, and treatment of genitofemoral neuralgia and provide a series of clues to guide clinicians in obtaining a presumptive diagnosis of specific neuropathic pain syndromes that may underlie chronic vulvar pain. We further aim to draw attention to the tremendous burden of chronic, unrecognized vulvar pain.

Comorbidities Among Women With Vulvovaginal Complaints in Family Practice.

Leusink P, Kaptheijns A, Laan E, van Boven K, Lagro-Janssen A.

J Sex Med. 2016 Jan 9. pii: S1743-6095(15)00026-0. doi: 10.1016/j.jsxm.2015.12.010.

<http://www.ncbi.nlm.nih.gov/pubmed/26782608>

BACKGROUND: The lifetime prevalence of women suffering from provoked vestibulodynia (PVD) is estimated to be approximately 15%. The etiology of PVD is not yet clear. Recent studies approach PVD as a chronic multifactorial sexual pain disorder. PVD is associated with pain syndromes, genital infections, and mental disorders, which are common diseases in family practice. PVD, however, is not included in the International Classification of Primary Care. Hence, the vulvovaginal symptoms, which could be suggestive of PVD, are likely to be missed. **AIM:** To explore the relationship between specific vulvovaginal symptoms that could be suggestive of PVD (genital pain, painful intercourse, other symptoms/complaints related to the vagina/vulva), and related diseases such as pain syndromes, psychological symptom diagnoses, and genital infections in family practice. **METHODS:** A retrospective analysis of all episodes from 1995 to 2008 in 784 women between 15 and 49 years were used to determine the posterior probability of a selected diagnosis in the presence of specific vulvovaginal symptoms suggestive of PVD expressed in an odds ratio. Selected comorbidities were pain syndromes (muscle pain, general weakness, irritable bowel syndrome [IBS]), psychological symptom diagnoses (anxiety, depression, insomnia), vulvovaginal candidiasis, and sexual and physical abuse. **RESULTS:** Women with symptoms suggestive of PVD were 4 to 7 times more likely to be diagnosed with vulvovaginal candidiasis and 2 to 4 times more likely to be diagnosed with IBS. Some symptoms suggestive of PVD were 1 to 3 times more likely to be diagnosed with complaints of muscle pain, general weakness, insomnia, depressive disorder, and feeling anxious. **CONCLUSION:** Data from daily family practice showed a clear relationship between symptoms suggestive of PVD and the diagnoses of vulvovaginal candidiasis and IBS in premenopausal women. Possibly, family doctors make a diagnosis of vulvovaginal candidiasis or IBS based only on clinical manifestations in many women in whom a diagnosis of PVD would be more appropriate.

Similarities between interstitial cystitis/bladder pain syndrome and vulvodynia: implications for patient management.

Fariello JY, Moldwin RM.

Transl Androl Urol. 2015 Dec;4(6):643-52. doi: 10.3978/j.issn.2223-4683.2015.10.09.

<http://www.ncbi.nlm.nih.gov/pubmed/26816866>

Interstitial cystitis/bladder pain syndrome (IC/BPS) and vulvodynia are chronic pain syndromes that appear to be intertwined from the perspectives of embryology, pathology and epidemiology. These associations may account for similar responses to various therapies. [Free PMC Article](#)

Comparison of 5-Aminolevulinic Acid Photodynamic Therapy and Clobetasol Propionate in Treatment of Vulvar Lichen Sclerosus.

Shi L, Miao F, Zhang LL, Zhang GL, Wang PR, Ji J, Wang XJ, Huang Z, Wang HW, Wang XL.

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The aim of this study was to evaluate the usefulness of 5-aminolevulinic acid photodynamic therapy (ALA-PDT) for the treatment of vulvar lichen sclerosus (VLS) and compare its effectiveness with that of clobetasol propionate. Four sessions of topical photodynamic therapy (PDT) were administered at 2-week intervals. Clobetasol propionate (0.05%) was used daily for 8 weeks. The rate of complete response in the PDT group (14/20) was one-fold higher than the clobetasol propionate group (7/20) ($p < 0.05$, $\chi^2 = 4.912$). Horizontal visual analogue scores indicated that PDT was more effective than clobetasol propionate. Pain intensity numeric rating scale (PI-NRS) values for PDT were between 3.05 and 4.45. One month after the final session of PDT, only one patient relapsed. ALA-PDT is a safe and effective option for the treatment of VLS.

Vulvar Lichen Sclerosus and Neoplastic Transformation: A Retrospective Study of 976 Cases.

Micheletti L, Preti M, Radici G, Boveri S, Di Pumpo O, Privitera SS, Ghiringhello B, Benedetto C.

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OBJECTIVE: The aim of the study was to estimate the neoplastic potential of vulvar lichen sclerosus (VLS). **MATERIALS AND METHODS:** This was a retrospective study of 976 women with VLS. We recorded age at diagnosis of VLS, length of follow-up, and type of neoplasia, categorized as the following: (1) vulvar intraepithelial neoplasia (VIN), further subdivided in differentiated VIN (dVIN) and high-grade squamous intraepithelial lesion; (2) superficially invasive squamous cell carcinoma; and (3) frankly invasive squamous cell carcinoma. Neoplasia incidence risk, neoplasia incidence rate, and cumulative probability of progression to neoplasia according to the Kaplan-Meier method were estimated. Log-rank test was used to compare the progression-free survival curves by age at diagnosis of VLS. **RESULTS:** The mean age at diagnosis of VLS was 60 (median = 60; range = 8-91) years. The mean length of follow-up was 52 (median = 21; range = 1-331) months. The following 34 patients developed a neoplasia: 8 VIN (4 dVIN, 4 high-grade squamous intraepithelial lesions), 6 keratinizing superficially invasive squamous cell carcinoma (5 with adjacent dVIN), and 20 keratinizing invasive squamous cell carcinoma (1 with adjacent dVIN). The neoplasia incidence risk was 3.5%. The neoplasia incidence rate was 8.1 per 1,000 person-years. The cumulative probability of progression to neoplasia increased from 1.2% at 24 months to 36.8% at 300 months. The median progression-free survival was significantly shorter in older women (≥ 70 years) when compared with that in younger women ($p = .003$). **CONCLUSIONS:** Vulvar lichen sclerosus has a nonnegligible risk of neoplastic transformation and requires a careful and lifelong follow-up in all patients, particularly in elderly women. Early clinical and histological detection of preinvasive lesions is essential to reduce the risk of vulvar cancer.

Complications after surgery for the relief of dyspareunia in women with lichen sclerosus. A case series.

Burger MP, Obdeijn MC.

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INTRODUCTION: The objective of this study was to analyse complications after surgical intervention on the vulva, especially with grafting of the vaginal epithelium, for the relief of dyspareunia in women with lichen sclerosus. **MATERIAL AND METHODS:** A case series of 23 women with histologically confirmed lichen sclerosus who underwent vulvar surgery because of disabling sexual dysfunction. Surgical care was provided in a university hospital (tertiary referral center) between the years of 2008 and 2012. The interventions were posterior vestibuloplasty (perineoplasty), dehooding of the glans clitoridis and anterior vestibuloplasty with grafts of vaginal epithelium. **RESULTS:** A posterior vestibuloplasty was performed in all 23 women. Short-term complications included postoperative infection with subtotal dehiscence of the advanced vaginal epithelium (n=1), and reactivation of lichen sclerosus with the formation of bullae due to the postoperative discontinuation of dermatosteroid use (n=1). The long-term complications included localized pain (n=3); although the relation with the surgical intervention was unclear. Four women underwent dehooding of the glans clitoridis, all without complications. Anterior vestibuloplasty with a free full-thickness graft of vaginal mucosa was performed in five women. One woman underwent a second operation because of contraction and keratinization of the graft. The importance of estrogens for the condition of the graft was unclear. **CONCLUSIONS:** After reconstructive vulvar surgery in women with lichen sclerosus, issues such as infection, reactivation of the disease and pain require attention. The use of vaginal grafts in the repair of the anterior vestibule is a novel approach and deserves further exploration.

Intraurethral Steroids are a Safe and Effective Treatment for Stricture Disease in Patients with Biopsy-Proven Lichen Sclerosus.

Potts BA, Belsante MJ, Peterson AC.

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PURPOSE: The purpose of the study was to investigate outcomes for the contemporary practice of using intraurethral steroids for the treatment of stricture disease in patients with biopsy-proven lichen sclerosus (LS). **MATERIALS AND METHODS:** We performed an IRB-approved review of patients with biopsy-proven LS stricture disease from October 2010 to September 2015. Inclusion criteria were age >18 years and male gender. Extracted data included patient demographics, comorbidities, location of LS, previous therapies, and need for further interventions. Management was considered successful if there was no need for subsequent escalation of therapy. The intraurethral steroid regimen (ISR) consisted of applying clobetasol cream to the affected urethra by using it to lubricate a calibration device such as a urinary catheter or meatal dilator. The initial phase of therapy included twice-daily application for two to three months, at which point frequency was reduced by the clinician, allowing the patient to titrate medication use as needed. **RESULTS:** We identified 40 patients with biopsy-proven LS who had urethral stricture as part of their disease state. Of these, 28 received the ISR and success was achieved in 25 (89%). Mean follow-up for the series was 24.8 months and no patient who was started on ISR went on to urethroplasty. **CONCLUSIONS:** Based on our outcomes, we have developed a stepwise treatment algorithm for patients with biopsy-proven LS stricture disease that employs intraurethral steroids prior to initiating plans for invasive surgery.

New therapeutic approaches in the treatment of anogenital lichen sclerosus: does PDT represent a novel option?

Criscuolo AA, Schipani C, Cannizzaro MV, Messinese S, Chimenti S, Piccione E, Saraceno R.

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BACKGROUND: Lichen sclerosus et atrophicus (LSA) is an inflammatory, mucocutaneous disorder that affects male and especially female with a debilitating impact on the quality of life. Common localization is the anogenital area. If not treated LSA can leave scars, functional impairment and can evolve in squamous cell carcinoma. The first line of treatment is represented by topical, ultra-potent corticosteroids, but often patients are unresponsive; moreover this therapy is frequently associated to relapses of the disease after discontinuation. **METHODS:** In this prospective observational study, we: 1) evaluated the efficacy of 3 different treatments: i. topical calcineurin inhibitors, ii. avocado and soya beans extracts, iii. Photodynamic Therapy (MAL-PDT); 2) tried to define the therapeutic algorithm according with the severity of the disease. **RESULTS:** Of 150 patients, who referred to the outpatient clinic for dermatological and gynecological visit, 33 responded to the inclusion criteria. Sixteen (88%) patients showed an improvement of the lesion, and reduction of the itching; 3 (16,7%) patients, with sever itch and fissurating lesions were evaluated for the MAL-PDT therapy. A total of 9 patients, after accurate evaluation of the lesions, were treated with MAL-PDT. The 100% of patients experienced a resolution of the lesions. **CONCLUSION:** In the early stages the use of ASE can represent a valid alternative that is well tolerated by the patients reducing the itching, dryness and improving the mucosal texture. The use of MAL-PDT represents a valid alternative in the moderate-severe stages of LSA.