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Vulvodynia

Tetrahydrocannabinol Reduces Hapten-Driven Mast Cell Accumulation and Persistent Tactile Sensitivity in Mouse Model of Allergen-Provoked Localized Vulvodynia.

Boo B, Kamath R, Arriaga-Gomez E, Landry J, Emanuel E, Joo S, Saldías Montivero M, Martinov T, Fife BT, Chatterjea D.

Int J Mol Sci. 2019 May 1;20(9). pii: E2163. doi: 10.3390/ijms20092163.

<https://www.ncbi.nlm.nih.gov/pubmed/31052404>

Vulvodynia is a remarkably prevalent chronic pain condition of unknown etiology. An increase in numbers of vulvar mast cells often accompanies a clinical diagnosis of vulvodynia and a history of allergies amplifies the risk of developing this condition. We previously showed that repeated exposures to oxazolone dissolved in ethanol on the labial skin of mice led to persistent genital sensitivity to pressure and a sustained increase in labial mast cells. Here we sensitized female mice to the hapten dinitrofluorobenzene (DNFB) dissolved in saline on their flanks, and subsequently challenged them with the same hapten or saline vehicle alone for ten consecutive days either on labial skin or in the vaginal canal. We evaluated tactile ano-genital sensitivity, and tissue inflammation at serial timepoints. DNFB-challenged mice developed significant, persistent tactile sensitivity. Allergic sites showed mast cell accumulation, infiltration of resident memory CD8⁺CD103⁺ T cells, early, localized increases in eosinophils and neutrophils, and sustained elevation of serum Immunoglobulin E (IgE). Therapeutic intra-vaginal administration of Δ^9 -tetrahydrocannabinol (THC) reduced mast cell accumulation and tactile sensitivity. Mast cell-targeted therapeutic strategies may therefore provide new ways to manage and treat vulvar pain potentially instigated by repeated allergenic exposures.

Sensory pain characteristics of vulvodynia and their association with nociceptive and neuropathic pain: an online survey pilot study.

Schlaeger JM, Patil CL, Steffen AD, Pauls HA, Roach KL, Thornton PD, Hartmann D, Kobak WH, Yao Y, Suarez ML, Hughes TL, Wilkie DJ.

Pain Rep. 2019 Feb 22;4(2):e713. doi: 10.1097/PR9.0000000000000713. eCollection 2019 Mar-Apr. <https://www.ncbi.nlm.nih.gov/pubmed/31041417>

Objectives: To evaluate self-reported sensory pain scores of women with generalized vulvodynia (GV) and provoked vestibulodynia (PVD), characterize pain phenotypes, and assess feasibility of using the Internet for recruitment and data collection among women with vulvodynia. **Methods:** Descriptive online survey. Data collected using an online survey accessed via a link on the National Vulvodynia Association web site. Convenience sample, 60 women aged 18 to 45 years (mean = 32.7 ± 5.5); 50 white, 2 black/African American, 4 Hispanic/Latino, and 4 Native American/Alaskan Native, diagnosed with vulvodynia, not in menopause. Pain assessment and medication modules from *PAINReportIt*. **Results:** Women with GV (n = 35) compared to PVD (n = 25). Estimated mean pain sites (2.5 ± 1.4 vs 2.2 ± 1.0, P = 0.31), mean current pain (8.7 ± 1.4 vs 5.5 ± 4.0, P = 0.0008), worst pain (8.1 ± 1.8 vs 6.1 ± 3.6, P = 0.02), and least pain in the past 24 hours (4.4 ± 1.8 vs 2.0 ± 2.0, P < 0.0001). Average pain intensity (7.1 ± 1.2 vs 4.6 ± 2.9, P = 0.0003) on a scale of 0 to 10, mean number of neuropathic words (8.3 ± 3.6 vs 7.7 ± 5.0), and mean number of nociceptive words (6.9 ± 4 vs 7.5 ± 4.4). Nineteen (54%) women with GV compared to 9 (38%) with PVD were not satisfied with pain levels. **Conclusion:** Women with GV reported severe pain, whereas those with PVD reported moderate to severe pain. Pain quality descriptors may aid a clinician's decisions about whether to prescribe adjuvant drugs vs opioids to women with vulvodynia.

Treatment of Vulvodynia: Pharmacological and Non-Pharmacological Approaches.

Rosen NO, Dawson SJ, Brooks M, Kellogg-Spadt S.

Drugs. 2019 Apr;79(5):483-493. doi: 10.1007/s40265-019-01085-1. <https://www.ncbi.nlm.nih.gov/pubmed/30847806>

Vulvodynia is a common, recurrent, vulvar pain condition with debilitating consequences for affected women's health and quality of life. The heterogeneity of women suffering from vulvodynia as well as its uncertain and likely multifactorial etiology pose a significant challenge to identifying any kind of "gold standard" treatment. Thus, treatment providers must be well versed in the various options and the evidence for each. In this review, we begin with pharmacological treatments, followed by non-pharmacological treatments, surgery, and finally multimodal treatments. For each approach, we briefly discuss the method, mechanism of action, and empirical support for the treatment. In sum, pharmacological treatments that may be beneficial but require further research include antinociceptive agents (lidocaine, capsaicin), anti-inflammatory agents (corticosteroids, interferon), neuromodulating medications (anticonvulsants and antidepressants), hormonal agents, and muscle relaxants (e.g., botulinum toxin). There is strong evidence to support and recommend non-pharmacological interventions including psychological therapy, pelvic floor physical therapy, as well as surgery (i.e., vestibulectomy for provoked vestibulodynia) for the treatment of vulvodynia. We conclude this review with a discussion of issues that may have hindered progress of treatment efficacy and effectiveness, and recommendations for moving the field forward.

Descriptors of Vulvodynia: A Multisocietal Definition Consensus (International Society for the Study of Vulvovaginal Disease, the International Society for the Study of Women Sexual Health, and the International Pelvic Pain Society).

Bornstein J, Preti M, Simon JA, As-Sanie S, Stockdale CK, Stein A, Parish SJ, Radici G, Vieira-Baptista P, Pukall C, Moyal-Barracco M, Goldstein A; International Society for the Study of Vulvovaginal Disease (ISSVD), the International Society for the Study of Women's Sexual Health (ISSWSH), and the International Pelvic Pain Society (IPPS).

J Low Genit Tract Dis. 2019 Apr;23(2):161-163. doi: 10.1097/LGT.0000000000000461.

<https://www.ncbi.nlm.nih.gov/pubmed/30768446>

OBJECTIVES: Three scientific societies, the International Society for the Study of Vulvovaginal Disease (ISSVD), the International Society for the Study of Women Sexual Health (ISSWSH), and the International Pelvic Pain Society (IPPS) developed the "2015 ISSVD, ISSWSH, and IPPS Consensus Terminology and Classification of Persistent Vulvar Pain and Vulvodynia" (referred to as the "2015 consensus terminology"). The terminology included 11 descriptors of vulvodynia. However, the definitions of the descriptors were not included in the 2015 consensus terminology publications. The objective of this article was to provide these definitions. **MATERIALS AND METHODS:** The ISSVD led a discussion on the definitions for the 11 vulvodynia descriptors, with participation from the ISSWSH and IPPS. The definitions were created through a consensus process. **RESULTS:** The definitions are described and the rationale for their choice is elucidated. **CONCLUSIONS:** The definitions of vulvodynia descriptors were determined by a multistaged process of discussion among health care providers with expertise in the pathophysiology, evaluation, and treatment of vulvodynia. The definitions were approved by the ISSVD, ISSWSH, and IPPS. It is recommended that these definitions of vulvodynia descriptors as well as the 2015 consensus terminology be used for the classification of vulvodynia.

Early-life Chronic Stressors, Rumination, and the Onset of Vulvodynia.

Khandker M, Brady SS, Rydell SA, Turner RM, Schreiner PJ, Harlow BL.

J Sex Med. 2019 Jun;16(6):880-890. doi: 10.1016/j.jsxm.2019.03.010. Epub 2019 Apr 19.

<https://www.ncbi.nlm.nih.gov/pubmed/31010778>

INTRODUCTION: Vulvodynia is a debilitating, chronic vulvar pain condition. Community-based case-control studies have consistently shown associations between early-life chronic stressors and vulvodynia onset. **AIM:** We examined rumination as a specific stress response involved in the psychobiological mechanism of vulvodynia. **METHODS:** A psychosocial survey with questions specific to early-life traumatic events and rumination were administered to 185 matched case-control pairs of women with and without vulvodynia. Conditional logistic regression was used to examine associations between rumination constructs (ie, total rumination, emotion-focused, instrumental, and searching for meaning) and vulvodynia onset. Conditional logistic regression was also used to determine whether these associations depended on early-life stressors (ie, severity of childhood abuse and of self-reported antecedent traumatic events). Age at interview, antecedent pain disorders, any childhood abuse, and antecedent psychiatric morbidity were included as covariates. **MAIN OUTCOME MEASURES:** We estimated the odds of rumination in relation to the onset of vulvodynia within a community-based and clinically confirmed sample of women with and without vulvodynia. **RESULTS:** Vulvodynia was associated with the highest tertile of emotion-focused (odds ratio [OR] = 2.1; 95% CI = 1.2, 3.2) and instrumental (OR = 2.1; 95% CI = 1.1, 4.0) rumination. These associations were attenuated after additional adjustment for antecedent psychiatric morbidity. Among women who reported rumination about early-life stressors before vulvar pain in cases or matched reference age in control subjects, those

with vulvodynia were >2 times more likely to report the highest tertile of total rumination (OR = 2.3; 95% CI = 1.1, 5.0) compared with those without vulvodynia. **CLINICAL IMPLICATIONS:** Healthcare providers may be able to identify subsets of women who could benefit from preventive measures before the development of vulvodynia. **STRENGTH & LIMITATIONS:** This is the first study to use a community-based and clinically confirmed sample of women with and without vulvodynia to examine the associations between rumination about early-life trauma and the onset of vulvodynia. However, as with all retrospective studies, the reporting of information (eg, traumatic events) was subject to recall bias and misclassification. **CONCLUSION:** Our findings indicate that a prolonged cognitive stress response (ie, rumination) may be 1 important mechanism by which early-life chronic stressors contribute to the onset of vulvodynia. Prospective studies are recommended to examine whether and how cognitive, affective, and physiological components of prolonged stress responses interact to influence the development of vulvodynia. Understanding both the psychobiological and behavioral mechanisms may help in addressing and treating individuals to potentially reverse the development of vulvodynia.

Provoked Vestibulodynia

Subcutaneous botulinum toxin type A injections for provoked vestibulodynia: a randomized placebo-controlled trial and exploratory subanalysis.

Diomande I, Gabriel N, Kashiwagi M, Ghisu GP, Welter J, Fink D, Fehr MK, Betschart C.

Arch Gynecol Obstet. 2019 Apr;299(4):993-1000. doi: 10.1007/s00404-019-05043-w. Epub 2019 Feb 1.

<https://www.ncbi.nlm.nih.gov/pubmed/30707361>

BACKGROUND: Previous studies using botulinum toxin type A (BT) to treat provoked vestibulodynia (PVD) reported conflicting findings, possibly attributable to singular injections or low doses. We assessed PVD treatment effectiveness with high-dose single injections of BT (50 or 100 units) versus placebo, and then repeat BT 100 U injections over 6 months. **METHODS:** This was a randomized, double-blind, three-arm, placebo-controlled study with 33 PVD patients. BT 50 U (arm A), 100 U (arm B) or saline (arm C) were injected subcutaneously into the dorsal vulvar vestibulum and pain was assessed after 3 months. The investigation proceeded as an unblinded exploratory analysis, in which symptomatic patients received a BT 100 U injection. Symptomatic patients in arm C received a second BT 100 U injection at the 6-month visit. Symptoms were measured at 3-month cycles using: (1) cotton swab-provoked visual analogue scale (VAS), (2) von Frey filaments, and (3) Marinoff dyspareunia scale. **RESULTS:** The three groups were comparable in terms of demographics and baseline clinical characteristics. Three months after the initial injection, no significant differences in pain were observed among the study arms, yet significant improvements occurred within all groups using the von Frey filaments test. Results from the exploratory analyses showed repeat injections of 100 U BT over 6 months led to significant pain reduction (VAS and von Frey filaments). Fifty-eight percent (7/12) of patients assessable after repeat injections were symptom-free or had ≥ 2 VAS reduction. Adverse events were minor and no serious adverse events occurred during the RCT or exploratory analysis. **CONCLUSIONS:** PVD symptoms after one subcutaneous injection of BT (50 or 100 units) did not significantly differ compared to placebo, yet all three study arms experienced a reduction in pain 3 months after a single injection. Exploratory analyses indicated that repeat high-dose BT injections may significantly reduce pain over 6 months.

Thermal and Mechanical Pain Thresholds of Women With Provoked Localized Vulvodynia: A Pilot Study.

Basha ME, Kellogg-Spadt S, Burrows LJ, Ruberu MS, Wallach AS, Nazar AM, Whitmore KE.

J Am Osteopath Assoc. 2019 Mar 1;119(3):164-172. doi: 10.7556/jaoa.2019.027.

<https://www.ncbi.nlm.nih.gov/pubmed/30801112>

Context: Vulvodynia is a chronic pain condition defined as vulvar pain lasting at least 3 months in the absence of gross anatomic or neurologic findings. Provoked, localized vulvodynia (PLV), a subtype of vulvodynia, is characterized by vestibular pain in response to light touch. The cause of PLV remains largely unknown, and triggering events have yet to be determined. **Objective:** To evaluate vestibular and peripheral experimental pain thresholds in patients with PLV to further define the somatosensory profile of these patients. **Methods:** After informed consent was provided, eligible participants completed a questionnaire and underwent quantitative sensory testing at the forearm and posterior vestibule. Detection and pain thresholds to thermal (cold and heat) and mechanical (pressure) stimuli were measured. **Results:** Seventeen participants with PLV and 16 control participants were included. Participants in the PLV group scored lower on the patient health questionnaire 9 (PHQ-9) compared with those in the control group ($P < .05$) and had higher ratings of self-reported genital pain with sex ($P < .001$) and daily activity ($P < .05$). Forearm pain thresholds to cold ($P < .01$) and heat ($P < .01$) stimuli were also lower in the PLV group compared with those in the control group. Vestibular pain thresholds to cold ($P < .05$) and pressure ($P < .01$) stimuli were also lower in the PLV group. **Conclusion:** Lower scores on the PHQ-9 and higher self-reported genital pain ratings of patients with PLV highlight the significant impact of this poorly understood condition on quality of life. Quantitative sensory testing results demonstrated that vestibular cold allodynia may be a somatosensory feature of PLV. Reduced forearm pain thresholds in these patients suggest altered sensory processing at extrapelvic sites, although it is unclear whether these measurements are related to central sensitization.

Provoked vulvar vestibulodynia: epidemiology in Europe, physio-pathology, consensus for first-line treatment and evaluation of second-line treatments.

Bautrant E, Porta O, Murina F, Mühlrad H, Levêque C, Riant T, Ploteau S, Valancogne G, Levesque A.

J Gynecol Obstet Hum Reprod. 2019 Apr 30. pii: S2468-7847(19)30242-9. doi:

10.1016/j.jogoh.2019.04.011.

<https://www.ncbi.nlm.nih.gov/pubmed/31051298>

Combination of Treatments With or Without Surgery in Localized Provoked Vulvodynia: Outcomes After Three Years of Follow-Up.

Aalto AP, Huhtala H, Mäenpää J, Staff S.

Biores Open Access. 2019 Mar 8;8(1):25-31. doi: 10.1089/biores.2018.0044. eCollection 2019.

<https://www.ncbi.nlm.nih.gov/pubmed/30867980>

Most vulvodynia patients receive combinations of several treatment modalities for their chronic painful condition. If conservative treatments fail, vestibulectomy is considered to be the ultimate treatment option for localized provoked vulvodynia (LPV). The aim of this descriptive study was to analyze relief of pain, quality of life (QoL), and complications associated with combining surgery with conservative treatments among LPV patients, both in short term and after 3 years of follow-up. The study population consisted of a retrospective patient cohort of surgically ($n = 16$) and only conservatively ($n = 50$) treated LPV patients. QoL data were assessed by a validated questionnaire (RAND-36). Data were collected by

reviewing patient records and by aid of postal questionnaires. Efficacy of treatments in relief of pain was measured by numerical rating scale (NRS). Two months after surgery, the NRS scores assessed by a physician were lower in the surgery group than in patients treated only conservatively ($p = 0.008$). However, after a median of 36 months of follow-up, self-reported NRS scores and QoL showed no difference between the two patient cohorts. Complication rate after vestibulectomy was 18.8%. The findings suggest that combining surgery with conservative treatments may result in a more effective short-term reduction of pain. However, the effect seemed to be only temporary, as no long-term benefit was achieved.

Women's appraisal of the management of vulvodynia by their general practitioner: a qualitative study.

Leusink P, Steinmann R, Makker M, Lucassen PL, Teunissen D, Lagro-Janssen AL, Laan ET. *Fam Pract.* 2019 May 10. pii: cmz021. doi: 10.1093/fampra/cmz021.
<https://www.ncbi.nlm.nih.gov/pubmed/31074493>

BACKGROUND: Provoked Vulvodynia (PVD) is the most common cause of vulvar pain. General practitioners (GPs) are insufficiently familiar with it, causing a delay in many women receiving correct diagnosis and treatment. Besides patients factors, this delay can partly be explained by the reluctance of GPs to explore the sexual context of PVD and by their negative emotional reactions such as helplessness and frustration when consulted by patients with medically unexplained symptoms like PVD. **OBJECTIVE:** To gain insight into how women with PVD perceive and evaluate condition management by their GP, in order to support GPs in the consultation of women with PVD. **METHODS:** We performed face-to-face in-depth interviews with women diagnosed with PVD. The interviews were recorded, transcribed verbatim and thematically analysed. The Consolidated Criteria for reporting Qualitative Research (COREQ-criteria) were applied. **RESULTS:** Analysis of the interviews generated four interrelated themes: Doctor-patient relationship, Lack of knowledge, Referral process and Addressing sexual issues. Empathy of the GP, involvement in decision-making and referral were important factors in the appreciation of the consultation for women with PVD who were referred to a specialist. Because women were reluctant to start a discussion about sexuality, they expected a proactive attitude from their GP. The communication with and the competence of the GP ultimately proved more important in the contact than the gender of the GP. **CONCLUSION:** Women with PVD prefer a patient-centred approach and want GPs to acknowledge their autonomy and to address sexuality proactively.

Are Depressive Symptoms and Attachment Styles Associated with Observed and Perceived Partner Responsiveness in Couples Coping With Genito-Pelvic Pain ?

Bosisio M, Pâquet M, Bois K, Rosen NO, Bergeron S.
<https://www.ncbi.nlm.nih.gov/pubmed/31090447>

Partner responsiveness is thought to facilitate relationship adjustment in couples coping with genito-pelvic pain, such as provoked vestibulodynia (PVD). Recent studies suggest that attachment and depressive symptoms may act as a filter in the perception of partner responsiveness, and a barrier to the capacity of being responsive to a partner. Given studies suggesting higher depressive symptoms and relationship insecurities in women experiencing genito-pelvic pain compared to controls, investigating the role of these factors in partner responsiveness may help couples improve their wellbeing in the challenging context of PVD. The aim of this study was to examine the associations between depressive symptoms, attachment, and perceived and observed partner responsiveness in 50 couples coping with

PVD. Participants took part in a videotaped discussion and completed self-report measures of depressive symptoms, attachment, and perceived partner responsiveness. Based on the actor-partner interdependence model, results indicated that when women and partners reported greater depressive symptoms and anxious attachment, they perceived each other as being less responsive. When partners experienced greater depressive symptoms, women and partners were rated, by a trained observer, as being less responsive to each other. Targeting depressive symptoms and relationship insecurity in couple therapy could increase responsiveness in couples coping with PVD.

Co-morbid Disorders

Persistent genital arousal disorder: Treatment by neurolysis of dorsal branch of pudendal nerve.

Klifton K, Dellon AL.

Microsurgery. 2019 Apr 26. doi: 10.1002/micr.30464.

<https://www.ncbi.nlm.nih.gov/pubmed/31025770>

BACKGROUND: Persistent genital arousal disorder (PGAD) is a woman's perception that she is in a state of sexual arousal, without the ability of arousal to be satisfied by orgasm. It is the hypothesis of this study that PGAD results from a minimal degree of nerve compression of the dorsal branch of the pudendal nerve. If this is true, PGAD could be treated by neurolysis of the dorsal branch of the pudendal nerve. **METHODS:** A retrospective chart review from 2010 through 2018, of those women having neurolysis of the dorsal branch of the pudendal nerve for PGAD. The main outcome measures were the pre-operative and post-operative changes in clitoral symptoms (arousal, numbness, pain). **RESULTS:** Eight women included in this study were followed more than 26 weeks since surgery (mean = 65, range = 26-144 weeks). Seven of these women had the surgery bilaterally, and each of these had an excellent result, meaning elimination of the arousal symptoms, and the ability to resume normal sexual intercourse. The patient with unilateral decompression of the dorsal branch of the pudendal nerve was the only patient who had some, versus complete improvement in arousal symptoms. Of the seven women that had pain, six had complete relief and one had partial relief. No major surgical complications were observed. **CONCLUSION:** The relief of arousal symptoms by neurolysis of the dorsal nerve to the clitoris supports the hypothesis that PGAD is due to a minimal degree of compression of the dorsal branch of the pudendal nerve.

Vulval Pain in Pediatric and Adolescent Patients.

Dunford A, Rampal D, Kielly M, Grover SR.

J Pediatr Adolesc Gynecol. 2019 Mar 26. pii: S1083-3188(19)30168-8. doi: 10.1016/j.jpag.2019.03.005.

<https://www.ncbi.nlm.nih.gov/pubmed/30923024>

STUDY OBJECTIVE: To describe the experience of a tertiary pediatric and adolescent gynecology service that provides care to children and adolescents who present with vulval pain. Their presentation, associated symptoms, and management is described. **DESIGN:** A retrospective analysis of all girls younger than 18 years of age who presented to the gynecology clinic of our tertiary referral Children's Hospital between Jan 2010 and July 2016. Electronic medical records were reviewed and parameters recorded using a standardized data sheet. **SETTING:** Gynecology clinic of a tertiary referral children's hospital and private rooms of our director of gynecology. **PARTICIPANTS:** Young women younger than

18 years who presented with symptoms suggestive of vulvodynia. **INTERVENTIONS AND MAIN OUTCOME MEASURES:** Presenting symptoms, characteristics of associated features, treatment options, and treatment outcomes. **RESULTS:** Forty-seven patients with a mean age of 11 years (range, 3-18 years) were identified. At the time of diagnosis 31/47 (65.9%) were premenarchal. Many presented with a symptom other than pain alone. In particular, 35/47 (74.4%) presented with coexisting or previous urinary symptoms. Of patients examined, most had positive cotton tip examination findings (16/17 (94.1%) and 11/13 (84.6%) for pre- and postmenarchal, respectively) with clinical inspection otherwise unremarkable. **CONCLUSION:** Children and adolescents with vulval pain have varied presentations. Many of the pre- and postmenarchal patients had coexisting urinary tract symptomatology at the time of diagnosis. This review of patients seen over 5.5 years at a pediatric tertiary referral center provides information on the presenting symptoms, examination features, and response to clinical management.

Association Between Vulvovaginal Discomfort and Activity of Inflammatory Bowel Diseases.

Ona S, James K, Ananthakrishnan AN, Long MD, Martin C, Chen W, Mitchell CM.

Clin Gastroenterol Hepatol. 2019 May 18. pii: S1542-3565(19)30528-2. doi: 10.1016/j.cgh.2019.05.018. <https://www.ncbi.nlm.nih.gov/pubmed/31108226>

BACKGROUND & AIMS: Inflammatory bowel diseases (IBD) affect 200-400 people per 100,000 in the United States, about half of whom are women. We aimed to define the prevalence of vulvovaginal symptoms and association with IBD activity in a large cohort of women. **METHODS:** Women more than 18 years old with IBD (1250) completed an online survey querying the presence and severity of vulvar or vaginal itch, burn, or irritation, vaginal discharge or dryness, and vulvovaginal pain. The survey collected information on demographic features and IBD activity (categorized using the Manitoba index). Women with and without symptoms were compared using bivariate analyses. Logistic regression evaluated associations between IBD severity and vulvovaginal symptoms, adjusted for diagnosis, menopause, smoking, depression, and use of medications to treat IBD. **RESULTS:** A total of 512 (41%) women reported at least 1 moderate-severe vulvovaginal symptom. All vulvovaginal symptoms except vaginal dryness were more common in women with active IBD. In a multivariate model controlled for menopause, smoking, t-score from the PROMIS depression instrument, and use of IBD medications, women with constant or frequent active IBD, based on Manitoba index scores, had increased odds for moderate-severe vulvovaginal symptoms (odds ratio, 1.68; 95% CI, 1.22-2.32) compared to women in remission. Vulvovaginal discomfort frequently or always decreased interest in sex (n=336; 28%) or ability to have sex (n=207; 16%). **CONCLUSIONS:** In an online survey of 1250 women, we found that women with more active IBD have increased prevalence of vulvovaginal discomfort, compared to women in remission. These symptoms affect sexual health.

Vulvovaginal Discomfort Is Common in Both Premenopausal and Postmenopausal Women.

Watson LJ, James KE, Hatoum Moeller IJ, Mitchell CM.

J Low Genit Tract Dis. 2019 Apr;23(2):164-169. doi: 10.1097/LGT.0000000000000460. <https://www.ncbi.nlm.nih.gov/pubmed/30741753>

OBJECTIVES: We surveyed women from a primary care population to assess the prevalence of unreported vulvovaginal symptoms. **MATERIALS AND METHODS:** A random sample of women aged 18 to 84 years without a diagnosis of vulvovaginitis or vulvodynia in the past year were surveyed anonymously about prevalence and severity of vulvar and vaginal symptoms of itching, burning, irritation, vaginal discharge, vaginal dryness, and vulvovaginal pain in the past month. Women reporting

at least 1 moderate-severe symptom were considered symptomatic. Demographic and clinical characteristics were compared between women with and without symptoms using Pearson's χ and Student's t test. **RESULTS:** Of 1,676 mailed surveys, 272 (16.2%) were returned. Respondents were primarily non-Hispanic (254, 93.4%), White (214, 78.7%), and English speaking (267, 98.2%). More than a third of women (107, 39.3%) reported 1 or more moderate-severe symptoms. Symptomatic women were younger (49 ± 14 years vs 54 ± 15 years, $p = .004$) and more likely to report a history of asthma (22% vs 12%, $p = .028$), eczema or seasonal allergies (56% vs 40%, $p = .011$), or a previous diagnosis of bacterial vaginosis or yeast (36% vs 15%, $p < .001$) than asymptomatic women. Premenopausal versus postmenopausal women reported similar prevalence of moderate-severe symptoms: 57/136 (42%) vs 50/136 (37%), respectively ($p = .39$). Symptoms frequently or always interfered with both interest in sex (33/107, 31%) and ability to have sex (32/107, 30%). **CONCLUSIONS:** This study suggests that moderate-severe vulvovaginal symptoms are prevalent in both premenopausal and postmenopausal women and that these symptoms have a significant impact on sexual health.

Pudendal Neuralgia

Role of nerve block as a diagnostic tool in pudendal nerve entrapment.

Dickson E, Higgins P, Sehgal R, Gorissen K, Jones O, Cunningham C, Hogan AM, Lindsey I.

ANZ J Surg. 2019 Jun;89(6):695-699. doi: 10.1111/ans.15275. Epub 2019 May 15.

<https://www.ncbi.nlm.nih.gov/pubmed/31090184>

BACKGROUND: Pudendal nerve entrapment is a disabling condition which is difficult to diagnose and treat. Nantes criteria include the requirement of positive anaesthetic pudendal nerve block that is widely used to allow identification of patients likely to benefit from the definitive but invasive pudendal nerve release. This study aimed to determine if pudendal nerve blockade under general anaesthesia could diagnose and temporarily treat pudendal nerve entrapment in patients suffering from chronic pelvic/perineal pain and/or organ dysfunction. **METHODS:** This retrospective analysis of a prospectively maintained database examined the outcomes of all recipients of diagnostic pudendal nerve block in a quaternary referral centre between 2012 and 2017. Primary outcome was relief of perineal pain (transient or permanent). Secondary outcomes were demographics, referral patterns for definitive procedure and complication rates. Statistical analysis was performed using SPSS v 24. **RESULTS:** A total of 77 patients were included in the study. Mean age was 57.27 ± 13.55 years. Majority were females ($n = 62$, 80.5%). Relief of pain was experienced by 47 of 76 (68.1%) patients after initial injection. Complication rate of injection was 3.9% ($n = 3$) which in all cases was unilateral lower limb paraesthesia. Of the 37 patients (52.9%) referred, 20 underwent surgical decompression with 12 (60%) being successful. **CONCLUSION:** Pudendal nerve injection is a safe and simple procedure that can provide accurate diagnosis and transient relief from this chronic and debilitating problem. This technique helps to isolate patients suitable for pudendal nerve decompression which offers high success rates.

The Use of Pulsed Radiofrequency for the Treatment of Pudendal Neuralgia: A Case Series.

Frank CE, Flaxman T, Goddard Y, Chen I, Zhu C, Singh SS.

J Obstet Gynaecol Can. 2019 Mar 22. pii: S1701-2163(19)30035-0. doi: 10.1016/j.jogc.2019.01.019.

<https://www.ncbi.nlm.nih.gov/pubmed/30910339>

OBJECTIVE: Pudendal neuralgia is a recognized cause of chronic pelvic pain. The diagnosis is complex, and there is no consensus on ideal management. Many current methods do not provide adequate relief. Pulsed radiofrequency is a minimally invasive option that has been reported for its use in other neuropathies. This study aimed to evaluate the feasibility and safety of using transvaginal pulsed radiofrequency for the treatment of pudendal neuralgia and to generate a hypothesis on its efficacy.

METHODS: A retrospective review was conducted of women who were treated with pulsed radiofrequency for chronic pelvic pain owing to pudendal neuralgia between January 2012 and December 2017 at an academic tertiary care centre. (Canadian Task Force Classification II-3). **RESULTS:** A total of seven patients were included. The mean age was 43.7 (standard deviation 7.97). The average number of pulsed radiofrequency treatments was 4.43 (range 1-12), and the duration of effect averaged 11.4 weeks (standard deviation 3.09). There were no major or minor complications at the time of procedure or at follow-up visits. **CONCLUSIONS:** Pulsed radiofrequency may be an effective and safe treatment option for the management of pudendal neuralgia for women in whom conservative management has not been effective. Future controlled studies are needed to confirm this hypothesis.

Osteopathic manipulative treatment in pudendal neuralgia: A case report.

Origo D, Tarantino AG.

J Bodyw Mov Ther. 2019 Apr;23(2):247-250. doi: 10.1016/j.jbmt.2018.02.016. Epub 2018 Feb 17.

<https://www.ncbi.nlm.nih.gov/pubmed/31103103>

Pudendal neuralgia is characterised by pain in the pudendal dermatome. It could be due to a stenosis of the pudendal canal, a compression along its pathway, or a pelvic trauma. Pudendal nerve entrapment (PNE) syndrome is frequently involved in pudendal neuralgia onset. This case report describes the osteopathic manipulative treatment (OMT) of a patient with functional PNE. A 40-year-old female presented with a 12-month history of intense pelvic pain resistant to 3 months of pharmacologic treatment that arose after three proctological surgeries. A perineal retracted painful scar was visible upon examination. PNE syndrome diagnosis was based on Nantes criteria. The electromyogram of the nerve showed an increased motor response latency of the left pudendal nerve. Visual analogue scale (VAS), female National Institutes of Health Chronic Prostatitis Symptom Index (NIH-CPSI), Oswestry Disability Index (ODI) and Tampa scale of kinesiophobia (TSK) were used to assess patient's symptoms at baseline (T0), after pharmacologic treatment (T1), after OMT (T2), and at 6-month follow-up. Five treatments, including direct and indirect techniques, were performed over 1 month. OMT reduced pelvic neuralgia and disability indexes without any complications, maintaining a positive outcome at 6-month follow-up (VAS: T0 = 10, T1 = 10, T2 = 1.8, T3 = 1.5), (NIH-CPSI: T0 = 34, T1 = 30, T2 = 7, T3 = 6), (ODI: T0 = 48, T1 = 29, T2 = 9, T3 = 5) and (TSK: T0 = 51, T1 = 41, T2 = 20, T3 = 17). This is the first report of a patient diagnosed with functional PNE managed with OMT. A link between PNE, scar and pelvic somatic dysfunctions could suggest double crush syndrome.

Efficacy of Non-ablative Laser Therapy for Lichen Sclerosus: A Randomized Controlled Trial.

Bizjak Ogrinc U, Senčar S, Luzar B, Lukanović A.

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<https://www.ncbi.nlm.nih.gov/pubmed/30981618>

OBJECTIVE: The aim of this randomized controlled trial was to evaluate the safety and efficacy of neodymium: yttrium aluminum garnet laser treatment of lichen sclerosus (LS) by comparing it with topical corticosteroid treatment. **METHODS:** A total of 40 female patients with vulvar LS were randomized 1:1 into a study (laser) group and a control (topical corticosteroids) group. The laser group received three laser treatments. Blinded evaluators evaluated biopsies and graded improvement on clinical photographs at baseline and at 3 months. Patients graded the intensity of symptoms on a 0 to 10 visual analogue scale at baseline and 1-, 3-, and 6-month follow-up. Patients also rated the tolerability of laser treatments, and side effects were monitored. (Canadian Task Force classification I) **RESULTS:** Laser treatment discomfort was on average 1.5 of 10 on the visual analogue scale. At 1- and 3-month follow-up, patients in the laser group had significantly greater improvement in LS symptoms (burning, itching, pain, and dyspareunia), better patient satisfaction, and greater reduction of sclerosis than patients in the topical corticosteroid group. At 6-month follow-up, the improvement of symptoms in the laser group was still significant. The correct order of photographs (before and after treatment) was assigned significantly more often in the laser-treated patients compared with the control group. **CONCLUSION:** Laser therapy for LS caused minimal patient discomfort during the treatment, with no adverse effects, and demonstrated better efficacy than in the control group, with significant improvement lasting up to 6 months. Laser therapy is a promising option for patients not responding to topical corticosteroid therapy or patients wishing to reduce long-term corticosteroid maintenance use.

Management of Vulval Lichen Sclerosus-The Role of the Plastic Surgeon.

Gujral S, Coelho J, Chummun S, Watts A.

Eplasty. 2019 Apr 24;19:ic12. eCollection 2019.

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