National Vulvodynia Association

Improving women's lives through education, research, support and advocacy

Research Update E- Newsletter
December 2020 – January – February 2021
www.nva.org

_____

Vulvodynia

Pharmacological modulation of voltage-gated sodium (NaV) channels alters nociception arising from the female reproductive tract

Joel Castro, Jessica Maddern, Andelain Erickson, Ashlee Caldwell, Luke Grundy, Andrea M Harrington, Stuart M Brierley

Pain. 2021 Jan;162(1):227-242. doi: 10.1097/j.pain.0000000000002036.

https://pubmed.ncbi.nlm.nih.gov/32826751/

Dyspareunia, also known as vaginal hyperalgesia, is a prevalent and debilitating symptom of gynaecological disorders such as endometriosis and vulvodynia. Despite this, the sensory pathways transmitting nociceptive information from female reproductive organs remain poorly characterised. As such, the development of specific treatments for pain associated with dyspareunia is currently lacking. Here, we examined, for the first time, (1) the mechanosensory properties of pelvic afferent nerves innervating the mouse vagina; (2) the expression profile of voltage-gated sodium (NaV) channels within these afferents; and (3) how pharmacological modulation of these channels alters vaginal nociceptive signalling ex vivo, in vitro, and in vivo. We developed a novel afferent recording preparation and characterised responses of pelvic afferents innervating the mouse vagina to different mechanical stimuli. Single-cell reverse transcription-polymerase chain reaction determined mRNA expression of NaV channels within vagina-innervating dorsal root ganglia neurons. Vagina-innervating dorsal root ganglia neuroexcitability was measured using whole-cell patch-clamp electrophysiology. Nociception evoked by vaginal distension was assessed by dorsal horn neuron activation within the spinal cord and quantification of visceromotor responses. We found that pelvic afferents innervating the vagina are tuned to detect various mechanical stimuli, with NaV channels abundantly expressed within these neurons. Pharmacological modulation of NaV channels (with veratridine or tetrodotoxin) correspondingly alters the excitability and mechanosensitivity of vagina-innervating afferents, as well as dorsal horn neuron activation and visceromotor responses evoked by vaginal distension. This study identifies potential molecular targets that can be used to modulate vaginal nociceptive signalling and aid in the development of approaches to manage endometriosis and vulvodynia-related dyspareunia.

Cannabis and Vulvodynia Symptoms: A Preliminary Report
Eliza Barach, Melissa N Slavin, Mitch Earleywine
CANNABIS. 2020 Jul 3;3(2):139-147. doi: 10.26828/cannabis.2020.02.001.
https://pubmed.ncbi.nlm.nih.gov/33426502/

Medical marijuana has a long history of use as an analgesic for chronic pain disorders, including dyspareunia (pain during intercourse), a hallmark of the rare chronic pain disorder vulvodynia. Many women's health topics remain under investigated. Few studies address cannabis's potential to treat vulvodynia symptoms despite their dramatic impact on quality of life. Women who had used cannabis and who reported experiencing vulvodynia symptoms (*N* = 38) completed an online survey assessing symptoms, expectancies regarding cannabis-associated relief from vulvodynia symptoms, cannabis use, and cannabis-related problems. Generally, women expected cannabis to have moderate to large effects on vulvodynia symptoms (*d* = .63-1.19). Nevertheless, women expected greater relief for burning/stabbing pain than for itching and pain associated with tampon insertion, as well greater relief for dyspareunia than for pain associated with tampon insertion. Those whose symptoms were worse expected more relief from cannabis treatment. Expectations of cannabis-induced relief did not increase frequency of use or problems. These data support the idea that further work is warranted, including placebo-controlled randomized clinical trials to rule out any placebo effects and identify potential adverse side effects from a cannabis treatment for vulvodynia.

Provoked Vestibulodynia

Low-Intensity Shockwave for Treatment of Vestibulodynia: A Randomized Controlled Therapy Trial
Ilan Gruenwald, Ola Gutzeit, Anna Petruseva, Irena Gartman, Lior Lowenstein
J Sex Med . 2021 Feb;18(2):347-352. doi: 10.1016/j.jsxm.2020.11.006. Epub 2021 Jan 6.
https://pubmed.ncbi.nlm.nih.gov/33419704/

Background: Provoked vestibulodynia (PVD) is an exhausting pain syndrome that immensely affects quality of sexual life and consequently negatively affects quality of life. Low-intensity shock wave therapy produces physical forces that lead to pain relief. **Aim:** The aim of this study was to evaluate the feasibility, safety, and efficacy of low-intensity shockwave therapy in patients with provoked vestibulodynia. **Methods:** This is a double-blinded, randomized, sham-controlled, prospective study of 32 women. The treatment protocol included a series of treatments, performed twice a week for 6 weeks. Each treatment consisted of 500 pulses of low intensity shockwaves (0.09 mJmm2) using the Medispec, ED-1000 shockwave generator or sham. Participants were assessed at the baseline, and at 1 and 3 months after completing all treatments. **Outcomes:** Pain was assessed by both subjective and objective measures. The primary outcome was a change in dyspareunia, as assessed by scores on the 10-point visual analog scale. Secondary outcome measures were changes in pain threshold and tolerance, assessed by a quantitative validated algometer test, the Wong-Baker pain FACES scale, the Female Sexual Function Index and the Patients' Global Impression of Change scale. **Results:** From the baseline to 1 month and 3 months after completion of treatment, visual analog scale scores for dyspareunia decreased (8.0 ± 1.4, 5.7 ± 2.3, and 4.4 ± 2.5, respectively, $P < .005$). For these respective time points, Wong-Baker scores decreased (4.0 ± 0.6, 2.9 ± 1.2, 2.5 ± 1.3, respectively, $P < .05$); and total Female Sexual Function Index increased (17.9 ± 6.3, 20.9 ± 6.2, 22.5 ± 8, respectively, $P < .002$). Pain threshold and tolerance measured by the algometer were increased 3 months after completion of the treatment compared with the baseline (69.8 mmHg ± 11.8 vs 22.9 mmHg ± 9.0, $P < .01$ and 87.7 mmHg ± 35.7 vs

43.3 mmHg ± 14.7, P < .0001, respectively). No changes were observed in any of the measures assessed in the sham group. **Clinical implications:** We found a new effective treatment for alleviating the most bothersome symptom in PVD, pain during penetration and intercourse. This resulted in improved sexual function. **Strengths & limitations:** The strengths of this study are the randomized controlled design, the correlated subjective questionnaires, and the use of semiquantitative algometer methodology. The limitations are the relative low number of participants in a single center. **Conclusion:** For women with PVD, low-intensity shockwave therapy applied at the introitus is a feasible, safe, and effective treatment option that may have a beneficial effect in pain relief and in sexual function.

Long-Term Efficacy of Physical Therapy for Localized Provoked Vulvodynia
Ola Jahshan-Doukhy, Jacob Bornstein
Int J Womens Health. 2021 Feb 10;13:161-168. doi: 10.2147/IJWH.S297389. eCollection 2021.
https://pubmed.ncbi.nlm.nih.gov/33603495/

Purpose: The origin of provoked vulvodynia (PV), the main cause of entry dyspareunia, remains unclear, and the treatment is empiric. In this study, we aimed to investigate the long-term effects of physical therapy on PV in subjects using questionnaire concerning PV symptoms immediately after physical therapy and at least 10 years later. **Patients and methods:** This study included a total of 24 women diagnosed with PV and referred by their primary physicians to Maccabi Physical Therapy Clinic for pelvic floor rehabilitation between 2004 and 2008. Criteria such as pain relief, sexual functioning, and treatment satisfaction were assessed. **Results:** The average pain scores of the 24 participants reduced significantly after therapy, and 42% had no pain between treatment and the time of survey. Eighty-three percent did not undergo additional treatment after the initial physical therapy and reported high or very extremely high levels of pain reduction following treatment. Multiple regression analysis found that onset type of PV and age were not associated with the treatment outcome (p = 1.0).
Conclusion: Physical therapy is an effective long-term treatment for primary or secondary PV, resulting in pain reduction and improved sexual function.

The histopathological results of vestibulectomy specimens in localized provoked vulvodynia in Turkey
Suleyman Eserdag, Didem Kurban, Mine Kiseli, Murat Alan, Yasemin Alan
Pan Afr Med J. 2020 Nov 24;37:267. doi: 10.11604/pamj.2020.37.267.21240. eCollection 2020.
https://pubmed.ncbi.nlm.nih.gov/33598081/

Introduction: Localized Provoked Vulvodynia (LPV) is a gynecological disease that is difficult to manage. Despite the wide spectrum of pathophysiological mechanisms and treatment modalities, there is limited success in the management of this disease. Surgical treatment is usually performed as the last resort. We aimed to investigate the histopathological results of 38 women with LPV who underwent surgical vestibulectomy. **Methods:** of the 55 women that were diagnosed with LPV and underwent vulvar vestibulectomy, 38 patients with complete histopathological results were included in this retrospective study. **Results:** in 14 patients, the pathological reports revealed Low-Grade Squamous Intraepithelial Lesions (LGSIL) (36.8%) whereas for 21 cases (55.2%), the findings were concordant with vestibulitis. The remaining three patients (7.8%) were diagnosed with lichen simplex chronicus. **Conclusion:** the presence of LGSIL in the surgical specimens of LPV cases is noteworthy. In this group of patients, surgical excision may contribute to the prevention of progression into high-grade lesions. The relationship between Human Papilloma Virus (HPV) infections and LPV should be further investigated.

Topical treatment of vulvodynia, dyspareunia and pudendal neuralgia: A single clinic audit of amitriptyline and oestriol in organogel

Chantelle M Ruoss, Elizabeth A Howard, Karen Chan, Paul G Stevenson, Thierry Vancaillie

Aust N Z J Obstet Gynaecol . 2021 Jan 11. doi: 10.1111/ajo.13292.
https://pubmed.ncbi.nlm.nih.gov/33427301/

Background: Vulvodynia and pudendal neuralgia comprise significant contributors to vulvar-related pain and its impact on daily life. **Aim:** A retrospective clinical audit was conducted at the Women's Health & Research Institute of Australia, Sydney, to determine the pattern of use and the efficacy of the application of topical amitriptyline 0.5% plus oestriol 0.03% in organogel (AOO), to the vulvar vestibule in reducing the impact of pain on daily life. **Materials and methods:** There were 1174 patients who received a script from May 2017 until February 2020: 1054 patients agreed to be contacted and had a valid email address. **Results:** There were 376 (35.7%) patients who replied. Pain with intercourse was the main indication for use. Treatment was rated effective by 51.2% (95% CI: 35.4-66.8%) of patients less than 30 years of age, 66.7% (95% CI: 57.3-74.9%) of patients 30-50 years of age, and 58.3% (95% CI: 50.9-65.4%) in patients over 50. Stinging at the site of application was the most commonly reported side effect. **Conclusion:** Topical AOO is an effective and well-tolerated treatment for vulvar pain.

Early Life Health in Women with Provoked Vestibulodynia and/or Vaginismus

Hanna Mühlrad, Philip Haraldson, Bernard L Harlow, Marie Anell Olofsson, Nina Bohm-Starke

J Womens Health (Larchmt). 2021 Jan 4. doi: 10.1089/jwh.2020.8551.
https://pubmed.ncbi.nlm.nih.gov/33395559/

Background: The lifetime prevalence of prolonged vulvar pain ranges from 3% to 28% among premenopausal women. Provoked vestibulodynia (PVD), often accompanied with various degrees of vaginismus, is the predominant cause. We explored the association between birth-related events and the risk of developing PVD/vaginismus during adulthood. **Methods:** We identified all women born in Sweden between 1973 and 2001 and categorized those with and without a diagnosis of PVD/vaginismus between 2001 and 2016 (during ages 15-43 years). Nationwide registry data were used to estimate the association between health during infancy (preterm birth, low birth weight, small for gestational age [SGA], Appearance, Pulse, Grimace, Activity and Respiration [APGAR] scores <7, and pain exposure during infancy) and the onset of PVD/vaginismus later in life using an event probability model. **Results:** Of the 1,359,315 women born in Sweden during 1973-2001, 9,247 were diagnosed with PVD (*n* = 6,648), vaginismus (*n* = 3,567), or both (*n* = 969). Preterm delivery <37 weeks (adjusted odds ratios [aOR]: 1.15, 95% confidence interval [CI]: 1.05-1.26), low birth weight <2,500 g (aOR: 1.24, 95% CI: 1.12-1.36), extremely low birth weight <1,500 g (aOR 1.41, 95% CI: 1.10-1.82), and SGA (aOR 1.20, 95% CI: 1.08-1.34) were factors associated with developing PVD/vaginismus. APGAR scores <7 or pain exposure during birth or infancy was not associated with PVD/vaginismus. Advanced maternal age, higher educational attainment, and being born in Sweden were associated with having a female offspring diagnosed with PVD/vaginismus. **Conclusions:** In a population of Swedish women 15-43 years of age, adverse health at birth was associated with developing PVD/vaginismus later on in life.

A Systematic Review of Intravaginal Diazepam for the Treatment of Pelvic Floor Hypertonic Disorder

Rebecca H Stone, Marin Abousaud, Aseala Abousaud, William Kobak

J Clin Pharmacol . 2020 Dec;60 Suppl 2:S110-S120. doi: 10.1002/jcph.1775.
https://pubmed.ncbi.nlm.nih.gov/33274514/

This systematic review evaluates the efficacy of intravaginal diazepam in treating chronic pelvic pain and sexual dysfunction associated with high-tone pelvic floor dysfunction. A literature search was conducted in Medline and Web of Science, including articles from the database's inception to July 2019. The search identified 126 articles, and 5 articles met study inclusion criteria: 2 observational reviews and 3 small randomized, controlled trials (RCTs) evaluating intravaginal diazepam for high-tone pelvic floor dysfunction. The 2 observational studies identified subjective reports of improvement in sexual function for a majority of women, 96% and 71%, in each study. However, there were no statistical differences between Female Sexual Function Index (FSFI) and Visual Analog Scale (VAS) scores for pain identified. One RCT found no significant changes between groups in median FSFI or VAS scores, and a second RCT found no significant changes between groups in 100-mm VAS scores. The third RCT demonstrated that compared with placebo, treatment with transcutaneous electrical nerve stimulation and intravaginal diazepam for women with vestibulodynia and high-tone pelvic floor dysfunction yielded significant differences in reduction of dyspareunia ($P \leq .05$), ability to relax pelvic floor muscles after contraction ($P \leq .05$), and current perception threshold values at a 5-Hz stimulation related to C fibers ($P < .05$), but no significant changes in 10-cm VAS scores. Intravaginal diazepam may be helpful in women with a specific diagnosis of high-tone pelvic floor dysfunction, but more and larger studies are needed to confirm these potential effects.

Vaginal Microbiome Is Associated With Vulvodynia, Vulvar Pain Syndrome: A Case-Control Study
So Yun Park, Eun Sil Lee, Sa Ra Lee, Sung Hoon Kim, Hee Dong Chae
Sex Med. 2021 Feb 26;9(2):100314. doi: 10.1016/j.esxm.2020.100314.
https://pubmed.ncbi.nlm.nih.gov/33652201/

Introduction: Vulvodynia, vulvar pain syndrome, is defined as vulvar pain of at least a 3-month duration without a clear identifiable cause, which may have associated factor and the etiology and treatment of this challenging disease is still unclear. Dyspareunia is a relevant symptom of patients with vulvodynia. Vaginal microbiome has known an important role in local immune-inflammatory responses and it may be important pathogenic mechanism in vulvodynia. **Aim:** The objective of this study was to investigate the association of vaginal microbiome and vulvodynia. **Methods:** We analyzed the microbial compositions of the vestibule and vagina among women with clinically diagnosed vulvodynia (n = 22) and age-matched healthy controls (n = 22) without vulvodynia. The compositions of bacterial microbiomes were compared by pyrosequencing of the 16S rRNA. **Main outcome measure:** Vaginal microbiome alpha and beta diversity were assessed using the Shannon diversity index and Heat map. Linear discriminant analysis effect size was used to find out marker for vulvodynia. **Results:** There were no significant differences in the age, duration of marriage, history of gynecologic surgery, parity, and menopause status between cases and controls. A total of 1,661,934 high-quality pyrosequencing reads was obtained to evaluate bacterial diversity, and 50,246 unique sequences represented all phylotypes. The type and mean number of the genera were not different between cases and controls. However, the most predominant phyla of bacteria were significantly different between cases and controls. 3 phyla (Firmicutes, Actinobacteria, and Tenericutes) and 11 genera including Gardnerella, Ureaplasma, Achromobacter, Mycoplasma, and Bifidobacteria were significantly more prevalent in cases than in controls ($P < .05$). Linear discriminant analysis effect size analysis suggest the Bifidobacterium, Mycoplasma, and Fenollaria species can be potential markers for vulvodynia. **Conclusion:** Our results suggest the differences in vaginal microbiome can be associated with the vulvodynia.

Vestibular Mucosa Thickness Measured by Ultrasound in Patients Affected by Vestibulodynia: A Case-Control Study

Filippo Murina, Sara Barbieri, Chiara Lubrano, Irene Cetin

Sex Med. 2021 Feb 12;9(2):100320. doi: 10.1016/j.esxm.2020.100320.
https://pubmed.ncbi.nlm.nih.gov/33588370/

Introduction: A multifactorial etiology has been implicated in the development and maintenance of vestibulodynia (VBD), and atrophic changes of the vestibular mucosa have been observed in many patients. **Aim:** To assess the vestibular mucosa thickness in patients with VBD by comparing this sample with a control group of healthy fertile women and postmenopausal patients with symptoms of genitourinary syndrome of menopause (GSM). **Methods:** Vestibular mucosa thickness was measured with a 20 MHz ultrasound probe (DermaScan C, Cortex Technology, Denmark), including both the epidermis and dermis. **Main outcome measures:** All women were evaluated by anamnesis, physical examination, and self-report symptoms. Thickness of the vestibular mucosa (expressed in micrometers) was determined by the B-mode, excluding the hyperechogenic entrance echo and hypoechogenic subcutis. Clinical data related to VBD and GSM were recorded using a 0- to 10-point visual analog scale related to dyspareunia and vulvar pain/burning (0 = no pain; 10 = worst possible pain).
Results: A total of 85 patients were recruited: 24 with VBD, 20 with GSM-related symptoms, and 20 matched controls. Vestibular mucosa thickness measurements were not significantly different between the VBD (mean ± DS: 1,092.5 ± 226.1 μm) and GSM groups (1,059.7 ± 221.5 μm), while the parameter was significantly lower ($P < .01$) than the control group (1,310.6 ± 250.0 μm). Correlation analysis in the VBD and GSM groups between low vestibular mucosa thickness and symptom intensity (burning/pain and dyspareunia) showed a significant correlation. **Conclusion:** Patients with VBD have a vestibular mucosa with a lower thickness than healthy women of the same age, with an almost identical value to that found in postmenopausal women. Furthermore, a low vestibular mucosa thickness in the VBD and GSM groups showed a significant correlation with burning/pain intensity and dyspareunia severity.

Treating gynecological pain: key factors in promoting body awareness and movement in somatocognitive therapy (SCT). A case study of a physiotherapy student´s treatment approaches

Kristine Grimen Danielsen, Marit Fougner, Gro Killi Haugstad

Physiother Theory Pract . 2021 Jan 11;1-13. doi: 10.1080/09593985.2021.1872125.
https://pubmed.ncbi.nlm.nih.gov/33427550/

Background: Longstanding gynecological pain affects large numbers of women in the Western world. Somatocognitive therapy (SCT), a hybrid of cognitive psychotherapy and physiotherapy, is an evidence-based approach that has been successfully applied in the treatment of women suffering from such disorders, for example chronic pelvic pain (CPP) and provoked vestibulodynia (PVD), both demanding pain conditions. The curriculum of Oslo Metropolitan University's Mensendieck physiotherapy bachelor's program includes SCT training for the management of PVD. **Purpose**: The purpose of this study is to describe and explore the content of a SCT session based on a body and mind approach as performed by a physiotherapy student at a student outpatient clinic. **Methods**: A video-based case study of the student-patient encounter was undertaken midway through an SCT treatment course and subjected to content analysis. **Findings**: Three categories illustrating the learning process of body awareness, associated with the three-phase SCT were identified: 1) demystifying genital and chronic pain; 2) concentration, and body and mind experiences; and 3) patience, persistence, and willingness to change. **Conclusion**: The observation of the somatocognitive therapy session illustrates the value of an empathic relationship with the patient, in order to encourage her to explore body sensations and

become familiar with the vulvar area. The therapy engages the patient in understanding pain mechanisms, thus educating her to overcome the fear of pain.

Pain Characteristics, Psychosocial, and Sexual Wellbeing of Women Diagnosed with Provoked Vestibulodynia and a History of Sexual Abuse

Robyn A Jackowich, Kelly B Smith, Lori A Brotto

J Obstet Gynaecol Can. 2020 Dec 23;S1701-2163(20)31018-5. doi: 10.1016/j.jogc.2020.11.021.

https://pubmed.ncbi.nlm.nih.gov/33359553/

Objective: Provoked vestibulodynia (PVD) is a common chronic pain condition characterized by pain at the vulvar vestibule elicited by touch. Both PVD and sexual abuse lead to negative psychosocial and sexual consequences. However, little is known about the wellbeing of women with PVD and a history of sexual abuse. The aim of this study was to characterize a sample of women seeking treatment for PVD who have experienced sexual abuse. **Methods:** A total of 404 women diagnosed with PVD completed self-report questionnaires of PVD symptoms and psychosocial and sexual wellbeing before and after participating in a multidisciplinary PVD treatment program. History of sexual abuse was assessed via self-report, and women were dichotomized into groups. **Results:** No significant differences were found on sociodemographic variables, baseline psychosocial or sexual functioning between women with and without a self-reported history of sexual abuse (n = 40 and n = 364, respectively). Significantly more women with a history of sexual abuse than without reported other comorbid chronic pain conditions and radiating PVD pain. History of sexual abuse did not affect improvements in sexual distress scores following multidisciplinary treatment for their PVD. **Conclusion:** Ten percent of women in our sample self-reported a history of sexual abuse, but the two groups did not differ significantly with respect to their baseline psychosocial or sexual functioning concerns, and both groups reported reductions in sexual distress following treatment for PVD. These findings indicate that a history of sexual abuse does not significantly affect the efficacy of multidisciplinary treatment approaches for PVD.

If I stop, then what am I supposed to do? The experiences of sexual intimacy of women who live with provoked vestibulodynia

Marthe Schneider, Dag Willy Tallaksen, Magne Haukland, Gro Killi Haugstad

Health Care Women Int. 2021 Feb 18;1-19. doi: 10.1080/07399332.2020.1868473.

https://pubmed.ncbi.nlm.nih.gov/33600288/

We explored the experiences of sexual intimacy in women living with provoked vestibulodynia (PVD), a chronic pain condition where pain at the vaginal opening is triggered by touch. We conducted in-depth interviews with nine women who had suffered from PVD. Our findings reveal that their ability to trust and accept themselves is essential to how they cope when pain disrupts their freedom to have sexual intercourse. The tendency to endure painful intercourse and not tell the partner is driven by fear of rejection and conflict. Those who are able to overcome their fear, experience deeper intimacy and more sexual pleasure.

Co-morbid Disorders

Online Pelvic Floor Group Education Program for Women With Persistent Genital Arousal Disorder/Genito-Pelvic Dysesthesia: Descriptive Feasibility Study
Robyn A Jackowich, Kayla M Mooney, Evelyn Hecht, Caroline F Pukall
JMIR Form Res. 2021 Jan 11;5(1):e22450. doi: 10.2196/22450.
https://pubmed.ncbi.nlm.nih.gov/33427673/

Background: Persistent genital arousal disorder/genito-pelvic dysesthesia (PGAD/GPD) is a highly distressing yet poorly understood condition characterized by persistent genito-pelvic sensations, often described as "genital arousal," which occur in the absence of sexual desire. PGAD/GPD is associated with significant impairment in psychosocial and daily functioning; however, there are currently no empirically validated treatment algorithms for PGAD/GPD. Pelvic floor physical therapy exercises have been found to be effective at reducing other forms of genito-pelvic discomfort, such as vulvodynia, and may also be beneficial to those experiencing PGAD/GPD. Many individuals with PGAD/GPD report difficulty finding a health care provider who is knowledgeable about PGAD/GPD; therefore, pelvic floor education and exercises in an online format may have the potential to reach more individuals in need.
Objective: This study examined the feasibility of an online pelvic floor group education program; descriptively assessed outcomes related to distress, discomfort, catastrophizing, and mood; and obtained feedback from participants in order to inform the development of improved online group programs. **Methods:** Fourteen women with current symptoms of PGAD/GPD attended an online, 8-session pelvic floor group education program. Participants completed questionnaires of symptoms (ie, symptom distress, discomfort) and psychosocial well-being (ie, depression, anxiety, symptom catastrophizing) prior to the group sessions (Time 1), immediately after the final group session (Time 2), and 6 months following the final group session (Time 3). Participants also completed an anonymous feedback questionnaire immediately following the group program. **Results:** Overall, participants who attended a larger number of the group sessions (>5 sessions, n=7) appeared to report lower baseline (Time 1) symptoms and psychosocial impairment than those who attended fewer sessions (<5 sessions, n=7). A pattern of small improvements was seen following the group sessions on symptom and psychosocial outcomes. In the feedback questionnaire, breathing and relaxation exercises were described to be the most helpful home practice exercises, and participants rated sessions on (1) the relationship between emotions and PGAD/GPD symptoms and (2) relaxation exercises to be the most helpful. A number of barriers to participation in the group program were also identified, including comorbid health concerns and lack of personal time to complete the program/exercises. **Conclusions:** Online interventions provide an opportunity to reach international participants who may otherwise struggle to access a knowledgeable provider for their PGAD/GPD symptoms. Addressing barriers may help to increase participants' abilities to engage in the program. Future programs may seek to integrate a greater focus on relaxation strategies and cognitive-affective strategies for managing PGAD/GPD symptoms.

Neuromodulation in Treating Pelvic Pain
Corey W Hunter, Steven Falowski
Curr Pain Headache Rep. 2021 Feb 3;25(2):9. doi: 10.1007/s11916-020-00927-y.
https://pubmed.ncbi.nlm.nih.gov/33534006/

Purpose of review: Chronic pelvic pain (CPP) is a complex condition that can be multifactorial, disabling, and difficult to treat. It is important to understand the various diagnoses and pathways that can be involved and have an understanding of the available treatment options.
Recent findings: There is a complex innervation of the pelvic region which makes its treatment very challenging. There are pathophysiological similarities of CPP to disease states like complex regional pain syndrome and sympathetically driven pain. CPP is poorly understood and includes psychological, psychosocial, cultural, and economic influences. Treatment options vary, but neuromodulation does remain a centerpiece and can include sacral stimulation, SCS, DRG stimulation, and PNS.

[Chronic pelvic pain syndrome in women: diagnostic and therapeutic aspects]
[Article in Russian]
M Yu Maksimova, M N Sharov, A V Zaitsev, Yu S Prokofyeva, A P Rachin, S A Rachin
Urologiia. 2020 Dec;(6):156-161.
https://pubmed.ncbi.nlm.nih.gov/33377696/

Chronic pelvic pain syndrome (PPS) refers to pain of three to six months duration (or longer) that occurs below the umbilicus. PPS is considered a form of chronic regional pain syndrome or functional somatic pain syndrome. Multimodal ollaborative and patient-centered approach is critical component of treatment for women with CPPS. The current review encompasses the linical manifestations and therapeutic interventions for CPPS - a yet to be defined problem.

Interventional treatment options for women with pelvic pain
Joseph E Torres, Ameet S Nagpal, Alice Iya, Donald McGeary, Malathy Srinivasan
Curr Phys Med Rehabil Rep. 2020 Sep;8(3):229-239. doi: 10.1007/s40141-020-00265-5. Epub 2020 May 14.
https://pubmed.ncbi.nlm.nih.gov/33552701/

Purpose of review: I.To provide an overview of current interventional treatment options for women with chronic pelvic pain (CPP). **Recent findings:** II.Accessibility of CT imaging, ultrasound, and fluoroscopy have assisted the development of novel interventional techniques. Similarly, neuromodulation techniques have improved with the development of novel stimulation patterns and device implants. **Summary:** III.Numerous small-scale studies report high success rates with injection intervention therapies in CPP but there are limited well designed large-scale studies that demonstrate superiority of treatment. Female pelvic pain is difficult to diagnose due to the multifactorial etiology and the variable presentation causing delay in accurate diagnosis and lack of response to conventional medical and initial interventional therapies. Despite the shortfalls of current studies, collectively our understanding of chronic pain conditions and helpful injection interventions are improving. Undoubtedly the breadth of current research will provide a rich foundation for future large-scale well-designed studies involving multiple disciplines with more uniform methods and criteria to produce reliable and reproducible results.

Pelvic Congestion Syndrome
Antonio Basile, Giovanni Failla, Cecilia Gozzo
Semin Ultrasound CT MR . 2021 Feb;42(1):3-12. doi: 10.1053/j.sult.2020.07.001. Epub 2020 Jul 9.
https://pubmed.ncbi.nlm.nih.gov/33541587/

Pelvic congestion syndrome (PCS) is often an underdiagnosed cause of chronic pelvic pain in female patients with radiology detection of gonadal vein dilatation and parauterine varices. It may occur either alone or in combination with vulvar varicosities and/or lower extremity venous insufficiency. Although transcatheter venography represent the gold standard for PCS diagnosis, it is performed after inconclusive noninvasive imaging such as Doppler Ultrasound, CT scan, and MRI. Once diagnosis has been confirmed, management of PCS include medical, surgical, and endovascular therapy. Medical and surgical treatments have been shown to be less effective than transcatheter pelvic vein embolization. This latter has been proven to be a safe, effective, and durable therapy for the treatment of PCS. Numerous studies have shown their results in PCS endovascular treatment, but neither of them has been subjected to an adequate randomized controlled trial. A well-designed randomized controlled trial is urgently needed to assess transcatheter embolization clinical success.

Sexual assault as a risk factor for gynaecological morbidity: An exploratory systematic review and meta-analysis

Tayla Hassam, Emma Kelso, Prathima Chowdary, Engida Yisma, Ben W Mol, Alice Han

Eur J Obstet Gynecol Reprod Biol. 2020 Dec;255:222-230. doi: 10.1016/j.ejogrb.2020.10.038. Epub 2020 Oct 18.

https://pubmed.ncbi.nlm.nih.gov/33157429/

Among Australian females, sexual assault affects 1 in 5 Australian women [1], and 1 in 10 girls [2]. While it is well known that females who experience sexual assault have an increased risk of future pelvic pain, there is limited knowledge regarding the occurrence of other gynaecological morbidity. We performed systematic review and meta-analysis for the relationship between sexual assault and gynaecological morbidity. We searched online electronic databases for observational studies on the subject published between 1993 and 2018. Search terms included variants of 'sexual abuse', 'sexual assault' and a range of gynaecological morbidity. Two independent reviewers completed study selection, quality assessment and data extraction. For each gynaecological symptom we calculated common odds ratios and 95 % confidence intervals in relation to sexual abuse history. Our search identified 1846 studies, of which 38 studies were included. A history of sexual assault was significantly associated with overall gynaecological morbidity (RR 1.42; 95%CI, 1.27-1.59), pelvic pain (RR 1.60; 95%CI, 1.36-1.89), 'dyspareunia' (pooled RR 1.74, 95%CI, 1.50-2.02); 'dysmenorrhea' (pooled RR 1.20; 95%CI, 1.11-1.29); 'abnormal menstrual bleeding' (pooled RR 1.29; 95%CI, 1.12-1.49)) and 'urinary incontinence' (pooled RR 1.31; 95%CI, 1.12-1.53)), while association was not statistically significant for 'vaginismus'(pooled RR 1.71; 95%CI, 0.87-3.36) and 'vulvodynia' (pooled RR 1.49; 95%CI, 0.76-2.91). There was no relation with 'prolapse' (pooled RR 1.10; 95%CI, 0.53-2.30). Females with a history of sexual assault have a significantly increased risk of different gynaecological disorders later in life.

Dyspareunia

Muhammad Tayyeb, Vikas Gupta

In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan.
2021 Feb 6.

https://pubmed.ncbi.nlm.nih.gov/32965830/

Painful sexual intercourse is a common female health problem. In medical terminology, it is called dyspareunia. It is a complex disorder that often goes neglected. The prevalence of dyspareunia varies

from 3 to 18% worldwide, and it can affect 10 to 28% of the population in a lifetime. dyspareunia can be further categorized into superficial or deep, and primary or secondary. Superficial dyspareunia is limited to the vulva or vaginal entrance, while deep dyspareunia means the extension of pain into the deeper parts of the vagina or lower pelvis. Deep Dyspareunia is frequently associated with deep penetration. Primary dyspareunia pain initiates at the start of sexual intercourse, while in secondary dyspareunia, pain begins after some time of pain-free sexual activity.
Dyspareunia is sometimes intermixed with vulvodynia, a genital pain that lasts more than three months with or without the association of sexual intercourse. Dyspareunia can also lead to sexual difficulties, such as lack of sexual desire and arousal, and can cause trouble in sexual relationships. It can have a significant impact on physical as well as mental health. It can lead to depression, anxiety, hypervigilance to pain, negative body image, and low self-esteem. So prompt management is crucial to address this disorder.
In this review, we will focus on the etiology, epidemiology, evaluation, management, and prognosis of the dyspareunia.

Pudendal Neuralgia

Intrapelvic Nerve Entrapment Syndrome Caused by a Variation of the Intrapelvic Piriformis Muscle and Abnormal Varicose Vessels
Ahmet Kale, Gulfem Basol, Ahmet C Topcu, Elif C Gundogdu, Taner Usta, Recep Demirhan
Int Neurourol J . 2021 Jan 19. doi: 10.5213/inj.2040232.116.
https://pubmed.ncbi.nlm.nih.gov/33504131/

Entrapment neuropathy of the sciatic nerve and pudendal nerve are painful syndromes that are mostly overlooked by physicians. Laparoscopic surgical intervention for nerve entrapment syndromes of the posterior pelvis focuses on removal of the compression lesion with the purpose of eliminating the suspected cause of the sciatica, as well as pudendal neuralgia. The authors report the rare event of sciatic and pudendal nerve entrapment, which is caused by aberrant vessels and a variant piriformis muscle bundle as a seldom diagnosed cause of sciatica and pelvic pain, for both neurosurgeons and neuropelveologists. The authors present the laparoscopic decompression technique of pudendal and sciatic nerves by giving our technical "tips and tricks" enriched by surgical video.

Pulsed radiofrequency of pudendal nerve for treatment in patients with pudendal neuralgia. A case series with long-term follow-up
Eva A Krijnen, Karlijn J Schweitzer, Albert J M van Wijck, Mariella I J Withagen
Pain Pract. 2021 Jan 31. doi: 10.1111/papr.12999.
https://pubmed.ncbi.nlm.nih.gov/33522082/

Pudendal neuralgia (PN) is an impairing neuropathic disorder, affecting both men and women, involving a severe burning and sharp pain along the course of the pudendal nerve. Treatment is often insufficient, and options are limited. Pulsed radiofrequency (PRF) is a technique which might be useful in therapy. This case series aims to determine the effectiveness of PRF in patients with PN in the context of evaluation of care. Between 2010 and 2016 all female patients of University Medical Center Utrecht diagnosed with PN who experience insufficient pain relief after common treatment were offered PRF. Patient Global Impression of Improvement (PGI-I) scores were assessed at 3-months follow-up and at

long-term follow-up (median 4 years). PGI-I scores were recorded to evaluate our quality of care. Twenty patients with PN consented to undergo PRF. We lost one patient in follow-up. 79% of the patients describe their condition as '(very) much better' at 3-months follow-up. At long-term follow-up 89% of the patients describe their condition as '(very) much better'. No serious side effects were observed. In conclusion, PRF is a successful treatment option in patients not responding to standard treatment options, including pudendal nerve blocks. PRF of the pudendal nerve can be used for PN to provide relief in patients' chronic pelvic pain.

Dermatological Conditions

Level of Foxp3, DNMTs, methylation of Foxp3 promoter region, and CD4 + CD25 + CD127low regulatory T cells in vulvar lichen sclerosus
Lin Wang, Jin-Ling Yi, Hai-Yan Chen, Pei-Liang Wang, Yan-Li Shen
Kaohsiung J Med Sci . 2021 Jan 13. doi: 10.1002/kjm2.12356.
https://pubmed.ncbi.nlm.nih.gov/33438816/

This study is to investigate the pathogenesis of vulvar lichen sclerosus (VLS) by analyzing the level of Foxp3, DNMTs, methylation of Foxp3 promoter region, and CD4 + CD25 + CD127low Regulatory T cells (Tregs). This study enrolled 15 VLS patients and 25 controls. Lesional and extralesional vulvar skin tissues, normal vulvar skin tissues and peripheral blood were collected. Compared with the control group, Foxp3 protein in the lesional and extralesional skin of VLS group was significantly reduced. The levels of DNMT1 and DNMT3b proteins in lesional skin of VLS group were significantly increased. There was no difference in the total methylation rates of the promoter region of the Foxp3 gene. The methylation rates of CpG1, CpG4, CpG9, and CpG10 were significantly higher in lesional skin of VLS group than in control group. There was no correlation between the total methylation rates of 10 CpG sites and the level of Foxp3 and DNMT1 proteins; there was a positive correlation between Foxp3 and DNMT1 protein in lesional skin of VLS group ($r = 0.675$, $p < 0.05$), and a negative correlation ($r = -0.665$, $p < 0.05$) in extralesional skin of VLS group. However, there was no correlation of Foxp3 with DNMT3b. The number of CD4 + CD25 + CD127low Tregs VLS decreased significantly. The expression of Foxp3 protein and the quantity of CD4 + CD25 + CD127low Tregs in patients with VLS decreased, which may cause local or systemic abnormal immunosuppression of Tregs, leading to the occurrence of VLS. This may be related with methylation or DNMT1, which needs further verification.

The short-term efficacy and safety of fractional CO2 laser therapy for vulvovaginal symptoms in menopause, breast cancer, and lichen sclerosus
Alyssa N Gardner, Sarit O Aschkenazi
Menopause . 2021 Jan 4 doi: 10.1097/GME.0000000000001727.
https://pubmed.ncbi.nlm.nih.gov/33399322/

Objective: To review the short-term effects and safety of vulvovaginal fractional microablative CO2 laser therapy on atrophy symptoms using validated questionnaires pre- and posttreatment.
Methods: This is a retrospective chart review from January, 2016 to December, 2019 on 139 women with vulvovaginal atrophy symptoms, who completed three treatments about 6 weeks apart. All were >18 years old and nonpregnant. As is the practice in our clinic for all women receiving treatment, they were surveyed prior to the 1st and 3rd treatments with validated questionnaires, Female Sexual

Function Index (FSFI) and Vulvovaginal Symptoms Questionnaire (VSQ), as well as a visual analog scale (VAS). Paired t test was completed on the pre- and post FSFI and VAS scores. Pre- and postproportions of the VSQ were evaluated by the Fisher's exact test. Means were presented for each study variable. Multivariable regression analysis was completed on continuous and binomial variables for scores predictors. **Results:** Mean age was 62 years with a mean follow-up of 13.8 weeks. Concomitant topical estrogen was reported in 53% (n = 74). Breast cancer diagnosis was documented in 27% (n = 38), and lichen sclerosus in 22% (n = 31). All FSFI scores improved (pre: 12.7, post: 19.0, P < 0.001). The VSQ showed 18 of 21 questions significantly improved (P < 0.05). The VAS showed significant improvement in painful intercourse (pre: 6.6, post: 2.4, P < 0.001), and vulvar dryness (pre: 4.6, post: 1.5, P < 0.001). Posttreatments, 17 additional women became sexually active. No major adverse events were reported.

Outcome of perineoplasty and de-adhesion in patients with vulvar Lichen sclerosus and sexual disorders

Fabienne Lauber, Inês Vaz, Jörg Krebs, Andreas R Günthert

Eur J Obstet Gynecol Reprod Biol . 2021 Jan 4;258:38-42. doi: 10.1016/j.ejogrb.2020.12.030.

https://pubmed.ncbi.nlm.nih.gov/33412460/

Objective: Vulvar Lichen sclerosus (LS) is a chronic inflammatory disease in which architectural changes and symptoms like itching, soreness, pain and dyspareunia can affect quality of life and sexual activity. Perineoplasty has been shown to be effective as a supportive surgical treatment in women with refractory dyspareunia in addition to the standard topical immunosuppressive treatment. The aim of this study was to evaluate retrospectively general complaints, patient satisfaction concerning sexual activity, reduction of dyspareunia/apareunia, orgasm ability and recurrence of LS after perineoplasty. **Study design:** This study is a retrospective monocentric observational study, in which patients with vulvar LS who had undergone perineoplasty were invited to fill out a standardized questionnaire during the follow-up time. The main outcome measure is the overall patient satisfaction after surgical therapy of vulvar LS. **Results:** Forty-one of the 70 invited patients with a median age at surgery of 58 years (18-74 years) and a median 60 years (19-76 years) at the last follow-up were evaluated. The median follow-up time was 2.3 years (1-5 years). There was a significant (p < 0.001) reduction in general complaints after surgery. Twenty-two patients were very satisfied, 15 were satisfied and 3 were not satisfied with the outcome of the surgery. Only 2 patients would not recommend the surgery. Although, there was a significant (p = 0.02) reduction in dyspareunia after surgery, 10 patients still felt pain during sexual intercourse. **Conclusion:** This is one of the largest studies reporting on long-term results of perineoplasty. It showed that perineoplasty is a safe surgical treatment option with a high satisfaction rate in patients with dyspareunia due to LS and a desire to regain sexual activity. Perineoplasty can improve sexual activity and achieve overall satisfaction in selected patients even though the recurrence rate of LS in sexually active patients remains high.

The prevalence of self-reported medical comorbidities in patients with vulvar lichen sclerosus: A single-center retrospective study

Jun Hu, Ashley Hesson, Hope K Haefner, Sarah Rominski

Int J Gynaecol Obstet. 2020 Nov 13. doi: 10.1002/ijgo.13480.

https://pubmed.ncbi.nlm.nih.gov/33184843/

Objective: To compare the demographics and self-reported medical comorbidities of patients with vulvar lichen sclerosus (VLS) with those of women with other vulvar conditions. **Methods:** Intake

questionnaires for patients presenting to the University of Michigan Center for Vulvar Diseases between 1996 and 2019 were entered into a de-identified database (n = 1983). Responses to questions about thyroid disease, urinary symptoms and signs, gastrointestinal conditions, and pain conditions were collected. **Results:** A total of 1983 women, including 865 patients with VLS and 1118 patients without VLS were enrolled. Pearson's χ^2 analysis showed that age, hypertension, anorectal fissures, peptic ulcer disease/gastroesophageal reflux disease, urinary incontinence, fibromyalgia, thyroid disease, kidney problems, liver problems, and cancer were significantly associated with VLS when compared between the VLS and non-VLS groups ($P < 0.01$). However, multiple regression analysis demonstrated that only age, thyroid disease, and anorectal fissures were strongly associated with VLS ($P < 0.01$). **Conclusion:** Increasing age, thyroid disease, and anorectal fissures were significantly associated with VLS. The association between anorectal fissures and VLS likely represents a sequela of the disease rather than a true comorbidity.

Efficacy of 5-Aminolevulinic Acid (ALA)-Photodynamic Therapy (PDT) in Refractory Vulvar Lichen Sclerosus: Preliminary Results

Fenghua Zhang , Daoyun Li, Lijuan Shi, Yijia Gu, Yun Xu, Changping Wu

Med Sci Monit . 2021 Jan 7;27:e927406. doi: 10.12659/MSM.927406.

https://pubmed.ncbi.nlm.nih.gov/33411697/

BACKGROUND As a chronic inflammatory skin disease of unknown etiology, vulvar lichen sclerosus (VLS) mainly affects postmenopausal and perimenopausal women. The main clinical manifestations of VLS include itching, burning pain, and sexual dysfunction, which can lead to a decline in quality of life. The existing treatment options include topical corticosteroid ointment, estrogen, and traditional Chinese medicine; however, their therapeutic effects on VLS remain unsatisfactory. MATERIAL AND METHODS Thirty patients with VLS and routine treatment failure were treated with 5-aminolevulinic acid (ALA)-photodynamic therapy (PDT). A 20% ALA water-in-oil emulsion was applied to the vulvar lesions and sealed with plastic film for 3 h. Patients were irradiated at a power density of 60 to 90 mW/cm² with a red light at a wavelength of 635±15 nm for 20 min, delivering a total dose of 100 to 150 J/cm² per session. The treatment was repeated 3 times every 2 weeks. The objective parameters, female sexual function index (FSFI) and quality of life (QoL) scores, were used before and after treatment to evaluate the clinical curative effect. RESULTS All patients completed 3 treatment cycles of ALA-PDT and follow-up visits. The clinical symptoms of pruritus completely disappeared in 27 cases, and itching improved from severe to mild in 3 cases. The pathological changes of all patients were objectively improved. FSFI score decreased significantly after treatment ($P<0.001$). The main adverse effects of ALA-PDT were pain, erythema, and swelling. These adverse effects were temporary and tolerable. The QoL score was significantly improved after treatment ($P<0.001$). CONCLUSIONS ALA-PDT is an effective and safe approach for the treatment of VLS.

Alteration of gene expression related to vulvar smooth muscle, extracellular matrix and innervation in vulvar lichen sclerosus: A pilot study

Cenxi Liu, Fangfang Zhong, Jin Li, and Long Sui

Health Sci Rep. 2020 Dec; 3(4): e208. Published online 2020 Nov 27. doi: 10.1002/hsr2.208

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7695304/

Lichen sclerosus (LS) is a chronic inflammatory disease with a potential for atrophy, destructive scarring, functional impairment, and increased risk of malignant evolution. Notably, a significant number of LS

patients are asymptomatic. It is most frequently seen in the anogenital area. Women with vulvar LS often present with severe pruritus and soreness of the vulvar and perianal areas. In advanced stages, there is destruction of the vulvar anatomy. If untreated, it is associated with a 2% to 6% lifetime risk of malignant squamous neoplasia of the vulva. Otherwise, potent topical corticosteroid is the gold standard for obtaining remission and reducing malignancy in vulvar LS.

Despite the possibility for treatment, the true etiology of LS remains unknown. In long-standing and classic LS, the lymphocytic infiltrate is located under a band of homogenized collagen below the dermo-epidermal junction. One study showed a significantly increase of pro-inflammatory cytokines in LS patients.

hypothesize that the elevated inflammation of LS leads to alteration of smooth muscle, subcutaneous adipose tissue, extracellular matrix (ECM), and innervation of the vulva and aim to evaluate the changes of tissues by testing the expression of marker genes. To avoid the disturbance of various treatments, only untreated patients were included for this study.

Labial fusion in adolescence secondary to lichen sclerosus
Andreas Kalampalikis, Sofia Ivanidou, Lina Michala
J Obstet Gynaecol. 2020 Oct 14;1-4. doi: 10.1080/01443615.2020.1789957.
https://pubmed.ncbi.nlm.nih.gov/33470865/

Labial fusion in adolescence is uncommon and is usually secondary to other skin disorders or trauma of the vulvar area. In a five-year period, we treated five patients with labial fusion in our facility with a mean age of 16.4 years. Based on clinical presentation and biopsy of the vulvar skin, lichen sclerosus (LS) was the causative factor. Four out of five had urinary problems and one suffered from an inflamed inclusion cyst. All of them had a long history of pruritus. In all cases, blunt separation of the labia minora under general anaesthesia was performed, followed by local application of a potent glucocorticoid cream and an emollient agent. One patient received additionally oral and local antibiotics. One recurrence was noted, which resolved after re-separation and more meticulous treatment. Early identification and treatment of LS are crucial to prevent distortion of the vulvar anatomy. Impact Statement **What is already known on this subject?** Labial fusion is an uncommon problem in adolescence and an underlying cause should always be investigated. Lichen sclerosus typically affects the anogenital area and can lead to fusion of the labia minora. **What do the results of this study add?** Urinary symptoms may be the presenting feature of LS in adolescents. **What are the implications of these findings for clinical practice and/or further research?** Delay in diagnosis and appropriate treatment can result in irreversible changes to the vulva.

Genital lichen sclerosus after nivolumab
Emanuele Miraglia, Giuseppe Soda, Sandra Giustini
Dermatol Online J . 2020 Nov 15;26(11):13030/qt6qv5v1df.
https://pubmed.ncbi.nlm.nih.gov/33342187/

Genital piercing: A warning for the risk of vulvar lichen sclerosus
Vincenzo De Giorgi, Federica Scarfì, Flavia Silvestri, Pierandrea Maida, Federico Venturi, Luciana Trane, Alessia Gori
Dermatol Ther . 2020 Dec 23;e14703. doi: 10.1111/dth.14703.
https://pubmed.ncbi.nlm.nih.gov/33368949/

No abstract Available.

Successful response of vulvar lichen sclerosus with NB-UVB
Cristina Garrido-Colmenero, Carmen María Martínez-Peinado, Manuel Galán-Gutiérrez, Virginia Barranco-Millán, Ricardo Ruiz-Villaverde
Dermatol Ther . 2021 Jan 23;e14801. doi: 10.1111/dth.14801.
https://pubmed.ncbi.nlm.nih.gov/33486876/

No abstract available

Histopathological Coexistence of Extragenital Lichen Sclerosus and Morphea in a Single Lesion
Reema R Almuqati, Jehad Hariri, Mohammed Abduljabbar
Cureus. 2020 Dec 22;12(12):e12215. doi: 10.7759/cureus.12215.
https://pubmed.ncbi.nlm.nih.gov/33489622/

Lichen sclerosus (LS) and morphea are two infrequent inflammatory dermatoses of unknown etiology. LS is characterized by, polygonal, bluish-white, slightly elevated papules that coalesce into plaques, which become increasingly atrophic overtime.it mostly affects genitals, however, it can affect any site on the skin and mucosa. Morphea characterized by, erythematous to violaceous patches or plaque with a white, sclerotic center, and the outer edge of the lesions take on the characteristic violaceous ring. The overlapping clinical and histopathologic features of both LS and morphea in the same patient have led some to speculate that they may have a common pathologic link or that both conditions represent the same disease spectrum. The coexistence of LS and morphea in the same lesion is a rare finding. We present a patient, who was diagnosed with what appeared clinically to be extragenital LS, but with histopathologic features of both LS and morphea.

Acitretin therapy for vulvar lichen sclerosus complicated by recurrent squamous cell carcinoma
Alison Ranum, BA and David R. Pearson, MD*
JAAD Case Rep. 2021 Feb; 8: 53–55. Published online 2020 Dec 17. doi: 10.1016/j.jdcr.2020.12.009
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7814106/

Lichen sclerosus (LS) is a chronic, idiopathic inflammatory disorder with a predilection for the vulva, perineum, and perianal skin. It is characterized by ivory-white scattered to confluent atrophic plaques. Women are affected more often than men, and symptoms include, pruritus, burning, and dyspareunia. Symptoms manifested by vulvar LS (vLS) can have significant side effects on sexual functioning, including tearing of the skin, anxiety surrounding sexual activity, and anatomic changes.
The most serious complication of vLS is the development of vulvar squamous cell carcinoma (vSCC). If untreated, the lifetime incidence of vSCC is estimated at 3.5%-7%. Precursor lesions to vSCC include vulvar acanthosis with altered differentiation (VAAD) and vulvar intraepithelial neoplasia. VAAD is an

uncommon proliferation of the vulvar squamous epithelium that may have the potential to progress to invasive carcinoma, which may itself be a variant of hypertrophic LS. Vulvar intraepithelial neoplasia is a high-grade intraepithelial squamous lesion; the human papillomavirus-unrelated differentiated vulvar intraepithelial neoplasm (dVIN) is associated with vLS and more likely to progress to vSCC than the human papillomavirus-related usual type, now more often referred to as high-grade squamous intraepithelial lesion. When it progresses, dVIN is usually associated with well-differentiated vSCC. Surgical intervention is typically required for the management of vulvar intraepithelial neoplasia and vSCC but remains controversial for VAAD.
Here, we report a case of longstanding vLS complicated by VAAD, dVIN, and recurrent vSCC, which has been successfully managed with acitretin in combination with topical agents.

[Paediatric vulval clinic]
[Article in German]
W Anemüller, E A Langan, A Recke
Hautarzt. 2021 Mar;72(3):207-214. doi: 10.1007/s00105-021-04770-z. Epub 2021 Feb 16.
https://pubmed.ncbi.nlm.nih.gov/33591405/

In 2008 a vulval clinic was established at the University Clinic of Schleswig Holstein, Campus Luebeck, Department of Dermatology. A total of 1227 patients were referred to the clinic between 2008 and October 2020, including 91 children (age range 1-13 years) and 17 adolescents (age range 14-17 years). The most common paediatric vulval conditions encountered were lichen sclerosus (33%), vulvitis (23%) and vulval psoriasis (7%). Quality of life was measured in 81 children using the paediatric version of the Dermatology Life Quality Index (DLQI). Of a maximum 30 points, the mean score was 7.2, confirming the association between vulval diseases and impaired quality of life in children and adolescents.

Conversations between women with vulval lichen sclerosus: a thematic analysis of online forums
Gemma L Bentham, Kristyn Manley, Shehrazad Halawa, Lucy Biddle
BMC Womens Health. 2021 Feb 17;21(1):71. doi: 10.1186/s12905-021-01223-6.
https://pubmed.ncbi.nlm.nih.gov/33596903/

Background: Vulval lichen sclerosus (VLS) is a common condition. Despite this, there is a paucity of research investigating the impact on women's lives. Some women with VLS utilise online forums to discuss their priorities and concerns. This dialogue gives insight into the experiences of women living with VLS. **Methods:** We identified the most popular public forums containing discussions between women with VLS. Inductive, thematic analysis was applied to 202 online posts spanning a six-year period. **Results:** Five key themes were identified. Theme 1 pertained to difficulties with diagnosis. Women experience frequent delays and misdiagnosis. They report health care professionals (HCPs) with poor knowledge of their condition and some that were dismissive of their symptoms. Upon diagnosis women expressed relief and frustration. Theme 2 related to rationalisation and validation of their experience. Women expressed a desire to know why they were affected, what caused their symptoms and gain reassurance. Theme 3 dealt with women's motivation to control their condition. Women want to know what triggers a flare-up so they can limit their relapses. They want to self-manage their condition and have an active role in partnership with HCPs. Theme 4 related to women sharing and seeking advice from the forums. The lived experiences of other women is valued by fellow sufferers. In particular, women are keen to try other treatments, conventional and alternative. The final theme related to the social repercussions of the condition. Sociocultural factors may prevent women from

talking about their condition to friends, family and HCPs. They feel embarrassed by their symptoms. Some women reported relationship breakdown as a repercussion of the disease. **Conclusions:** Improving the knowledge of HCPs with regards to VLS may reduce problems with diagnosis. In addition, delivering improved women's health education in schools may reduce the taboo attached to women's health. This may empower women to talk about their condition and seek help sooner. Once diagnosed, clinicians with the appropriate expertise should care for women with VLS. Women should be encouraged to take an active role in managing their condition in partnership with clinicians. Future research priorities include identifying the aetiology, triggers for flare-ups and novel therapies.

Quality of life of women with untreated vulval lichen sclerosus assessed with vulval quality of life index (VQLI)

Marlene Wijaya, Geoffrey Lee, Gayle Fischer

Australas J Dermatol . 2021 Jan 28. doi: 10.1111/ajd.13530.

https://pubmed.ncbi.nlm.nih.gov/33508152/

Background/objective: The diagnosis of vulval lichen sclerosus (VLS) is often delayed, and little is known about quality of life (QoL) of women with it prior to receiving diagnosis and treatment. This study aimed to investigate the impact on QoL on patients with previously untreated VLS using the Vulval Quality of Life Index (VQLI). **Methods:** A prospective cross-sectional survey of patients attending a dermato-gynaecology practice in Sydney, Australia from March 2018 to November 2019. Patients with a new biopsy-proven diagnosis of VLS not previously commenced on topical corticosteroid treatment were invited to complete the VQLI. **Results:** A total of 68 participants with median age of 58 (interquartile range, IQR 48-67) years. Median symptom duration was 24 (IQR 11-60) months. Scarring was present in 53% of participants. The median total score was 13.5 (IQR 7.5-22.0), global score 1.0 (IQR 1.0-2.0). Twelve per cent had nil to minimal effect on QoL, 38% had a mild effect on QoL, 28% had a moderate effect on QoL, 22% had a severe effect on QoL, and none had a very severe effect on QoL. The highest-scoring domains were symptoms, followed by sexuality, anxiety and activities of daily living. **Conclusion:** There was significant impairment in all QoL areas of women with untreated VLS. Most experienced moderate-to-severe impairment as a result of the disease and approximately half had already developed scarring at the time of diagnosis. The findings emphasise the importance of improved awareness, early diagnosis and early commencement of treatment in VLS.

Proposition of a severity scale for lichen sclerosus: The "Clinical Lichen Sclerosus Score"

Barbara Erni, Alexander A Navarini, Dorothy Huang, Andreas Schoetzau, Andre Kind, Simon M Mueller

Dermatol Ther . 2021 Jan 10;e14773. doi: 10.1111/dth.14773.

https://pubmed.ncbi.nlm.nih.gov/33426761/

Vulvar lichen sclerosus (VLS) is a chronic inflammatory skin disease of the anogenitalarea leading to itch, burning, sexual dysfunction and impaired quality of life. An unmet need in the context of LS is a practical, easily assessable grading scale to classify disease severity and to allow intra- and interindividual comparisons. The objectives of this study were i) to assess the prevalence and severity of 23 items proposed by a recent Delphi consensus group in patients with adult VLS. ii) to develop a clinical severity scale and, iii) to test the interrater reliability of this novel severity scale. A retrospective assessment of the prevalence and severity of 23 items in 143 patients was performed by using patient records and photo documentation to develop a novel clinical severity scale (i.e. the "Clinical Lichen Sclerosus Score" = CLISSCO) for VLS. Thereafter, the CLISSCO was validated by 16 raters. We found that

the items proposed by the consensus group vary markedly in frequency and severity. Following selection of the most relevant items, the CLISSCO was developed consisting of 3 "Symptoms", 3 "Signs" and 6 "Architectural changes" rated on a 0-4 point Likert-scale. The intraclass correlation coefficient was excellent for each item, the applicability of the CLISSCO considered user-friendly by the raters. We conclude that the CLISSCO proved to be a user-friendly, reliable tool to assess disease severity in VLS. However, further studies are needed to validate its applicability and value in daily practice and clinical research.