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This newsletter is quarterly and contains abstracts from medical journals and scientific meetings presented between August and December of 2001. Please direct any comments regarding this newsletter to chris@nva.org.

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Prevalence and predictors of chronic lower genital tract discomfort.

Harlow BL, Wise LA and Stewart EG

Am J Obstet Gynecol 2001 Sep;185(3):545-50

OBJECTIVE: We sought to determine the prevalence of chronic lower genital tract discomfort in the general population and to identify demographic and reproductive characteristics associated with this disorder. STUDY DESIGN: We surveyed a random sample of 480 women (age range, 20 to 59 years; 60 women for each 5-year age category) from 1 Boston area suburban community. Participants were asked to complete a 1-page self-administered optically scannable questionnaire that pertained to current and previous genital tract discomfort. RESULTS: After 2 mailings and 1 telephone follow-up, as well as the elimination of 42 ineligible women, 303 (70%) questionnaires were returned. Fifty-six women (18.5%) reported a history of lower genital tract discomfort that persisted for >3 months. Approximately 12% reported a history of chronic knife-like or excessive pain on contact to the genital area, whereas 6.6% experienced persistent lower genital tract itching or burning. Women who reported their age at menarche to be <or=11 years old were more than twice as likely to report a history of chronic lower genital tract discomfort compared with women who began menses at age 12 or later (odds ratio, 2.4; 95% confidence interval, 1.1 to 4.8). Reported pain at the time of first use of tampons was associated with an increased risk of chronic lower genital tract discomfort later in life (odds ratio, 2.4; 95% confidence interval, 1.1 to 4.9). CONCLUSIONS: We have shown that women from the general population are willing to provide sensitive information on lower genital tract discomfort-a first step toward bringing notice to this understudied disorder. In addition, our data support the theory that vulvar trauma in early life may influence or serve as a marker for risk of subsequent chronic vulvar disorders.

Application of thermal sensory analysis (TSA) for pain assessment in women with pelvic pain syndrome.

Granot M, Fridman M and Yarnitsky D

Israel Pain Society Annual Conference, Tel Aviv, Oct 18, 2001

Introduction: The etiology of pelvic pain syndromes such as Vulvar Vestibulitis Syndrome (VVS) is not yet well defined. Study aim was to evaluate the application of heat pain stimulation for assessment of autonomic response and pain perception in women with VVS. Methods: Forty four women with VVS and 42 healthy control women were enrolled in the study. The following tests were performed: Pain threshold and magnitude estimation of supra-threshold of contact heat were measured at the hand by using the TSA-II Thermal Sensory Analyser (TSA) (Medoc Ltd, Ramat Yishai, Israel). The sensory and emotional components of pain with phasic and tonic stimulation were evaluated. Autonomic nervous system response to painful stimuli was assessed by continuous recording of heart rate and blood pressure using volume clamp method from the middle finger. Results: The VVS group had a lower heat pain threshold (42.2±2.5C^{o} vs. 43.6±1.9C^{o}, p=0.0063), higher VAS scores for supra-threshold heat pain (88.3±14.9 vs. 70.8±14.9, p=0.0001), and higher slope of stimulus response curve (shifted to the left) (0.78±0.6 vs. 0.43±0.3, p=0.017); There was a higher VAS score for of tonic pain (66.2±17.3 vs. 56.8±18, p=0.036) and increased pain perception during the tonic pain (8.44±22.48 vs. –5.60±16.5 p=0.0071). The systolic blood pressure (SBP) in VVS group increased in response to tonic pain 4.31±9.5mm (_SBP before and during pain) while the control group demonstrated decreased _SBP –1.59±9.5mm (p=0.021). Discussion: New developments in the technology of Quantitative Sensory Testing now enable us to further explore pain syndromes such as pelvic pain. Women with VVS have enhanced systemic pain perception, higher autonomic nervous system response to experimental heat pain stimulation. The application of TSA for evaluation of pain perception in extra genital organ may indicate that VVS is a systemic pain syndrome and not only a local genital disorder. A multidisciplinary approach of pain treatment in these patients is therefore advocated.

Psychophysical evidence of nociceptor sensitization in vulvar vestibulitis syndrome.

Bohm-Starke N, Hilliges M, Brodda-Jansen G, Rylander E and Torebjork E

Pain 2001 Nov;94(2):177-183

Vulvar vestibulitis syndrome (VVS) is a long lasting disorder of superficial dyspareunia in young women. Quantitative sensory testing, including mechanical and temperature pain thresholds and warm/cold difference limen (WCL), was performed in the vestibular mucosa in 22 women (mean age 25.0 years) with vestibulitis and 20 control subjects (mean age 25.6 years). The tests were carried out on days 7-11 of the menstrual cycle. Patients had allodynia to mechanical testing with von Frey filaments, 14.3+/-3.1mN in the symptomatic posterior area as compared with 158+/-33.5mN in healthy subjects, P<0.0001. The pain threshold to heat was 38.6+/-0.6 degrees C in patients and

43.8+/-0.8 degrees C in controls, P<0.0001. In addition, pain threshold to cold was 21.6+/-1.2 degrees C in patients whereas cooling down to 6 degrees C was usually not painful in controls. WCL was 4.9+/-0.5 degrees C in patients and 9.6+/-1.5 degrees C in healthy subjects, P<0.01. The results are compatible with the hypothesis that patients with VVS have an increased innervation and/or sensitization of thermoreceptors and nociceptors in their vestibular mucosa.

Neural blockade for the treatment of vulvodynia.

Advincula AP

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 1, 2001

Objective: To describe the novel application of neural blockade for the treatment of localized vulvar dysesthesia in patients refractory to traditional medical management. Methods: Three patients with a longstanding history of localized vulvar dysesthesia presented to the University of Michigan Center for Vulvar Diseases. Symptoms of vulvar pain and burning were localized to the area of the clitoris as well as mons pubis. Touch, pressure, and friction further elicited pain. These patients failed to show any response to a myriad of medical treatments. These included topical anesthetics, low dose tricyclic antidepressants, gabapentin and mexilitine. Vestibulectomy was not a plausible option. In an attempt to provide the patient with relief of symptoms and by utilizing the current understanding of pelvic sensory innervation, a series of combined and bilateral ilioinguinal and genitofemoral blocks were performed. Results: In these three patients with a longstanding history of localized vulvar dysesthesia, the application of a series of neural blockades involving a steroid in combination with a long acting anesthetic provided nearly 100% relief of symptoms over time. Conclusion: The application of neural blockades may prove advantageous in patients with localized vulvar dysesthesia refractory to attempts at traditional medical management in whom vestibulectomy is not an option. Further studies need to be performed in order to establish the exact role of neural blockade in the treatment of vulvodynia.

Irritant thresholds in vulvar vestibulitis.

Velangi SS, Neill SM and McFadden JP

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 1, 2001

Objective: Vulvar vestibulitis (VV) is defined as a triad of entry dyspareunia, vestibular erythema and vestibular tenderness without evidence of an active dermatosis. Whilst allergic contact dermatitis does not appear to be an important fact in VV, many patients report local aggravation with topical applications and sanitary wear with a time scale that is more suggestive of an irritant rather than an allergic phenomenon. The aim of the study was to see if women with VV were more sensitive to irritants than asymptomatic women. Methods: 10 women with VV were recruited, age range 21-56 years. Patients with a history of atopy or a positive prick test to house dust mite were excluded. The control group consisted of 156 normal healthy

non-atopic female volunteers, age range 16-63 years. Following a well described protocol, 7 aqueous concentrations (0.1%, 0.5%, 1%, 2.5%, 10%, 20%) of the anionic surfactant sodium lauryl sulphate (SLS-BDH, Poole, UK) were applied to the upper inner arm under occlusion using 8mm Finn chambers (Epitest, Oy, Finland) for 4 hours. Irritant reactions were read 48 hours later. As we were interested in the irritant threshold the level at which a minimum of weak homogeneous erythema or induration was present was judged positive. The lowest concentration at which a positive score was recorded was considered to be that patient's irritant threshold. The exact test was used for statistical analysis of the data. Results: All 10 subjects with VV had an irritant threshold no greater than 5% SLS. This proportion was significantly higher than the 53.2% (83/156) of normal controls who reacted at this level (p=0.005). There were no non-responders in the VV group compared to 29.5% (46/156) in the normal control group. Conclusion: Although numbers are small, our results suggest that subjects with VV have a lower irritant threshold than a large group of normal controls. This infers that these patients have a greater susceptibility to skin irritation and may explain the clinical intolerance of topical preparations and suggest that it may be an objective rather than a subjective symptom.

Fibroblast heterogeneity leads to differential production of cyclo-oxygenase 1,2 and prostaglandin E2 in vulvar vestibulitis (vestibulodynia).

Reddy S, Phipps R and Foster D

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 2, 2001

Background: A subset of fibroblasts has been identified to produce pro-inflammatory mediators in several chronic conditions. We studied fibroblast heterogeneity by tissue culture and cyclo-oxygenase immunoreactivity by in situ immunocytochemistry (ICC) in vulvar vestibulitis cases and asymptomatic controls. Methods: From representative surgical specimens, anatomically-specific tissue sampling and fibroblast cell lines were prepared and characterized as previously described. Between the 5^{th} and 15^{th} passage, fibroblast culture medium was replaced with serum-free medium containing 1) nothing, b) IFN-γ, c)CD40L, d)IFN-γ + CD40, e)IL-1-β, and f)TNF-α. Following incubation, cell culture PGE2 levels were assayed by ELISA, and cell culture COX-1 and 2 levels were analyzed by ICC and by Western blot. Tissue samples from the corresponding sampling sites were stained by standard H+E, as well as in situ ICC for Cox-1 and 2 immunoreactivity. COX-1 and 2 positive cell density ((+) immunoreactive/HPF) and cell morphology were recorded from surgical tissue specimens according to anatomic site. Results: Fibroblast culture incubation with IL-1β increased PGE2 production 3-fold for vestibular fibroblasts. External vulvar fibroblast incubation with IL-1β did not produce the dramatic increase in PGE2. Western blotting confirmed an increased expression of COX-2 in vestibular fibroblasts compared to external vulvar fibroblasts. COX-2 expression was seen only when fibroblasts were stimulated with IL-1β and CD40L, but not with TNF-α. Analysis of tissue specimens with in situ ICC for COX-1 and COX-2 found increased density of COX-1 and 2 immunoreactivity in the submucosal region of the vulvar vestibule compared to external vulva. A significant difference in COX-1, COX-2, and PGE2 were found both within cases anatomic site, and between cases and controls from the same anatomic site (vulvar vestibule). Conclusion: The differences demonstrated in the pattern of COX-1, COX-2, an PGE2 expression may help to

explain the precise, localized clinical hyperalgesic response seen in vulvar vestibulitis. These findings also support the hypothesis that vulvar vestibulitis fibroblasts differ from external vulvar fibroblasts in cases, and differ from vestibular and external vulvar fibroblasts in controls. Pinpointing the key pro-inflammatory mediators produced in abundance by vulvar vestibulitis fibroblasts may permit therapeutic intervention with selective inhibitors of COX-2, IL-1β, or disrupters of the CD40/CD40 ligand system.

A mathematical model for the histopathologic diagnosis of vulvar vestibulitis based on a histomorphometric study of innervation and mast cell activation.

Bornstein J, Sabo E, Goldshmid N and Abramovici H

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 3, 2001

Objective: To date, vestibulitis has been diagnosed based only on clinical criteria. To achieve clear cut histopathologic diagnostic criteria, we used a computer-assisted histomorphometry followed by ROC analysis, comparing the presence and localization of inflammation, mast cell density and area of nerve fibers between vestibulitis and healthy controls of the same age group. Methods: Vestibular tissue removed from 40 women during surgery for severe vestibulitis were immunostained for mast cell count and degranulation by C-kit and Mast cell Tryptase respectively. Vestibular nerve cells number and total area were evaluated after S-100 stain. Controls were seven women aged 14-48 who had undergone corrective surgery without pathology. The stained specimens were analyzed by light microscopy and the images converted to a digital signal, and analyzed using Image Proplus V4 software. Results: Inflammation grade (1-3) – vestibulitis (2.3±0.3), control (1±0.1), p value (0.001). Inflammation grade around minor vestibular glands – vestibulitis (1.8±0.6), control (1.2±0.4), p value (0.03). No. mast cells in superficial layer (C-kit) – vestibulitis (20±16), control (4±4), p value (0.006). No. mast cells in deep vestibule – vestibulitis (11±7), control (6±5), p value (0.15). No. mast cells around minor vestibular glands (12±6), control (2±1), p value (0.0001). No. degranulated mast cells – vestibulitis (11±9), control (1±0.6), p value (0.002). ROC analysis shows the discriminate value between vestibulitis and healthy women to be eight mast cells per HPF. There was a significant increase in the number of the nerve fibers in the vestibule. The total calculated area of the nerve fibers was ten times higher in vestibulitis than in controls. There was a clear correlation between the increase in nerve fibers and the location and number of mast cells in vestibulitis patients. Comment: We documented two diagnostic histopathologic criteria for vestibulitis: 1) the presence of eight or more mast cells per HPF, and 2) the total calculated area of nerve fibers is ten times higher than expected. These findings re-establish the inflammatory nature of vestibulitis and hence justify its name. Possibly, the trigger for the increase in number of nerve fibers was the activation of mast cells. The microscopic appearance of the nerves in the vestibule resembles a condition of “nerve-ending trauma,” which is a process whereby a chronic inflammation leads to uncontrolled proliferation of sensory nerve endings.

Hypoplastic vulva and chronic vestibulitis.

Friedman M

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 3, 2001

Introduction: Hypoplastic Vulva (HV) has not been previously described as an anatomic variant of vulvar architecture. HV characterized by “undeveloped” labia minus, or their complete absence; diminished bulging of labia major and occasional periclitoral fusion or narrowing of vaginal opening. The tissues of the vaginal vestibule and surrounding vulvar skin in women with HV are frequently friable and irritated. To the best of our knowledge, the incidence of chronic vestibulitis (CV) has not been studied in patients with different vulvar anatomy. This is the first report that describes the possible causal link between CV and HV. Objective: The aim of the study was to determine the incidence of CV in patients with HV and to determine whether vaginal hyperacidity had any association with CV. Study Design: The clinical findings of HP in 95 patients with CV were recorded prospectively between January and December 2000. This data was compared with the same findings in the matched group of 95 healthy gynecological patients. The analysis of pH and wet-mount smears of vaginal secretions of all patients with CV were performed and the patient past histories of vaginal candidiasis have been recorded. Results: The incidence of HV in the group of patients suffering from CV was 70.5% - 67(95). In 29.5%, the normal vulvar anatomy was observed. The occurrence of HV in healthy women was 17.9% - 17(95), in 82.1% - 78(95) normal anatomy was found. In the group of HV, 80.6% - 54(67) had primary CV, and 19.4% - 13(67) had a secondary disorder. In patients with normal vulvar anatomy – 32.1% - 9(28) and 67.9% - 19(28), accordingly. Vaginal hyperacidity (pH<3.5) was recorded in 24.2% of patients with CV: 31.4% in women with HV and 7.2% in cases with normal anatomy. The documented history of candidiasis was recorded in 34.7% patients with CV. In 40% of CV cases normal vaginal secretions were detected. In 1 case physiologic leucorrhoea was present. Conclusion: In the majority of patients suffering from CV, HV was found, especially in cases with the primary disorder. Vaginal hyperacidity was detected in quarter of CV patients, while the vast majority of them were women with HV. We can conclude that the vulvo-vestibular tissue in cases of HV is a tissue at risk for development CV. Vaginal hyperacidity could be an important etiological factor in such cases. More research is needed to clarify this phenomenon.

Increased blood flow and erythema in the posterior vestibular mucosa in vulvar vestibulitis.

Bohm-Starke N, Hilliges M, Falconer C and Rylander E

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 3, 2001

Objective: To evaluate vascular changes as a possible underlying cause of mucosal erythema in women with vulvar vestibulitis. Methods: Laser Doppler perfusion imaging was used to map the superficial blood flow in the vestibular mucosa in 20 women with vestibulitis and in 21 healthy control

subjects. A possible correlation between perfusion values and graded erythema (1-5) around the vaginal introitus was analyzed. Changes in micro-vascular density in the posterior part of the mucosa were investigated in sections from 10 patients and 10 controls by a computer-assisted image processing program. Induced vasoconstriction of terminal arterioles in the same posterior area was also studied. Results: Significant increases in perfusion values were registered in the posterior parts of the vestibular mucosa in patients compared to controls. The highest blood flow was registered in the posterior fourchette. The most pronounced erythema was also located in the posterior vestibule in the patients. However, there was no significant correlation between perfusion values and degree of erythema in the same individual. The micro-vascular density or the ability of vestibular arterioles to constrict did not differ between patients and controls. Conclusion: Women with vestibulitis have an increased superficial blood flow and erythema in the posterior parts of the vestibular mucosa. The increased perfusion, most probably caused by a neurogenic vasodilatation contributes to, but does not fully explain the erythema. Atrophic changes of the superficial epithelium should also be considered in the evaluation of an erythema.

Vulvo perineoplasty – long term results.

Paniel BJ, Louis-Sulvestre C, Haddad B, Pelisse M and Moyal-Baracco M

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 3, 2001

Objective: To assess the usefulness of vulvoperineoplasty for introital stenosis related to vulvar lichen sclerosus. Study Design: The records of 64 patients who underwent vulvoperineoplasty for this indication were reviewed. Median age of patients was 49 years. Median duration of lichen was 60 months. Ninety percent of patients complained of dyspareunia. Patient satisfaction was assessed by means of a questionnaire. Persistence of dyspareunia and impaired sexual intercourse quality were considered as failure. Risk factors of failure were analyzed by Fisher’s exact test. Results: Twelve patients were lost to follow-up and 2 patients did not answer the questionnaire. In only 7 patients (14%), perineoplasty failed to improve dyspareunia (5 cases) and sexual intercourse quality (2 cases). Duration of lichen, age, previous topical steroid therapy, previous perineotomy or histological stage were not associated with failure of vulvoperineoplasty. Conclusion: In women with symptomatic introital stenosis related to vulvar lichen sclerosus, vulvoperineoplasty provides good functional results.

The utility of vaginal swabs in the evaluation of asymptomatic women and women with vulvovaginal disorders.

Wiseman MC, Dytoc M and Edwards L

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 3, 2001

Objective: To describe and compare the light microscopic findings of vaginal swabs from women with vulvodynia to those without genital symptoms. Methods: Women attending a vulvar clinic or a gynecologic clinic for routine care were recruited into the study. All subjects were administered a questionnaire and underwent a vaginal swab. These swabs were examined independently by two investigators under light microscopy using both potassium hydroxide and saline as reagents. Results: Thirty-one asymptomatic subjects and 16 subjects with vulvodynia were evaluated. Normal subjects had an overall vaginal swab profile characterized by fewer than one leukocyte per epithelial cell (22/32: 69%), absent to rare immature epithelial cell (30/31; 97%), normal to slightly decreased numbers of lactobacilli (21/31; 68%), the absence of yeast or mycella (26/29; 90%), and the absence of clue cells (27/32; 84%). Subjects with vulvodynia had swab profiles demonstrating fewer than one leukocyte per epithelial cell (8/16; 50%), absent to rare immature epithelial cells (14/16; 88%), normal to slightly decreased numbers of lactobacilli (13/16; 81%), the absence of yeast or mycella (16/16; 100%) and the absence of clue cells (16/16; 100%). Statistical analysis using a two-tailed Fisher exact test did not demonstrate a statistically significant difference between asymptomatic subjects and subjects with vulvodynia. Conclusions: Vaginal swab analysis is a common office procedure preformed on women presenting for routine gynecologic care or in those with specific vulvovaginal symptoms and disorders. Although standards for what constitutes an “abnormal” swab have been described in the literature, evidenced-based research in support of established guidelines are lacking. This study has demonstrated that the vaginal swabs in 69% asymptomatic women demonstrate fewer while blood cells than would be expected, while only 68% have “normal” vaginal flora. Sixteen percent and 10% have evidence of clue cells and a yeast infection, respectively. The vaginal swabs of women with vulvodynia demonstrate that 50% have a decreased number of leukocytes, 88% have the absence of immature epithelial cells, and only 81% have “normal” vaginal flora. Yeast and clue cells were uniformly absent. Although statistically significant differences could not be demonstrated between the groups at this stage, subject recruitment is ongoing.

The web-based glazer surface electromyographic protocol for the remote, realtime assessment and rehabilitation of pelvic floor dysfunction in vulvovaginal pain disorders.

Glazer HI, Marinoff SC and Sleight IJ

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Sept 30 – Oct 4, 2001

TeleVital Inc. has developed browser-based software for Dr. Howard Glazer’s Pelvic Floor Muscle Surface Electromyography (sEMG) protocol for the remote assessment and treatment of essential vulvar pain disorders over the Internet. The initial application of this system is being conducted in cooperation with the offices of Dr. Stanley C. Marinoff in Washington D.C. to determine the broad scale applicability of this system in office practice. Dr. Glazer has demonstrated that several characteristics of pelvic floor muscle surface electromyography (sEMG) are statistically significant in differentially diagnosing essential vulvar pain disorders from those of organic origin. It has been further demonstrated that normalization of these abnormal pelvic floor muscle sEMG patterns, by use of sEMG-assisted rehabilitation, produces long term benefits in the treatment of both

dysesthetic vulvodynia and vulvar vestibulitis syndrome. Digital palpation of pelvic floor musculature has been demonstrated to have little clinical predictive validity while pelvic floor muscle sEMG is highly clinically predictive. Instructions in the conduct of unassisted pelvic floor muscle exercises have not been demonstrated as effective in the treatment of essential vulvovaginal pain disorders. There is, therefore, a need to integrate pelvic floor muscle sEMG into the diagnostic workup and treatment regimen of essential vulvar pain sufferers. However, there are very few adequately trained, equipped, and experienced practitioners of pelvic floor muscle sEMG in its application to essential vulvar pain disorders. Recent advances in technology provide an easy and effective way to incorporate pelvic floor muscle sEMG into a routine diagnostic evaluation or treatment plan that can be done remotely, and in real-time, over the internet using the browser-based Glazer protocol software developed by TeleVital. Auditory and visual cues guide the patient through the entire remote protocol, while Dr. Glazer can simultaneously communicate with them, and remotely control the patients' display. After conducting a real-time, remote assessment, a graphical and statistical summary report is automatically generated, which includes data fields for adding patient related data, clinical notes and treatment recommendations. This report can be printed out both at the protocol administrator's location and the patient's location. The browser-based pelvic floor muscle sEMG protocol offers a reliable and convenient diagnostic and treatment tool that will help practitioners overcome the barriers of distance and time.

Spinal cord pathways of vaginal pain in the rat.

Wesselmann U

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 1, 2001

Vulvodynia is a focal pain syndrome of the urogenital area in women, characterized by chronic pain in the vulvar and vaginal area. Although the central nervous system pathways for reproductive behavior have been studied in great detail in the female animal models, little is known about the pathways for painful sensations from the vulvovaginal area. The purpose of the present study was to develop an animal model in the rat that will allow to study the spinal cord pathways involved in the processing of noxious input from the vagina. This research approach was based on the hypothesis that a better understanding of the spinal cord pathways of vaginal pain in the animal model will allow us in the future, to design improved and specific treatment strategies for vulvodynia, targeted at the pathophysiological mechanisms. We determined the distribution of c-FOS immunoreactive (c-FOS-ir) neurons in the spinal cord in anesthetized rats following noxious stimulation of the vagina. Immunohistochemical visualization of FOS protein has been used as a tool to identify neurons that respond to a variety of stimuli including noxious stimulation. Noxious stimuli used in this study included vaginal distension (n=10 rats) and chemical inflammation of the distal vaginal canal (n=5 rats). Control animals were sham-treated. Noxious distention of the vaginal canal did not result in any c-FOS immunoreactivity in the spinal cord (spinal segments T10 to S3) as compared to controls. However, after chemical inflammation of the vagina c-FOS-ir neurons were found bilaterally in the lumbosacral spinal cord, with a predominance in segments L5, L6 and S1 ($P<0.05$ as compared to sham-treated controls). Most

labeled cells were located in laminae I, II and X. The results suggest that noxious inflammatory vaginal stimulation results in a specific spatial expression of c-FOS in the spinal cord.

Vestibulodynia: A new treatment with plantago major L.

Jacyntho C

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Sept 30 – Oct 4, 2001

Objective: To determine the short-term (2 months) follow-up status of non-specific vestibulodynia treatment in patients who were asymptomatic or few symptomatic using topic plantago major L (Sitz bath) and at the first follow-up (6 months). Study Design: We prescribed cold topic medicine of plantago major L-plantaginaceal, a plant which grows spontaneously in Brazil to 20 non-specific vestibulodynia patients and 15 patients of the control group. The plantago major L protects the vestibule because of the mucus founded in the plant and the anti-inflammatory, antibiotic and emollient action of the foliage. The patients responded a questionnaire about their pain, maintenance activities and treatment, daily functioning and sexual status at the beginning, at the end of the new treatment (2 months) and at the first follow-up (6 months). Results: Half of the patients (50%) of the study group report experienced no vulvar pain and satisfied with normal sexual behavior since completion of treatment (2 months) until at least 6 months (after first follow-up). Only 13% (2/15) of the control group reported the same results. Conclusion: Plantago major L as topic medication for non-specific vestibulodynia is an effective medicine without side effects (only allergy) for 50% of patients.

Relief of vaginal and labial pain and burning with 0.2% nitroglycerin cream in women with vulvodynia.

Miles M, Niezen P, Berman LA and Berman J

Female Sexual Function Forum, Annual Meeting, Boston, Massachusetts, Oct 27, 2001

Introduction: No donors have been shown to modulate immune response and improve pain in a variety of conditions including anal fissures, hemorrhoids and interstitial cystitis. The goal of this study was to evaluate effects of topical nitroglycerin on improving genital pain in women with vulvodynia. Methods: Patients with a documented history of vulvodynia received a 0.2% NTG cream (1/8’th of a teaspoon) in the office and then used it on an as needed basis prior to sexual relations at home. Each patient completed a questionnaire assessing frequency of use, dosage, location applied, satisfaction, and side effects. A standardized pain scale was used to rate pain pre and post treatment. Results: A total of 12 women received medication. Mean age was 32 years. Pain had been present from 5 months to 6 years prior to the initiation of treatment. 8 of the 12 patients completed the study. All 12 patients had reproducible pain in the office that was relieved within 5 minutes of application. 2 did not use the cream outside of the office setting due to headache. The remaining 6 had significantly

decreased pain intensity on a scale of 0 (no pain) to 5 (excruciating pain); (4.3 to 1.4, p<0.01) at 3 months follow up using the medication from a daily to weekly basis. All of the patients reported significant improvement of pain during sexual activity. No adverse advents occurred. Conclusions: Treatment with 0.2% NTG cream appears to be effective in providing temporary relief of vaginal pain and labial pain in women with vulvodynia. In particular, application of 0.2% NTG applied prior to sexual activity significantly decreased pain related to vaginal penetration. Although well tolerated, headache occurred in the majority of women. A larger placebo controlled study will be necessary to establish optimum dosage and minimize side effects.

Electrical stimulation (ES) in the management of sexual pain disorders.

Ferdeghini F, Veneroni F, Chiapparini J, Fignon A, Verticale M and Nappi RE

Female Sexual Function Forum, Annual Meeting, Boston, Massachusetts, Oct 27, 2001

Introduction: Several studies have been published discussing the involvement of the pelvic floor muscles in patients diagnosed with vestibular pain. Electromyographic biofeedback has been used to rehabilitate the pelvic floor muscles with positive results on coital pain and on the general quality of sexual functioning. We performed an open study to investigate the use of electrical stimulation (ES) of the vestibular area in women with sexual pain disorders. Follow-up is still ongoing. Methods: Among the patients coming to our Reproductive Psychobiology Unit, 29 women (age range: 20-45 yrs; education: at least 13 yrs; marital status: 31%), with vestibular pain inducing dyspareunia and vaginism, entered the present study. ES was performed by using an ECL43400 apparatus (Elite, EssediEsse srl, Milan, Italy) according to the manufacturer's recommended protocol for 20 minutes of intermittent vestibular stimulation once a week for 10 weeks. Selected parameters included biphasic intermittent current, frequency 1-4 HZ, pulse width 0.1-0.3 milliseconds and intensity between 0-70 mA with individually adapted on-off (10-20 seconds) cycles. To evaluate the muscular activity of the perineal floor and sexual function we employed the same apparatus with a vaginal probe for recording myoelectrical activity (uV) and a VAS scale for pain and FSFI before and after the end of the study protocol. Patients were also instructed to perform pelvic floor muscle exercises 3 times a week for 20 minutes. Data were analyzed by parametric and nonparametric comparisons and correlations, as appropriate. Results: The major findings were: a) contractile ability of pelvic floor muscle significantly increased (p<0.001), as well as resting ability significantly improved (p<0.001), following ES; b) the current intensity tolerated significantly increased (p<0.001) throughout the study, being 41.3±7.4mA before and 50±7.mA at the end of the stimulation protocol; c) a significant reduction (p<0.001) in the VAS scale for pain was evident, probably as a consequence of the better efficiency of contraction and of the lower sensitivity to electrical stimuli; d)FSFI pain (p<0.001) and full scale scores (p<0.001) significantly improved following ES and 4 out of 9 women went back to coital activity; e) a positive correlation was evident between FSFI pain score and the current intensity tolerated both before (R=0.59; p<0.006) and at the end (R=0.53; p<0.02) of the stimulation protocol, while a negative correlation (R= -.73; p<0.001) was found between contractile efficiency and FSFI pain score before starting ES in women having dyspareunia. Interestingly, a lower current intensity was tolerated in women

suffering from vaginism in respect with the others both before ($p<0.02$) and after ($p<0.001$) ES. On the contrary, contractile ability of pelvic floor muscles was less efficient ($p<0.04$) before ES in women with vaginism, but similar following ES. Contractile resting ability was similar in women having or not coital activity before and after ES. Conclusions: Vestibular ES may be effective in the management of sexual pain disorders. Further controlled studies are necessary to standardize stimulation protocols according to the severity of pain and to better clarify the long-term clinical effects of ES.

Vulvar vestibulitis syndrome: Sensory abnormalities are not limited to the vulvar vestibule.

Pukall DF, Binik YM, Abbott FV, Khalife S, Amsel R and Lahaie M

Female Sexual Function Forum, Annual Meeting, Boston, Massachusetts, Oct 27, 2001

Introduction: Little is known about the sensory characteristics of the vulvar vestibule. Despite its description by Kinsey et al (1995) as an important source of sexual sensation, it is a source of pain for women with Vulvar Vestibulitis Syndrome (VVS). Women with VVS experience a highly localized, severe burning and/or cutting pain at the vaginal entrance (ie, the vulvar vestibule) during sexual intercourse and other activities that involve applying pressure to this area (eg, bicycle riding). The primary objective of our study was to investigate vestibular tactile and pain thresholds in women with VVS and control participants. We also measured thresholds in non-vestibular regions to assess general sensitivity to touch and pain, and we examined pain catastrophizing tendencies in both groups. Methods: Using modified von Frey stimuli, tactile and pain thresholds were measured around the vulvar vestibule and in 5 non-vestibular areas (labium minus, inner thigh, forearm, deltoid, and tibia) of 13 women with VVS and 13 age- and contraceptive matched controls. Tactile thresholds were determined with a computerized 2-down, 1-up staircase method, which incorporated blank trials 20% of the time in order to check for response biases. The Pain Catastrophizing Scale (PCS; Sulllivan et al, 1995) was also administered. Results: Women with VVS had significantly lower vestibular tactile and pain thresholds than controls. Women with VVS also had significantly lower thresholds in some non-vestibular regions: they had lower tactile thresholds on the labium minus and deltoid, and lower pain thresholds on the labium minus, deltoid, and forearm than controls. No response biases existed in either group. In addition, women with VVS responded with significantly higher PCS scores in response to intercourse pain than non-scores regarding non-intercourse-related pain (eg, headache). Conclusions: These results suggest that VVS is neither a sexual dysfunction nor a localized pain problem. In fact, women with VVS may have a more generalized pain problem then was previously believed. VVS appears to be associated with both abnormal tactile and pain sensation in the vulvar vestibule as well as in non-genital regions. Further studies are needed to examine the sensory characteristics of and psychological responses to the pain in women with VVS in order to elucidate the pathophysiological mechanisms involved in the development and maintenance of VVS.

Biofeedback combined with medical and sex therapy for VVS: Results of a preliminary study.

Sarig J, Har-Toov J, Chen J, Melitscher I and Abramov L

Female Sexual Function Forum, Annual Meeting, Boston, Massachusetts, Oct 27, 2001

Aim: Combined biofeedback therapy for treating different types of female sexual dysfunction has been previously reported. The current study aimed to evaluate whether biofeedback therapy in combination with medical and sex therapy can have an additive effect in treating women with vulvovestibulitis syndrome (VVS). Material and Methods: Thirty women aged 20-32 years who complained of dyspareunia were evaluated in the outpatient sex therapy clinic at the Lis Maternity Hospital. Eleven of them were diagnosed as having primary VVS and 19 as having secondary VVS. All 30 women were referred to biofeedback therapy according to the Glazer protocol. The therapy was administered by a physiotherapist trained in pelvic floor muscle rehabilitation and it was accompanied by medical and sex therapy which included the use of vaginal dilators, relaxation techniques and desensitization therapy. The average time of therapy was 6.2 months (range 3.5-9 months) during which there was an average of 24 (range 13-37) biofeedback sessions. Results: Following this combined therapeutic approach, 13 women (43.3%) could have satisfactory sexual relations without pain. Eleven women (36.6%) reported improvement in terms of lessening of pain during penile penetration with the use of anaesthetic cream (Esracaine cream 5%). Six women (20%) reported no improvement after completing the therapy. Conclusion: The findings of this preliminary study are in good correlation with the reported classic Glazer protocol results. Biofeedback therapy combined with medical and sex therapy is an effective, non-invasive technique for the treatment of VVS.

Vulvar vestibulitis and dyspareunia: Addressing the etiologic complexity a)biological.

Graziottin A, Nicolosi AE and Caliari I

Female Sexual Function Forum, Annual Meeting, Boston, Massachusetts, Oct 27, 2001

Aim: To analyze the biological factors in the etiology of VV/chronic severe dyspareunia. Patients and Methods: 62 consecutive patients with chronic severe dyspareunia (D) diagnosed with vulvar vestibulitis (VV) presented between January 10, to June 30, 2001. Medical, sexual history and full physical examination, focusing on biological etiology, pain map, associated symptoms over time, were recorded. Results: Mean age was 31.73 (range 17-48 yrs); 55/62 (88.7%) were nulliparous, 4/62 primiparae, only 3/62 had 2 or more children; mean duration of symptoms was 57.43 months (range 1-336 months), the negative record belonging to a 46 year old woman complaining of dyspareunia for 28 years. A total of 47/62 (75.80%) had the first diagnosis of VV only at the time of the present consultation; 14/62 (22.50%) with persistent symptoms were diagnosed with VV and treated elsewhere: 12/62 (19.35%) had both VV and recurrent cystitis, 2/62 a previous vestibulectomy: only 1/62 was diagnosed with VV at her the first medical consultation was reported as lifelong in 18/62 (29.0%); acquired in 38/62 (61.3%); 6/62 (9.7%)

report it as recurrent since the beginning of their sexual life, with periods of well being in the past; generalized 39/62 (62.9%); situational 12/62 (19.4%); 11/62 (17.7%) stated that having had only the present partner they would answer “generalized” if focusing on different erotic or context situation, but could not make comparisons with other partners. Etiology appear to be mixed in all cases, as organic/biologic factors interact with psychosexual ones. Vaginal infections lead the etiology: 36/62 (58.1%) had a history of chronic candidiasis; 21/62 (33.9%) of bacterial infections, most gardnerella or mixed; 7/62 (11.3%) of vulvar Papillomavirus. Multiple recurrent vaginal infections, confirmed by culture examinations of vaginal swabs, were reported over time in 18/62 (29.03%). Of those with previous documented vaginitis, 23/62 (37.09%) had a negative vaginal culture examination at the moment of the visit, in spite of acute persistent introital pain. Hyperactive hormone responsive mastcells could be responsible for the cyclic worsening of pain with periods reported in 17/62 (27.41%), suggesting an immunologic/hormonal component to pain, at least in a subgroup of patients. Muscle pain becomes a contributor of pain perception in 41/62 (66.1%) when a levator ani myalgia develops over time, most in long-lasting dyspareunia. Conclusions: Severe dyspareunia may be associated with VV, unfortunately still a late or missed diagnosis for the majority of women. Pain becomes an etiologic factor by itself, as it may determine both a secondary defensive contraction of levator ani, leading to further restriction of the introitus and a reflex inhibition of genital arousal and vaginal lubrication, thus leading to further vaginal dryness and mucosal vulnerability to the coital “trauma.” The possibility of a shift from nociceptive to neuropathic pain, together with an immunologic/hormonal component, should be considered in the subgroup of patients complaining of persistent, acute, localized pain, in spite of proper treatment of infectious and muscle related etiologic factors. All patients complaining of severe chronic dyspareunia deserve full and competent medical and psychosexual evaluation.

Vulvar vestibulitis and dyspareunia: Addressing the etiologic complexity a)psychosexual.

Graziottin A, Nicolosi AE and Caliari I

Female Sexual Function Forum, Annual Meeting, Boston, Massachusetts, Oct 27, 2001

Aim: To evaluate the psychosexual factors in women suffering from severe dyspareunia and Vulvar Vestibulitis. This abstract focuses on the psychosexual data and their relationship to the difficulty in moving from coital pain to coital pleasure. Patients and Methods: 62 consecutive patients complaining of severe dyspareunia (D) and vulvar vestibulitis (VV) presented from January 10, to June 30, 2001. Medical, psychosexual history, full physical examination, focusing on pain map, associated symptoms and increasing symptomatic complexity over time were recorded. Results: Mean age was 31.73 (range 17-48 yrs); 55/62 (88.7%) were nulliparous; mean duration of symptoms was 57.43 months (range 1-336 months). Dyspareunia was reported as lifelong in 18/62 (29.0%); acquired in 38/62 (61.3%); 6/62 (9.7%) reported it as recurrent since the beginning of their sexual life, with periods of well being in the past; generalized 39/62 (62.9%), situational 12/62 (19.4%); 11/62 (17.7%) stated that having had only the present partner they would answer “generalized” if focusing on different erotic or context

situations, but could not make comparisons with other partners. Sexual harassment in childhood or adolescence was reported in 15/62 (24.19%) with penetrative abuse in 4/62 (6.45%). Focusing on Female Sexual Disorders (FSD), lifelong low or absent libido was reported in 14/62 (22.68%), most of these women having overlapping lifelong dyspareunia; acquired loss of libido was reported in 36/62 (58.06%); 12/62 (19.35%) reporting no changes. Lifelong arousal disorders, with poor lubrication, were reported in 11/62 (17.7%); acquired arousal disorders were complaints of 31/62 (50.0%), no changes in 20/62 (32.25%). Lifelong orgasmic difficulties were reported in 11/62 (17.7%); acquired orgasmic difficulties (most coital) in 25/62 (40.3%), no changes in the orgasmic (most clitoral) potential in 26/62 (41.9%). Lifelong sexual dissatisfaction was reported in 10/62 (16.1%); acquired in 34 (54.8%), no changes in 18/62 (29.0%). Lifelong avoidance of penetration because of acute introital pain was reported in 6/62 (9.7%), all patients reporting chronic candidiasis; acquired avoidance of intercourse in 34/62 (54.8%), while 22/62 (35.5%) reported persistent coital activity “to please their partner.” Conclusions: In patients suffering from severe dyspareunia and with a diagnosis of VV, psychosexual factors play a significant role in the etiologic scenario, interacting heavily with the biological ones. One if five reports previous sexual harassment or abuse. Comorbidity of different FSD with dyspareunia is reported as lifelong on average in one in five, while one in two reports acquired complex FSD secondary to the persistent pain. Psychosexual factors required specific attention even in patients having strong biological etiology of their sexual pain. After the appropriate treatment of the biological etiology of VV, persistent and/or long lasting FSD, lifelong or acquired because of dyspareunia, may be the basis of therapeutic difficulty in helping these patients move from coital pain to non-painful penetration and further to coital pleasure. This last emerges as the most difficult goal to be obtained in these unfortunate patients, together with full recovery of a satisfying sexual experience.

Vulvar vestibulitis and dyspareunia: Pain map and medical diagnosis.

Graziottin A, Nicolosi AE and Caliari I

Female Sexual Function Forum, Annual Meeting, Boston, Massachusetts, Oct 27, 2001

Aim: To describe the semiology of pain elicited during the gynecological visit (GV) with appropriate questions and clinical attention, and its correlation with etiological factors. Patients and Methods: 62 consecutive patients complaining of severe dyspareunia (D) and diagnosed with vulvar vestibulitis (VV) presented from January 10 to June 30, 2001. Medical and sexual history of coital pain, and physical examination were recorded, focusing on pain map and associated symptoms. Results: Mean age was 31.73 (range 17-48 yrs); 55/62 (88.7%) were nulliparous; mean duration of symptoms was 57.43 months (range 1-336). Where do you feel pain: Introital pain was reported by 47/62 (75.8%); mid-vaginal by 35/62 (56.4%); deep pain by 10/62 (16.12%); When do you feel it: burning introital pain was present before intercourse in 18/62 (29.0%); dyspareunia during intercourse in all; and pain persisted after the intercourse in 33/62 (53.2%); 34/62 (54.8%) reported the tendency to avoid intercourse for fear of worsening pain. Which were the associated symptoms: Dysuria, cystalgia and cystitis-like symptoms 24 to 72 hours after intercourse were reported in 24/62 (38.70%) patients, this high incidence being related to the selection of referral patients with the

complaint of long-lasting, sever dyspareunia and post-coital cystitis. Intolerance to trousers, blue-jeans and tight underwear was reported in 35/62 (56.5%) and to tampon protection in 27/62 (43.54%). The gynecologic visit (GV), aimed at describing the "pain map" elicited the same type of pain site and characteristics experienced during intercourse in 50/62 (80.6%) of patients. Acute introital pain at 5 and 7 was confirmed by GV in 50/62 (80.6%), together with signs of mucosal inflammation, contributing to introital dyspareunia; 41/62 (66.12%) perceived pain more on the left side of the vestibule (at 5); 13/62 (20.96%) also elicited pain in the anterior vaginal wall (urethral and trigonal area). Myalgia of levator ani was found in 41/62 (66.1%), with bilateral tender points, diagnosed with a gentle pressure at the insertion of the levator ani at the ischiatic spine, more painful in the left side in 35/41 (85.36%), correlating well with the reported mid-vaginal pain. Contributors of myalgic pain could be the long lasting defensive contraction of perivaginal muscles due to the persistence of pain and introital inflammation, the asymmetry elicited at the gynecologic visit probably secondary to postural changes induced by pain over years. Deep pain was elicited at the GV in 5/62 (8.06%). Conclusion: VV(s) are the etiologically heterogeneous, final common denominators of a number of pain-provoking biological conditions, interacting with psychosexual factors, overlapping and worsening over time. Three basic questions (where do you feel pain, when and how long do you feel it, what are the associated symptoms) may help the clinician to find a correlation between patient's complaints and objective finding contributing to a biologically plausible pain map. This possibility makes it mandatory to offer these patients, too often labeled as "psychogenic," a detailed experienced physical evaluation, to get a multifactorial diagnosis of their sexual pain and to address the complexity of this challenging pathology. Further research is needed to identify subgroups of patients requiring different treatment strategies.

Treatment of vulvar vestibulitis with submucous infiltrations of methylprednisolone and lidocaine. An alternative approach.

Murina F, Tassan P, Roberti P and Bianco V

J Reprod Med 2001 Aug;46(8):713-716

OBJECTIVE: To assess the efficacy of submucous infiltrations of methylprednisolone and lidocaine into the vulvar vestibule for the treatment of vulvar vestibulitis. STUDY DESIGN: Twenty-two patients were referred for vulvar vestibulitis. Methylprednisolone and lidocaine were injected into the vulvar vestibule once a week for three weeks at decreasing doses (1, 0.5, 0.3 mL). Follow-up was performed monthly for three months, then at six and nine months. Fourteen women have had 12 months and 5 women, 24 months of follow-up. RESULTS: Fifteen women (68%) responded favorably to the treatment, seven (32%) with absence of symptoms and eight (36%) with a marked improvement. Seven patients (32%) failed to respond in spite of a fourth dose (0.3 mL) given after 30 days. No relapse was observed at nine months' follow-up, while a further 0.5 mL infiltration followed by quick remission of symptoms was needed after one year in five patients. Five patients completed the 24 months' follow-up, with no need for further treatment. CONCLUSION: Submucous infiltration allows methylprednisolone to be deposited in the submucosa, the site of the inflammatory reaction, while the depot formulation allows gradual and prolonged release of the drug. Seven patients (32%) failed to respond, suggesting either that they had a kind of vulvar vestibulitis syndrome where

inflammation is less remarkable or failure of the infiltrated drug to become adequately diffused.

History of victimization among patients with vulvodynia/vestibulitis: Is there an increased incidence?

Dalton VK, Haefner HK, Senapati S and Reed B

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 1, 2001

Background: Women with vestibulodynia/vulvar dysesthesia have a debilitating disorder. The pain and discomfort associated with this disease may profoundly affect both sexual and emotional health as well as physical well-being. Currently, we have a poor understanding of the etiology and pathophysiology of vulvar dysesthesia/vestibulodynia. The goal of this study is to examine the prevalence of physical or sexual violence among women referred to a specialty clinic for management of vulvar dysesthesia or vestibulodynia as compared to a healthy gynecology clinic population. Methods: The study subjects were obtained by reviewing routine histories completed at presentation to the University of Michigan Center for Vulvar Diseases. Study subjects were all given a diagnosis of vulvar dysesthesia/vestibulodynia. Women presenting to a gynecology clinic without complaints of vulvar pain were enrolled as controls. Information was obtained from the control subjects using a questionnaire similar to the history forms completed by the study group. Results: The incidence of victimization among 243 patients with vulvar dysesthesia/vestibulodynia presenting to a specialty clinic was compared to 113 healthy controls. Demographical differences between the control group and the study group were noted. Patients with vulvar dysesthesia/vestibulodynia did not report a higher incidence of victimization when compared to healthy controls after controlling for population differences. Conclusions: Vulvar dysesthesia and/or vestibulodynia were not associated with a history of victimization.

How women describe the effects of vulval disorders on their lives. A vulval disease specific quality of life instrument is proposed.

Opie JM and Bohl TG

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 2, 2001

Objective: To look at how a group of women with vulvar disorders describe the ways that their vulval problems impact on their lives and to use this data to define a range of potential effects that may be significant to other women with vulval problems. To then use this information to guide in the drafting of a quality of life assessment tool that is sensitive to the ways in which vulvar disorders affect women. Methods: The study was carried out amongst the patients of a consultant gynaecologist, and of a consultant dermatologist between January and April 2001. Patients with vulval conditions were invited to describe in their own words how their vulval problem affects them. Sixty-five responses were obtained. The responding women were aged from 19 to 85 years with a median age of 48 years. The

principal diagnoses of respondents were lichen sclerosus (20), chronic candidiasis (16), vulvar vestibulitis syndrome (11), dysaesthetic vulvodynia(6), lichen planus (4), lichen simplex chronicus (4), VIN (3), and irritant contact dermatitis (1). Results: Each response was examined to identify what specific and general areas of life were nominated as being affected. Overall eighty-nine separate effects were nominated and the number of effects claimed by individual patients ranged from zero to sixteen (average six per patient). The effects were grouped into eight general categories. These were physical symptoms, effects on interpersonal life including sexual relations, psychological symptoms, effects on daily life, effects on hygiene, effects on working life, effects on leisure pursuits including sporting activity, and treatment related effects. The average number of categories cited per patient was three (range zero to seven). Examples of frequently nominated specific effects included various problems related to sexual functioning (66% of respondents), feelings of anger or frustration (23%), and effects on the choice of clothing (22%). The actual prevalence of these problems is likely to be higher than these self-reported figures as this study has been designed to define a range of possible effects rather than to establish the presence or absence of specific effects in individual patients. Discussion: This study gives some insight into the very wide variety of potential impacts vulval disorders may have on women's lives. The information has been applied to the drafting of a questionnaire that could be used to more objectively quantify how much impact having a particular vulval disorder has on an individual woman's quality of life.

Women with vulvar vestibulitis show signs of depression and anxiety.

Nylander Lundqvist E and Bergdahl J

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 3, 2001

Background: Vestibulitis is thought to be the most frequent cause of dyspareunia in premenopausal women and is one of the major subtypes of dysaesthetic vulvodynia. Pain symptomatology tends often to be under emphasized in former studies. The aetiology of vestibulitis is unknown, although there are several theories. In other medical specialties chronic pain conditions without a pathophysiological explanation are being redefined as syndromes. Vestibulitis is suggested as an example of chronic regional pain syndromes. There are only a few studies concerning psychosocial health among these women, but there have been considerable differences. Most authors have not found any signs of illness. Our clinical experience is that some of these women show signs of depression, and we therefore made an investigation concerning their psychosocial health. Methods: 30 young women, all clinically examined and fulfilling Friedrich's criteria for vulvar vestibulitis, were included at their first visit to the Vulva Clinic. Standardized questionnaires for assessing depression (Beck Depression Inventory – BDI) and state anxiety (State-Trait Anxiety Inventory – STAI-S) were used as well as questionnaires concerning their symptoms. Results: Our results indicate that patients with vestibulitis were more depressed and anxious compared to age-matched controls. Furthermore, we found that the depression was more pronounced than the state anxiety in those patients. Conclusion: We conclude that women with vestibulitis show symptoms and signs of both depression and state anxiety. This is in accordance with our clinical experience and should be kept in mind when treating these women.

A review of physical and psychological factors in vulvar vestibulitis syndrome.

Green J, Christmas P, Goldmeier D, Byrne M and Kocsis A

Int J STD AIDS 2001 Nov;12(11):705-9

This review is based on a MEDLINE search of all papers on vulvar vestibulitis syndrome (VVS) published 1995-2000. The causation, natural history and prevalence of VVS are unknown. There is no convincing evidence that VVS is the result of an infection or of an allergy. It has been proposed that it is an atypical pain syndrome but there is currently no clear evidence that this is so. The usual diagnostic criteria used in VVS are of doubtful discriminative value. Findings from biopsies of women with VVS are inconsistent. While there is some evidence to suggest that women with VVS attending clinics differ psychologically from normal controls, it is not clear whether these differences reflect the effects of VVS, are the result of patient selection or influence the development of the disease. Several treatments, including biofeedback, psychosexual treatment and surgery have been reported to be successful in some patients but there is a lack of proper placebo-controlled trials on which to base estimates of efficacy. There is a vital need for further, high-quality, research in this area.

Multimodal sex therapy for the treatment of vulvodynia: a clinician's view.

Slowinski J

J Sex Marital Ther 2001 Oct-Dec;27(5):607-13

Sex therapists are often challenged when treating women with the primary diagnosis of vulvodynia or subtypes of vulvar-vestibular pain. This article presents an overview of how a sex therapist can assess problem areas related to this diagnosis and approach treatment in a practical and comprehensive fashion. What follows is based on anecdotal clinical experience of the author. It outlines a multimodal approach that includes cognitive-behavioral techniques, both individual and conjoint therapy, as well as close cooperation with physicians who provide concurrent medical management.

Psychosexual and social profiles of women with vulvodynia.

Lamont J, Randazzo J, Farad M, Wilkins A and Daya D

J Sex Marital Ther 2001 Oct-Dec;27(5):551-5

Vulvodynia: the challenge of "unexplained" genital pain.

Graziottin A, Castoldi E, Montorsi F, Salonia A and Maga T

J Sex Marital Ther 2001 Oct-Dec;27(5):503-12

Vulvodynia is a clinical syndrome that may include unexplained vulvar pain, sexual dysfunction, and psychological disability. It is a multifactorial syndrome that should be diagnosed, if possible, with an intradisciplinary approach. This article discusses the diagnosis and treatment of vulvodynia, starting with a summary of the complex nervous system within the pelvis. Different clinical pictures and different subtypes of the syndrome have been described in order to identify the etiologic aspects that are essential for diagnosis and subsequent treatment. Clinical evaluation should stress attention to detailed "pain-mapping" and evaluation of past and present history. The gynecological examination should be an overall patient evaluation, incorporating global physical impression, change in posture due to pain and careful examination of the pelvic floor. Examination of the pelvic floor is frequently omitted. Leading to an incorrect diagnosis of psychogenic pain. Such a misdiagnosis can result in the dismissal of appropriate treatment. Proper evaluation requires a comprehensive, multidisciplinary approach that includes medical, rehabilitative, and psychological issues.

Combined vulvar vestibulitis syndrome with vaginismus: which to treat first?

Har-Toov J, Militscher I, Lessing JB, Abramov L and Chen J

J Sex Marital Ther 2001 Oct-Dec;27(5):521-3

The common approach to vulvar vestibulitis syndrome (VVS) combined with vaginismus is to treat the VVS before the vaginismus. Our study initially ignored the VVS and instead treated the vaginismus first.

Clinical approach to dyspareunia.

Graziottin A

J Sex Marital Ther 2001 Oct-Dec;27(5):489-501

Dyspareunia needs to be addressed from an integrated patient-centered perspective. This review analyzes the organic causes of pain during intercourse. Factors that are often underevaluated in the clinical setting include hormonal, inflammatory, muscular, iatrogenic, neurologic, vascular, connective, and immunitary causes. Psychosexual factors, such as vaginismus, loss of libido, arousal disorders and sexual pain-related disorders, often overlap. A preliminary clinical approach aimed at integrating different biological and psychosexual etiologies in a comprehensive manner is discussed in this article.

Female neurogenic sexual dysfunction secondary to clitoral neuropathy.

Sax DS, Berman JR and Goldstein I

J Sex Marital Ther 2001 Oct-Dec;27(5):599-602

We herein present several cases of female sexual dysfunction related in part to organic neurologic pathophysiology. These cases emphasize the role of the central and peripheral nervous systems in female sexual function.

Surfactant protein-A, an innate immune factor, is expressed in the vulvovaginal epithelium.

MacNeill C, Carey JC, Phelps D, Floros J and Weisz J

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 2, 2001

Background: The vaginal epithelium, like all mucosal interfaces with the external environment, is continually exposed to potentially pathogenic organisms and yet able to tolerate a variety of commensal organisms. We reasoned that the vagina may possess aspects of mucosal host defense that are known to modulate host defense at other mucosal interfaces. We report here that Surfactant Protein-A (SP-A), a collectin (or collagenous lectin) that is an essential participant in pulmonary host defense and has recently been reported to be expressed also in intestinal epithelium, is present in the vaginal and vestibular mucosa. SP-A is an innate immune protein that is structurally related to complement component C1q. It is known to opsonize various microbes and to directly regulate macrophage activity. Gene disruption studies demonstrate that while SP-A null mice maintain normal oxygenation, they have an increased susceptibility to pulmonary infection. Methods: We carried out experiments to determine is SP-A is expressed in the vulvovaginal mucosa and, if so, in what cell population the expression occurs. Results: SP-A was localized by immunocytochemistry to the squamous epithelium where it was found in the stratum spinosum and stratum corneum. Transcripts for SP-A were identified in the vaginal mucosa by Northern analysis. The transcripts are identical in size to those in the lung and intestine, and their concentration approximates that in the intestine, which is lower than in the lung. In the lung, SP-A is transcribed from two closely related genes, SP-A1 and SP-A2. We used RT-PCR to show that both genes are expressed in the vagina in approximately equal proportions. Conclusion: In conclusion, our identification and localization of SP-A in the vulvovaginal mucosa suggests that this innate immune factor may serve a host defense function in this tissue similar to that in the lung. We speculate that qualitative and quantitative alterations of SP-A expression or processing may play a role in the pathogenesis of inflammatory conditions of the lower urogenital tract.

The role of estrogen hypersensitivity in cyclical vulvitis.

Fischer G and Bradford J

International Society for the Study of Vulvovaginal Disease, World Congress, Sintra, Portugal, Oct 3, 2001

Most cases of cyclical vulvitis are due to chronic vulvovaginal candidiasis, buy cyclical vulvitis refractory to antifungal and other forms of treatment

remains a therapeutic challenge. Hypersensitivity to progesterone and estrogen has been recognized as a rare cause of premenstrual dermatoses. We believe such hypersensitivity to be the cause of vulvitis in patients reported in this paper and have treated 9 of them successfully by inducing amenorrhea with progestogens. We initially reported nine patients with treatment resistant cyclical vulvitis and two patients with vulvitis developing after commencing hormone replacement therapy (HRT). (J Reprod Med, June 2000, 45(6):493-497). These patients demonstrated delayed type hypersensitivity responses by intradermal testing to endogenous estrogens, with two of these patients also reacting to intradermal testing with progesterone. A group of 19 healthy control subjects with no history of vulvar symptoms did not react to any test substance. Ten subjects with other vulvar dermatoses also did not react to any test substance. Of the nine original patients with cyclical vulvitis, one recovered at menopause, and three responded to progestogen therapy aimed at inducing amenorrhea, which modifies estrogen peaks and troughs. One was able to control symptoms with potent topical corticosteroid, and four elected not to be treated. Both patients with HRT related vulvitis recovered with HRT was ceased. We have since encountered another four post menopausal patients with HRT-related vulvitis who recovered within a month of this being ceased, and have successfully treated a further 6 pre-menopausal patients with non-candidal cyclical vulvitis with progestogen therapy (3 cases using oral cyproterone acetate, 2 using oral norethisterone, and one oral medroxy-progesterone). We consider this a safe and well tolerated alternative to regimes found in the literature for the treatment of hormonal hypersensitivity which utilize tamoxifen and GnRH inhibitors. Hypersensitivity to estrogen appears to be implicated in chronic cyclical vulvitis and vulvitis related to HRT in these patients. Although we were able to prove this by intradermal testing to a range of endogenous estrogens in our first eleven cases, we have made the diagnosis on clinical grounds (cyclical vulvitis, treatment resistance, no evidence of candidiasis) in the subsequent patients, as there is not at this stage a commercially available diagnostic test available. In patients with suspected estrogen hypersensitivity vulvitis we regard a response to a three-month trial of progestogen therapy which induces amenorrhea to be a diagnostic test as well as therapy. This problem may not be rare and should be considered in patients with unexplained cyclical vulvitis unresponsive to standard therapy or in patients developing non-candidal vulvitis on HRT.