

NVA RESEARCH UPDATE NEWSLETTER

March 2004

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This newsletter has been supported, in part, through a grant from the
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Vulvodynia and Pain

Increased vanilloid receptor VR1 innervation in vulvodynia.

Tympanidis P, Casula MA, Yiangou Y, Terenghi G, Dowd P, Anand P
Eur J Pain. 2004;8(2):129-33

Vulvodynia is characterised by painful burning sensation, allodynia and hyperalgesia in the region of the vulval vestibulus. While in many patients the cause of vulvodynia remains uncertain, we and others have previously shown increased intraepithelial and papillary innervation in vulvodynia. The vanilloid receptor VR1 (TRPV1) is expressed by nociceptors, and is triggered by capsaicin, noxious heat, protons, and chemicals produced during inflammation. In the present study we show increased papillary VR1 fibres by immunostaining and image analysis in vulvodynia tissues compared to controls ([Formula: see text]). VR1 expression was found to be significantly increased when the percentage area immunostained was expressed as a ratio of VR1 to PGP 9.5, a pan-neuronal marker ([Formula: see text]). VR1-positive fine epidermal fibres also appeared to be increased in vulvodynia tissues, by inspection. Fibres immunoreactive to the voltage-gated sodium channel SNS1/PN3 (Nav1.8), also expressed by nociceptors, were relatively scarce in both vulvodynia and control tissues. We hypothesize that increased expression of VR1 by nociceptors could mediate some of the symptoms in vulvodynia, for which systemic or topical specific VR1 antagonists may provide novel treatment.

Pain at the vulvar vestibule: a web-based survey.

Reed B, Crawford S, Couper M, Cave C, Haefner H
Journal of Lower Genital Tract Disease: Volume 8(1) January 2004 pp 48-57

Objective. To assess the prevalence, characteristics, and ethnic distribution of pain in the vulvar vestibule among a national sample of women completing a web-based survey. **Methods.** Female participants of the SurveySpot Internet research panel (Survey Sampling International) were invited via e-mail to respond to a web-based questionnaire on women's health issues. The frequency and characteristics of reported pain of the vulvar vestibule were assessed among 994 respondents, using univariate and multivariate analyses. **Results.** Between May 24, 2002, and June 6, 2002, 730 non-African American women and 364 African American women responded to the invitation to participate, and 94.5% completed the survey. A history of pain at

the vulvar vestibule was reported by 288 women (27.9%), with 80 (7.8% of the initial 1032) reporting pain within the past 6 months, 31 (3.0%) reporting pain that lasted 3 or more months, and 18 (1.7%) reporting vestibular pain lasting 3 or more months that occurred within the past 6 months. The prevalence of pain was similar in African American and non-African American women. Conclusions. The prevalence of pain at the vulvar vestibule is more common than previously estimated. The perception that vulvar pain is rare among African American women was not supported in this survey.

Vulvar vestibulitis severity – assessment by sensory and pain testing modalities.

Lowenstein L, Vardi Y, Deutsch M, Friedman M, Gruenwald I, Granot M, Sprecher E and Yarnitsky D

Pain, Volume 107, Issues 1-2, January 2004, Pages 47-53

Vulvar vestibulitis syndrome (VVS) is a common cause of dyspareunia in pre-menopausal women. Previous quantitative sensory test (QST) studies have demonstrated reduced vestibular pain thresholds in these patients. Here we try to find whether QST findings correlate to disease severity. Thirty-five vestibulitis patients, 17 with moderate and 18 with severe disorder, were compared to 22 age matched control women. Tactile and pain thresholds for mechanical pressure and thermal pain were measured at the posterior fourchette. Magnitude estimation of supra-threshold painful stimuli were obtained for mechanical and thermal stimuli, the latter were of tonic and phasic types. Pain thresholds were lower and supra-threshold magnitude estimations were higher in VVS patients, in agreement with disease severity. Cut-off points were defined for results of each test, discriminating between moderate VVS, severe VVS and healthy controls, and allowing calculation of sensitivity and specificity of the various tests. Our findings show that the best discriminative test was mechanical pain threshold obtained by a simple custom made 'spring pressure device'. This test had the highest κ value (0.82), predicting correctly 88% of all VVS cases and 100% of the severe VVS cases. Supra-threshold pain magnitude estimation for tonic heat stimulation also had a high κ value (0.73) predicting correctly 82% overall with a 100% correct diagnosis of the control group. QST techniques, both threshold and supra-threshold measurements, seem to be capable of discriminating level of severity of this clinical pain syndrome.

Generalized vulvar dysesthesia vs. vestibulodynia. Are they distinct diagnoses?

Reed BD, Gorenflo DW, Haefner HK.

J Reprod Med. 2003 Nov;48(11):858-64

OBJECTIVE: To evaluate prospectively whether generalized vulvar dysesthesia and vestibulodynia possess unique characteristics that support the theory of differing etiologies. **STUDY DESIGN:** Women with vulvar dysesthesia for a minimum of 3 months were enrolled at the University of Michigan in 2 clinics specializing in vulvar disorders. Informed consent was obtained. Participants completed a 27-page questionnaire and had a physical examination. Differentiation of generalized vulvar dysesthesia and vestibulodynia was based on tenderness to light pressure isolated to the introitus vs. pain beyond the introitus, respectively. We compared women with the 2 diagnoses to each other on demographic characteristics, exposures, pain characteristics and physical findings using t test, Mann-Whitney U and chi 2 analysis. **RESULTS:** Between January 26, 2001, and August 28, 2002, we enrolled 39 women, aged 18-60 years, with tenderness localized to the vestibule (vestibulodynia) and 17 with generalized vulvar dysesthesia. Women in each diagnostic group were similar in demographic and exposure characteristics. The pain characteristics were similar between the 2 groups

except that recent pain was rated as worse by those with generalized vulvar dysesthesia. Activities that aggravated or relieved the pain were similar. However, women with generalized vulvar dysesthesia were more likely to state that their pain was aggravated by sitting and by washing the area. Similar results were found when using "continuous" pain rather than vulvar pain location as the outcome variable. **CONCLUSION:** The characteristics of women with generalized vulvar dysesthesia are similar to those with localized pain, supporting the theory that the 2 disorders may exhibit 2 presentations on a continuum of severity seen in vulvar dysesthesia rather than 2 distinct entities.

Longstanding vulval problems and entry dyspareunia among STD-clinic visitors in Oslo- results from a cross-sectional study.

Edgardh K, Abdelnoor M.

Int J STD AIDS. 2003 Dec;14(12):796-9

An increasing number of women with vulval problems and pain attend Olafiaklinikken, the centre for sexually transmitted infection (STI) in Oslo. The aim of the study was to investigate the prevalence of long-standing vulval problems and entry dyspareunia in a consecutive sample of STI-clinic visitors in Oslo. A self-administered questionnaire was distributed before and independent of the consultation. Response rate was 89.6% (502/560). Mean and median age were 25.9 and 24.0 years respectively, range 16-65 years. Vulval soreness, burning, dryness and fissures present for at least three months were reported by 23.1% (116/502), entry dyspareunia by 6.9% (34/494). Independent risk factors for dyspareunia were a history of ≥ 4 treatments for vulvovaginal candidiasis during the last year, reported by 34.6%, odds ratio (OR) 4.45, 95% confidence interval (CI) 1.81-11.0, and a history of bacterial vaginosis, reported by 42.4%, OR 2.34, 95% CI 1.11-4.92. Contraceptive methods, hygienic habits, a history of STIs, depression or sexual abuse were factors unrelated to longstanding symptoms. Investigation with regard to longstanding vulval problems and entry dyspareunia is required for a certain group of sexually transmitted disease-clinic visitors in Oslo, and referral to a special service for vulva patients would be beneficial for selected patients.

Vulvovaginal candida in a young sexually active population: prevalence and association with oro-genital sex and frequent pain at intercourse.

Rylander E, Berglund AL, Krassny C, Petrini B

Sex Transm Infect. 2004 Feb;80(1):54-57

OBJECTIVE: To study the prevalence of vulvovaginal candida among sexually active adolescents. To determine past and present symptoms, including pain at intercourse and potential behavioural risk factors associated with vulvovaginal candidiasis. **METHODS:** At an adolescent centre, 219 sexually active women who underwent genital examination, also completed a questionnaire on a history of genital symptoms and infections, sexual and hygiene habits, and the use of contraceptives. Symptoms and clinical signs were registered. Vaginal samples were analysed for candida species and urine for Chlamydia trachomatis. **RESULTS:** Candida culture was positive in 42% of the women and only 15% were asymptomatic. A history of recurrent candidiasis was given by 22%. Frequent pain at intercourse was reported by 24% and frequent oro-genital sex by 42% of the women. Frequent pain at intercourse was significantly associated with both the growth of candida and a history of recurrent candidiasis. Oro-genital sex was an independent risk factor for the growth of candida. **CONCLUSION:** In sexually active adolescents, who underwent genital examination, candida cultures were positive

in 42%. The habit of frequent oro-genital sex was associated with the growth of candida. Pain at intercourse was associated with the growth of candida and recurrent candidiasis.

Management of vulvar pain.

Fischer G

Dermatol Ther. 2004;17(1):134-49

Vulvodynia is a frequently used medical term that literally means "vulvar pain". Therefore, vulvodynia is a symptom, not a disease. The term itself indicates a variety of unpleasant chronic vulvar sensations, including burning, rawness, soreness, irritation, sensitivity, and formication. This may or may not include dyspareunia. Primary vulvodynia occurs when these sensory disturbances occur in the absence of observable dermatologic disease or vulvovaginal infection. There are several causes for this, including neuropathy, referred pain, and pelvic floor muscle dysfunction. For the purist, it is the patient in whom there is no observable reason for vulvar pain who represents the true case of vulvodynia. However, vulvodynia can also occur secondarily as a symptom of vulvar skin disease. Restricting the present paper to patients without objective signs leaves out all the important conditions which come into the differential diagnosis of vulvar pain which should be ruled out first. The first step in managing vulvodynia is making an accurate diagnosis of its cause. The present review summarizes the diagnosis and management of the chronic dermatologic diseases which may cause primary and secondary vulvodynia. The etiology of primary vulvodynia is much more poorly understood than secondary vulvodynia, and treatment of some aspects remains controversial.

Vaginal spasm, pain, and behavior: an empirical investigation of the diagnosis of vaginismus.

Reissing ED, Binik YM, Khalife S, Cohen D, Amsel R.

Arch Sex Behav. 2004 Feb;33(1):5-17

This study investigated the roles of vaginal spasm, pain, and behavior in vaginismus and the ability of psychologists, gynecologists, and physical therapists to agree on a diagnosis of vaginismus. Eighty-seven women, matched on age, relationship status, and parity, were assigned to one of three groups: vaginismus, dyspareunia resulting from vulvar vestibulitis syndrome (VVS), and no pain with intercourse. Diagnostic agreement was poor for vaginismus; vaginal spasm and pain measures did not differentiate between women in the vaginismus and dyspareunia/VVS groups; however, women in the vaginismus group demonstrated significantly higher vaginal/pelvic muscle tone and lower muscle strength. Women in the vaginismus group also displayed a significantly higher frequency of defensive/avoidant distress behaviors during pelvic examinations and recalled past attempts at intercourse with more affective distress. These data suggest that the spasm-based definition of vaginismus is not adequate as a diagnostic marker for vaginismus. Pain and fear of pain, pelvic floor dysfunction, and behavioral avoidance need to be included in a multidimensional reconceptualization of vaginismus.

Sacral neuromodulation for chronic pain conditions.

Feler CA, Whitworth LA, Fernandez J.

Anesthesiol Clin North America. 2003 Dec;21(4):785-95

Some of the pelvic pain syndromes seem to have features of neurogenic inflammation and neuropathic pain in common. As opposed to being separate disease entities, they may

represent a spectrum of clinical presentations of CRPS I of the pelvis. Sacral nerve root stimulation provides good symptomatic relief of pain and voiding dysfunction. The techniques of retrograde root stimulation may offer superior results with fewer complications and lead migrations when compared with other methods. Perhaps neuromodulation should be used earlier in the treatment paradigm for these disorders, before the potentially injurious procedures of hydrodistention, bladder installations, and cystectomies.

Psychological factors in pelvic/urogenital pain: the influence of site of pain versus sex.

Heinberg LJ, Fisher BJ, Wesselmann U, Reed J, Haythornthwaite JA
Pain, Vol 108, Issue 1, March 2004, Pages 88-94.

Chronic pelvic pain (CPP), a fairly common gynecological complaint in women, has been associated with multiple psychological sequelae, including depression and somatization. Previous work has compared these patients to gynecological controls and women with headache, but has failed to include male comparison groups with a comparable site of chronic pain. In order to test possible sex and pain site differences, the present study compared 22 women with CPP, 22 men with either penile or testicular pain, 22 women with low back pain and 28 men with low back pain referred for a psychological evaluation as part of multidisciplinary pain treatment. Depression, coping, pain intensity and interference were assessed. Two-way analyses of variance (sex by pain site) were conducted to determine if there were group differences on demographic variables and medical history. Pain duration, age, and pain severity differed among the groups and were entered as covariates in hierarchical regression analyses designed to identify predictors of adjustment and pain coping. Sex and pain site did not contribute independently to the prediction of depressive symptoms. Pain site predicted physical functioning with low back pain patients reporting greater pain-related interference. Similar findings were demonstrated for coping. A variety of pain-coping strategies, including catastrophizing, were more frequently utilized by low back pain patients, regardless of sex. In the present study, pain severity and pain site explained more variance in depressive symptoms, physical functioning, and pain-coping than sex.

By the way, doctor. I've had a burning sensation near the entrance to my vagina for about three years. After several tests, my doctor said I probably have vulvodynia. Can you tell me what causes it? Is there a cure?

Robb-Nicholson C

Harv Womens Health Watch. 2003 Dec;11(4):8

<http://www.health.harvard.edu/hhp/article/content.do?name=W1203f>

New treatment for troublesome vulvar pain.

No Authors listed.

Mayo Clin Womens Healthsource. 2004 Feb;8(2):3

New compound fires up pain research.

Helen Dell

Drug Discovery Today, Vol 8, Issue 23, 1 December 2003, Page 1053

A newly identified compound that blocks a pain receptor will provide a useful tool in the study of how humans sense painful noxious stimuli, such as heat, acid and chilli, according to UK researchers.

Vulvar Dermatoses

Vulvar fissures: causes and therapy.

Edwards L

Dermatol Ther. 2004;17(1):111-6.

Vulvar fissures occur in two main patterns: at the posterior fourchette, and within skin folds and creases. The cause of posterior fourchette splitting is not known, and the treatment is a perineoplasty. Skin-fold fissures occur in response to several inflammatory dermatoses or infections, and therapy consists of elimination of any underlying infection and the (sometimes prolonged) use of a topical corticosteroid ointment.

Contact dermatitis of the vulva.

Margesson LJ

Dermatol Ther. 2004;17(1):20-7

Vulvar diseases rarely stand alone. They are often caused or worsened by primary irritant or allergic contact dermatitis, and this should be considered when evaluating any vulvar complaint. All irritants should be avoided in all women, and those with vulvar dermatoses should be patch tested to help define or rule out allergens.

Lichen simplex chronicus (atopic/neurodermatitis) of the anogenital region.

Lynch PJ

Dermatol Ther. 2004;17(1):8-19

Lichen simplex chronicus (LSC) of the anogenital area is an eczematous disease characterized by unremitting itching and scratching. In most instances, it arises in individuals who are genetically atopic, and as such, LSC can be viewed as a localized variant of atopic/neurodermatitis. Common triggers for the development of the disease include psychological distress, and local environmental problems such as heat, sweating, and excess dryness. Lichen simplex chronicus may also develop as a superimposed condition in the presence of other anogenital diseases such as candidiasis, psoriasis, lichen sclerosus, tinea cruris, and neoplasia. Lichen simplex chronicus frequently persists as an itch-scratch cycle, even when environmental triggers are removed and the underlying disease is treated. For this reason, successful therapy requires attention not only to trigger factors, but also to repair of the damaged barrier layer, reduction in inflammation, and breakup of the itch-scratch cycle.

Infectious Disease

Vulvovaginal candidiasis.

Nyirjesy P, Sobel JD.

Obstet Gynecol Clin North Am. 2003 Dec;30(4):671-84

VVC represents a spectrum of disease. Although there is a clear need for better use of diagnostic modalities and development of better treatment alternatives, most patients with VVC, even the complicated cases, at least have the perspective of achieving adequate control of their symptoms. Future advances, particularly in the area of home diagnostics, may help to optimize use of currently available medicines.

Basic Science

The vaginal vestibule.

Friedman M; Siegler, E, Löwenstein L

Journal of Lower Genital Tract Disease: Volume 8(1) January 2004 pp 71-72

Objectives. *Vulvar vestibule* is a common term in the medical nomenclature. In our view, this term is inaccurate. **Materials and Methods.** Herein, we provide evidence from embryologic, anatomic, and architectonic textbooks that shows the links between the vestibule and vagina. **Results.** Our research proves that the term *vulvar vestibule* does injustice to the area it describes. **Conclusions.** The correct term for *vulvar vestibule* actually is *vaginal vestibule*.

Anatomy of the pudendal nerve and its terminal branches: a cadaver study.

Schraffordt SE, Tjandra JJ, Eizenberg N, Dwyer PL

ANZ J Surg. 2004 Jan;74(1-2):23-6

BACKGROUND: This study documents the anatomy of the pudendal nerve, which has a major role in maintaining faecal continence. Unexpected faecal incontinence can develop following perineal surgery even when the anal sphincters are not damaged. In addition, injury to the pudendal nerve might be encountered during pelvic procedures such as a sacrospinous colpopexy. **METHODS:** An anatomical study on 28 cadavers was conducted to examine the course of the pudendal nerve and its branches in the perineum. **RESULTS:** In five of the 28 cadavers dissected (four male, one female), a nerve plexus was found within the ischiorectal fossa in close proximity to the anal sphincters. The plexus received contributions from interconnecting branches of the inferior rectal and perineal nerves to innervate the external anal sphincter. In 11 of the 28 cadavers (five female, six male) an additional nerve arose from the medial aspect of the pudendal nerve at the level of the sacrotuberous and sacrospinous ligaments. This nerve continued distally and gave several branches to the perineum and the levator ani muscle. **CONCLUSION:** A sound knowledge of the anatomical variations of the pudendal nerve and its branches is essential for all surgeons operating in the perineal region.