

Rapid review

Vulvodynia

Helen E Lotery, Neil McClure, Rudolph P Galask

Context Vulvodynia is a term used to describe chronic burning and/or pain in the vulva without objective physical findings to explain the symptoms. The terminology and classification of vulvodynia continue to evolve, and much remains to be understood about the prevalence, pathogenesis, natural history, and management of this distressing condition.

Starting point James Aikens and colleagues showed that chronic vulval pain (vulvodynia or vulvar dysaesthesia) is associated with worse depressive symptoms (*Am J Obstet Gynecol* 2003; **189**: 462–66). However, the increased scores for depression in this case-control study were attributed to sexual disinterest and experience of chronic pain rather than to features of depressive disorder. These results lend weight to the increasing need for better understanding of the pathogenesis of vulval pain and how to manage it appropriately.

Where next? The aetiology of vulvodynia and effectiveness of treatments need further study. Appraising the available literature, we have formulated a useful approach to patients with chronic vulval pain. There is a pressing need for further case-control studies of potential causes of vulvodynia and for randomised trials of interventions.

Vulvodynia is a term instituted by the International Society for the Study of Vulvar Disease (ISSVD) in 1983, based on clinical experience. It was defined as “chronic vulvar discomfort, especially that characterised by the patient’s complaint of burning, stinging, irritation or rawness”.¹ The ISSVD adopted a classification of vulvodynia in 1988 comprising vulvar dermatoses, cyclical vulvitis (or cyclical candidiasis), vulvar vestibulitis, vulvar papillomatosis, and essential (or dysaesthetic) vulvodynia.² This classification has now been largely abandoned and instead the term vulvodynia is generally applied to those patients with chronic pain or burning for over 3 months without obvious visible lesion. Itching is excluded from this definition. Two subtypes of vulvodynia are described, vulval vestibulitis and dysaesthetic vulvodynia.^{3–5} More recently some investigators have changed the terminology to vulvar dysaesthesia, which is either generalised or localised (usually to the vestibule but also to other sites such as the clitoris).^{6,7} Therefore, unsurprisingly, vulvodynia remains a perplexing terminology for many doctors. It may be more helpful in the clinic to describe patients’ symptoms more precisely—eg, vulval burning or knife-like pain—and to use diagnostic terms that are more specific than vulvodynia or dysaesthesia. The prevalence of chronic vulval pain or burning is unknown. Lifetime cumulative incidence of chronic vulval pain may be 16%, which suggests that 14 million US women could experience it during their lifetime.⁸

What causes vulvodynia?

There are several common conditions and many rare ones that cause vulval burning and/or pain, and these must be excluded when evaluating chronic vulval symptoms. Irritant dermatitis is common, not least because affected women may have used many topical agents on the vulva before presentation to a specialist clinic.^{9,10} Irritants include soap, panty liners, synthetic underwear, moistened wipes, deodorants, douches, lubricants, spermicides, topical medication, urine, faeces, and excessive vaginal discharge. Allergic contact dermatitis also occurs, for example with prescribed topical medication or sanitary napkins.^{11,12} Candidiasis can cause vulval burning and itching, and treatment has been reported to improve the symptoms.¹³ Other causes include: vulvovaginal atrophy (oestrogen-deficient), recurrent herpes simplex infection, herpes zoster and post-herpetic neuralgia, lichen sclerosus, erosive lichen planus, Behçet’s syndrome, cicatricial pemphigoid, Sjögren’s syndrome, vulval intraepithelial neoplasia, and carcinoma.^{5,9,14}

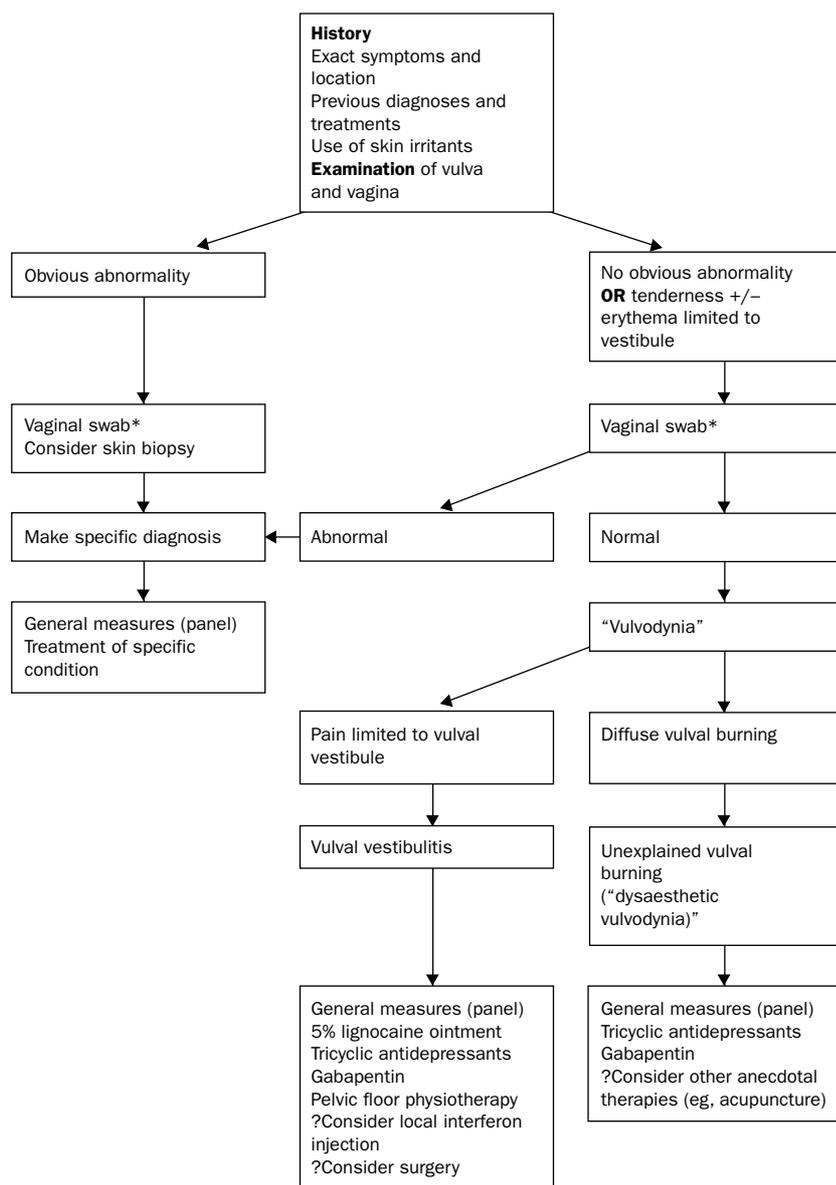
Vulval pain syndromes

There are two conditions generally considered in the spectrum of vulvodynia (ie, vulval vestibulitis and dysaesthetic vulvodynia), possibly with some overlap. Vulval vestibulitis is the more investigated. Dyspareunia, tenderness, and erythema of the vestibule have been described for over 100 years. In 1987, Friedrich¹⁵ set out diagnostic criteria: severe pain on vestibular touch or attempted vaginal entry, tenderness to pressure localised within the vulvar vestibule, and physical findings of erythema limited

Lancet 2004; **363**: 1058–60

Department of Dermatology, Royal South Hants Hospital, Southampton SO14 0YG, UK (H E Lotery MRCPI); School of Medicine, Obstetrics and Gynaecology, Queen’s University of Belfast, Belfast, Northern Ireland (Prof N McClure MD); and Departments of Obstetrics and Gynaecology, Microbiology, and Dermatology, University of Iowa Hospitals and Clinics, Iowa, USA (Prof R P Galask MD)

Correspondence to: Dr Helen Lotery (e-mail: hlotery@doctors.org.uk)



Management of chronic vulval burning/pain

*Vaginal swab should be routinely done for microscopy (yeasts, leucocytes, bacterial flora, maturity of epithelial cells) and culture.

to the vulvar vestibule. One study has suggested that erythema is less useful than tenderness as a diagnostic criterion¹⁶ and some doctors now use the terms vestibulitis, vestibulodynia, or localised vulval dysaesthesia when erythema is absent but pain is localised to the vestibule.³ The incidence of vulval vestibulitis is unknown. The prevalence has been estimated at 15% in a private gynaecological practice¹⁷ and 1.3% of women in a genitourinary medicine clinic¹⁸. Most patients are white, premenopausal, and sexually active.

The pathogenesis of vestibulitis is not understood and the presence or absence of inflammation in the vestibular tissue is debated.¹⁹⁻²¹ The vestibule of cases compared with controls has increased innervation,²²⁻²⁴ but it is not clear whether this is a primary or secondary phenomenon. The few controlled studies of potential causes fail to prove a role for candidiasis, human papillomavirus, or excess urinary oxalates.²⁵⁻²⁸ Two controlled studies describe lower pain thresholds on the arm and in the vulval vestibule,^{29,30} raising the possibility of a more generalised pain disorder. Studies

of inflammatory response suggest a difference between vestibulitis cases and controls, including decreased natural-killer-cell function and response to interferon,³¹ defective regulation of the proinflammatory response because of less production of interleukin-1-receptor antagonist,³² variability in the gene encoding the interleukin-1-receptor antagonist,³³ and lower production of interferon α .³⁴ Although these data supporting an immunological role in the causation of vestibulitis are intriguing, the clinical significance remains unknown.

Dysaesthetic vulvodynia is a diagnosis given to cases of unprovoked vulval burning not limited to the vestibule and with no demonstrable abnormalities.² It is mainly described in older women who have burning that may extend beyond the vaginal introitus to involve the labia majora and sometimes the inner thighs and anus. The term dysaesthetic vulvodynia was originally advocated on the basis of a successful response in 20 patients given amitriptyline.³⁵ Uncontrolled observations have linked diffuse vulval pain with low back pain or trauma, herpes simplex virus, and pelvic surgery,^{22,35,36} which some investigators describe as pudendal neuralgia. However, there are no data to support pudendal nerve dysfunction as a cause of vulval pain. A common cause for vulvodynia and other pain syndromes, such as glossodynia or burning-mouth syndrome has been proposed,³⁷ but these conditions are also poorly understood. A sensible approach seems to be to acknowledge that we cannot say there is no specific cause underlying the burning in these patients, but rather that we have been unable to determine what it is.⁹

Most relevant studies have failed to demonstrate a link between vulvodynia and sexual and physical abuse.^{38,39} Some studies have shown that vulvodynia patients have more depressive symptoms and somatic complaints than controls.^{40,41} However, these findings do not differentiate between cause and effect. In 2003, James Aikens and colleagues⁶ reported significantly increased scores for somatic depressive symptoms in 32 women with vulval dysaesthesia compared with 32 controls. The increase was due to sexual disinterest and chronic pain, while there was no significant difference in cognitive-affective symptoms or history of depressive disorder.

Management of vulval burning or pain

Tricyclic antidepressants are widely used for vulval pain, on the basis of one report³⁵ and their established use in other chronic pain conditions. There are, however, no published controlled studies of their use in vulval pain.

More recently, gabapentin (an anticonvulsant with efficacy in neuropathic pain) has been used successfully.⁴² Other treatments with reported benefit include acupuncture,⁴³ pelvic-floor physiotherapy and biofeedback exercises,⁴⁴ 5% lidocaine ointment,⁴⁵ and interferon.⁴⁶

General measures for managing vulval pain

Treat any identifiable disorder
 Counselling, support, and education
 Avoidance of irritants
 Bland soap substitutes and skin protectants (eg, emulsifying ointment BP)
 Non-irritant lubricant for sexual activity (eg, vegetable oil)
 5% lignocaine ointment 20 min before sexual activity

In vulvar vestibulitis, surgical excision of varying amounts of vestibular tissue (vestibulectomy) is the intervention with the highest reported success rate. However, studies are often weakened by methodological flaws. Medical and behavioural management are under-reported. Conservative treatment of vestibulitis has been recommended by the American College of Obstetricians and Gynecologists.⁴⁷ Our algorithm illustrates a practical approach to the management of chronic vulval burning/pain (figure and panel). There is evidence that many cases of vulvodynia improve with time, with any or no treatment. One study showed that most women with vulvar dysaesthesia reported improvement in symptoms since diagnosis, regardless of the treatments used.⁷ In another study of patients with symptoms and signs consistent with vestibulitis, half the patients eventually remitted spontaneously.⁴⁸

Conclusions

Vulval pain has an array of descriptive terminology, proposed causes, and anecdotal treatments. Study of causes and treatments is therefore needed. When faced with a patient with vulval burning and/or pain, it is vital to exclude treatable conditions. Then, if the patient has unexplained vulvodynia, it is important to choose treatment carefully on the understanding that there are as yet few consistent data from trials to support any particular intervention.

We have no conflict of interest to declare.

References

- McKay M. Burning vulva syndrome, report of the ISSVD taskforce. *J Reprod Med* 1984; **29**: 457.
- McKay M. Subsets of vulvodynia. *J Reprod Med* 1988; **33**: 695–98.
- Neill SM. [Vulvodynia]. *Ann Dermatol Venereol* 2000; **127**: 368–69.
- Nunns D. Vulval pain syndromes. *Br J Obstet Gynaecol* 2000; **107**: 1185–93.
- Ridley CM, Neill SM, eds. *The vulva*, 2nd edn. Oxford: Blackwell Science, 1999.
- Aikens JE, Reed BD, Gorenflo DW, Haefner HK. Depressive symptoms among women with vulvar dysesthesia. *Am J Obstet Gynecol* 2003; **189**: 462–66.
- Reed BD, Haefner HK, Cantor L. Vulvar dysesthesia (vulvodynia): a follow-up study. *J Reprod Med* 2003; **48**: 409–16.
- Harlow BL, Stewart EG. A population-based assessment of chronic unexplained vulvar pain: have we underestimated the prevalence of vulvodynia? *J Am Med Womens Assoc* 2003; **58**: 82–88.
- Kaufman RH, Faro S. *Benign diseases of the vulva and vagina*, 4th edn. St Louis: Mosby-Year Book, 1994.
- Fischer G, Spurrett B, Fischer A. The chronically symptomatic vulva: aetiology and management. *Br J Obstet Gynaecol* 1995; **102**: 773–79.
- Marren P, Wojnarowska F, Powell S. Allergic contact dermatitis and vulvar dermatoses. *Br J Dermatol* 1992; **126**: 52–56.
- Eason EL, Feldman P. Contact dermatitis associated with the use of Always sanitary napkins. *CMAJ* 1996; **154**: 1173–76.
- Sobel JD. Pathogenesis and treatment of recurrent vulvovaginal candidiasis. *Clin Infect Dis* 1992; **14** (suppl 1): S148–53.
- Lynch P, Edwards L. *Genital dermatology*. Edinburgh: Churchill Livingstone, 1994.
- Friedrich EG Jr. Vulvar vestibulitis syndrome. *J Reprod Med* 1987; **32**: 110–14.
- Bergeron S, Binik YM, Khalife S, Pagidas K, Glazer HI. Vulvar vestibulitis syndrome: reliability of diagnosis and evaluation of current diagnostic criteria. *Obstet Gynecol* 2001; **98**: 45–51.
- Goetsch MF. Vulvar vestibulitis: prevalence and historic features in a general gynecologic practice population. *Am J Obstet Gynecol* 1991; **164**: 1609–14.
- Denbow ML, Byrne MA. Prevalence, causes and outcome of vulval pain in a genitourinary medicine clinic population. *Int J STD AIDS* 1998; **9**: 88–91.
- Chadha S, Gianotten WL, Drogendijk AC, et al. Histopathologic features of vulvar vestibulitis. *Int J Gynecol Pathol* 1998; **17**: 7–11.
- Lundqvist EN, Hofer PA, Olofsson JI, Sjöberg I. Is vulvar vestibulitis an inflammatory condition? A comparison of histological findings in affected and healthy women. *Acta Derm Venereol* 1997; **77**: 319–22.
- Bohm-Stärke N, Falconer C, Rylander E, Hilliges M. The expression of cyclooxygenase 2 and inducible nitric oxide synthase indicates no active inflammation in vulvar vestibulitis. *Acta Obstet Gynecol Scand* 2001; **80**: 638–44.
- Tympanidis P. Increased innervation of the vulvar vestibule in patients with vulvodynia. *Br J Dermatol* 2003; **148**: 1021–27.
- Westrom LV, Willen R. Vestibular nerve fiber proliferation in vulvar vestibulitis syndrome. *Obstet Gynecol* 1998; **91**: 572–76.
- Bohm-Stärke N, Hilliges M, Falconer C, Rylander E. Increased intraepithelial innervation in women with vulvar vestibulitis syndrome. *Gynecol Obstet Invest* 1998; **46**: 256–60.
- Pyka RE, Wilkinson EJ, Friedrich EG Jr, Croker BP. The histopathology of vulvar vestibulitis syndrome. *Int J Gynecol Pathol* 1988; **7**: 249–57.
- Bergeron C, Moyal-Barracco M, Pelisse M, Lewin P. Vulvar vestibulitis: lack of evidence for a human papillomavirus etiology. *J Reprod Med* 1994; **39**: 936–38.
- Bazin S, Bouchard C, Brisson J, Morin C, Meisels A, Fortier M. Vulvar vestibulitis syndrome: an exploratory case-control study. *Obstet Gynecol* 1994; **83**: 47–50.
- Baggish MS, Sze EH, Johnson R. Urinary oxalate excretion and its role in vulvar pain syndrome. *Am J Obstet Gynecol* 1997; **177**: 507–11.
- Pukall CF, Binik YM, Khalife S, Amsel R, Abbott FV. Vestibular tactile and pain thresholds in women with vulvar vestibulitis syndrome. *Pain* 2002; **96**: 163–75.
- Granot M, Friedman M, Yarnitsky D, Zimmer EZ. Enhancement of the perception of systemic pain in women with vulvar vestibulitis. *Br J Obstet Gynaecol* 2002; **109**: 863–66.
- Masterson BJ, Galask RP, Ballas ZK. Natural killer cell function in women with vestibulitis. *J Reprod Med* 1996; **41**: 562–68.
- Gerber S, Bongiovanni AM, Ledger WJ, Witkin SS. Defective regulation of the proinflammatory immune response in women with vulvar vestibulitis syndrome. *Am J Obstet Gynecol* 2002; **186**: 696–700.
- Jeremias J, Ledger WJ, Witkin SS. Interleukin 1 receptor antagonist gene polymorphism in women with vulvar vestibulitis. *Am J Obstet Gynecol* 2000; **182**: 283–85.
- Gerber S, Bongiovanni AM, Ledger WJ, Witkin SS. A deficiency in interferon-alpha production in women with vulvar vestibulitis. *Am J Obstet Gynecol* 2002; **186**: 361–64.
- McKay M. Dysesthetic (“essential”) vulvodynia. Treatment with amitriptyline. *J Reprod Med* 1993; **38**: 9–13.
- Turner ML, Marinoff SC. Pudendal neuralgia. *Am J Obstet Gynecol* 1991; **165**: 1233–36.
- Wesselmann U, Reich SG. The dynias. *Semin Neurol* 1996; **16**: 63–74.
- Edwards L, Mason M, Phillips M, Norton J, Boyle M. Childhood sexual and physical abuse. Incidence in patients with vulvodynia. *J Reprod Med* 1997; **42**: 135–39.
- Bodden-Heidrich R, Kuppers V, Beckmann MW, Ozornek MH, Rechenberger I, Bender HG. Psychosomatic aspects of vulvodynia. Comparison with the chronic pelvic pain syndrome. *J Reprod Med* 1999; **44**: 411–16.
- Danielsson I, Sjöberg I, Wikman M. Vulvar vestibulitis: medical, psychosexual and psychosocial aspects, a case-control study. *Acta Obstet Gynecol Scand* 2000; **79**: 872–78.
- Stewart DE, Reicher AE, Gerulath AH, Boyde KM. Vulvodynia and psychological distress. *Obstet Gynecol* 1994; **84**: 587–90.
- Scheinfeld N. The role of gabapentin in treating diseases with cutaneous manifestations and pain. *Int J Dermatol* 2003; **42**: 491–95.
- Powell J, Wojnarowska F. Acupuncture for vulvodynia. *J R Soc Med* 1999; **92**: 579–81.
- Glazer HI. Dysesthetic vulvodynia. Long-term follow-up after treatment with surface electromyography-assisted pelvic floor muscle rehabilitation. *J Reprod Med* 2000; **45**: 798–802.
- Zolnoun DA, Hartmann KE, Steege JF. Overnight 5% lidocaine ointment for treatment of vulvar vestibulitis. *Obstet Gynecol* 2003; **102**: 84–87.
- Kent HL, Wisniewski PM. Interferon for vulvar vestibulitis. *J Reprod Med* 1990; **35**: 1138–40.
- ACOG. Educational bulletin on vulvar nonneoplastic epithelial disorders. *Int J Gynaecol Obstet* 1998; **60**: 181–88.
- Peckham BM, Maki DG, Patterson JJ, Hafez GR. Focal vulvitis: a characteristic syndrome and cause of dyspareunia: features, natural history, and management. *Am J Obstet Gynecol* 1986; **154**: 855–56.