

Vulvodynia management

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Abstract

Vulvodynia is the cause of chronic vulval pain in the absence of skin disease and infection. It is considered difficult to manage by health professionals notably doctors. The reasons for this difficulty is that some patients will have a number of issues that need addressing, which falls out of the remit of gynaecologists' training. As clinicians we should be able to assess and diagnose patients and then triage patients to the various disciplines related to vulval pain management depending on the individual needs of the patient. This review outlines the problem and offers some ideas on treatment.

Keywords sexual dysfunction; vulval pain; vulvodynia

Introduction

This review article discusses the assessment and treatment of vulvodynia. The International Society for the Study of Vulval Diseases (ISSVD) defines vulvodynia as vulval discomfort, most often described as a burning pain, occurring in the absence of relevant visible findings or a specific, clinically identifiable, neurologic disorder. Patients can be further classified by the anatomical site of the pain (e.g. generalised vulvodynia, hemivulvodynia, clitorodinia) and also by whether pain is provoked or unprovoked. Patients previously given a diagnosis of vestibulitis should now be called vestibulodynia (localised provoked vulvodynia) (Table 1). Some patients may have a combination of vulvodynia with another vulval problem (e.g. herpes or Candida) and both conditions may require treatment.

Diagnosis

The definition of vulvodynia has evolved over the past three decades. In 1976, members of the ISSVD recognised vulval pain as a unique entity and called it burning vulva syndrome. In 1985, the ISSVD renamed this disorder 'vulvodynia' and classified it into two clinically distinctive subsets: dysaesthetic vulvodynia and vestibulitis. However, recent studies failed to confirm an inflammatory pathogenesis and the term vestibulitis was replaced by the term vestibulodynia at the 2005 ISSVD congress.

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ISSVD classification of vulval pain

Vulval pain related to a specific disorder

Infectious	e.g. candidiasis, herpes, etc.
Inflammatory	e.g. lichen planus, lichen sclerosus, immunobullous disorders, etc.
Neoplastic	e.g. Paget's disease, squamous cell carcinoma, etc.
Neurologic	e.g. herpes neuralgia, spinal nerve compression, etc.

Vulvodynia

Generalised

- Provoked (sexual, nonsexual, or both)
- Unprovoked
- Mixed (provoked and unprovoked)

Localised (vestibulodynia – previously known as vulval vestibulitis, clitorodinia, hemivulvodynia, etc.)

- Provoked (sexual, nonsexual, or both)
- Unprovoked
- Mixed (provoked and unprovoked)

ISSVD, International Society for the Study of Vulval Diseases.

Table 1

Prevalence

The prevalence is estimated at around 15–18% of the adult population by different studies, although experts believe that this is a gross underestimation. Based on 2-year follow-up in Michigan, each year approximately one in 50 women develop symptoms of vulvodynia, with one in 10 women with vulvodynia reporting remission of symptoms. There still has not been a prospective population-based study to truly assess the prevalence of the condition.

Aetiology

The aetiology of vulvodynia remains elusive but is believed to be multifactorial. Studies have demonstrated an increased intraepithelial innervation in the skin of affected individuals. There is an increase in the number of C-afferent nociceptors on histopathological staining (S-100) of skin biopsies obtained from women with vestibulodynia at vestibulectomy or by punch biopsy. It is believed to be due to an alteration in the nerve supply to the affected area, which could be a possible pathophysiological basis for increased pain sensitivity on touch or even constant pain. An increase in the number of mast cells has been found, which on degradation release heparanase, an enzyme involved in inflammatory reactions that break down surrounding connective tissue and thus potentially allows the proliferating nerve fibres (nociceptors) to penetrate the basal membrane and reach the surface epithelium.

Chronic inflammation may induce changes in the peripheral nociceptors and result in a reduced sensory pain threshold, also called 'allodynia'. Several studies have demonstrated an

increase in inflammatory markers (such as interleukin-1 α and tumour necrosis factor- α) and anti-inflammatory markers (such as interleukin-1 receptor antagonist) resulting in the chronic inflammatory condition described above. This leads to central sensitisation as a combination of peripheral sensitisation of sensory nerves in the vestibular tissue, triggered by inflammation or trauma, and a change in the sensory transmission of pain, which leads to changes in the central nervous system, such that the patient experiences altered abnormal sensory and motor pain in other parts of the body. One study showed that women with vulvodynia experience a reduced pain threshold in the trunk and upper extremities as well as in the vulva, pointing toward a central sensitisation. Patients with fibromyalgia, irritable bowel syndrome and interstitial cystitis also exhibit this phenomenon and these conditions often co-exist with vulvodynia.

Women with vulvodynia often present with hypertonicity or spasm in the pelvic floor musculature as well as poor body awareness compared with healthy women. Investigators have looked into the association between vulvodynia and vaginismus. Vaginismus is defined as a recurrent or persistent involuntary spasm of the musculature around the introitus, which prevents penetration despite the woman's own wishes. A case control study showed that more than 50% of women presenting with primary vaginismus also met the criteria for vulvodynia. In addition, many women with vulvodynia exhibit pelvic floor abnormalities, which may serve as causative, permissive or aggravating factors.

There has been increasing though conflicting evidence relating psychopathological conditions like depression, anxiety and sexual problems to vulvodynia. Several studies have reported that women with vulvodynia suffer with low self-esteem, a tendency toward mild to moderate depression and a high level of anxiety. Their depressive thoughts may be a result of the burden of the pain condition rather than actual depression requiring treatment. Another study found a significant correlation between vulval pain, anxiety, depression and a generally high level of stress. Whether pain predisposes to depression or vice versa has to be examined in more detail in future studies. Nevertheless, it is not possible to point to a single aetiology behind vulvodynia and whether there is a different aetiology behind generalised (vulval dysaesthesia) and localised vulvodynia (vestibulodynia) is under discussion and remains to be clarified in more detail.

Clinical features

Vulvodynia affects women of all ages with the most common age range between 20 and 50 years. These women may already have suffered for years and sought medical opinion on numerous occasions without benefit. Women describe pain as combinations of sharp stinging, soreness and burning. It is pertinent to take a careful history and enquire about specific triggering factors and relation to sex.

The physical findings in vulvodynia are often normal and belie the severity of the patient's discomfort. An allodynia response may be demonstrated on gentle vulval touch. The diagnosis of vulvodynia is, therefore, clinical and biopsies of the symptomatic areas are not necessary to make a diagnosis. Patch testing is not indicated to exclude contact allergy.

Management

The evidence available for the treatment of vulvodynia would suggest a multidisciplinary approach to the problem (Table 2). We recommend that the patient initially be encouraged to follow general advice on hygiene before trying local treatment regimens or systemic treatment regimens. These include avoiding soaps and perfume-based toiletries and avoiding synthetic underwear. Patient information and an explanation of the condition are essential. There are many patient resources available. Topical agents in general should be avoided to avoid the problem of irritancy.

For provoked pain, topical local anaesthetics can be considered. One study established the efficacy of 2% lidocaine gel and subsequent 5% lidocaine ointment applied to the painful area of the vulva four to seven times daily for 4 months as an effective treatment for sexual pain related to vulvodynia as demonstrated by follow-up results at 12 months. Significant reduction in pain was shown in one-third of the cases by combining lidocaine with methylprednisolone injections in the circumference of the vestibule at weekly interval for 2 weeks by a non-placebo controlled trial. Two non-placebo controlled pilot studies have reported an effect of local injections of botulinum toxin A (botox) into the vestibule in the treatment of vulvodynia. Both pilot studies have shown a significant reduction in pain for up to 12 months following treatment in 17 and 20 women, respectively. The effect of botox in the treatment of vulvodynia needs further evaluation.

Surgery has been suggested for patients with sex-related pain. The procedure that yields the best result is the modified vestibulectomy where a horseshoe-shaped area of the vestibule and inner labial fold is excised followed by advancement of the posterior vaginal wall. There is evidence that women who respond to lignocaine gel prior to sex have a more successful outcome and a failure to do so should be considered as a relative contra-indication to surgery. In a series of 37 patients with provoked vulvodynia, 59% had a complete response, 30% had a partial response and 11% had no response. The median follow-up was 10 months.

For unprovoked pain, systemic therapy with tricyclic antidepressants (TCAs) such as amitriptyline and nortriptyline

Treatment options in vulvodynia

Provoked pain

Vaginal desensitisation

- vaginal dilators (e.g. Amielle trainers)
- vaginal massage (digitally or with a simple vibrator)
- pelvic floor biofeedback

Local anaesthetic gels

Psychosexual counselling

Unprovoked pain

Tricyclic antidepressants (e.g. nortriptyline)

Gabapentin, pregabalin

Local anaesthetic gels

Acupuncture

Table 2

have been used in lower doses than is the case with depression. Patients often resist the idea of taking antidepressants and it is necessary to explain that small doses are likely to have an analgesic effect. Initially, 10 mg is given at night and the dose is increased by 10 mg per week. Usually the maximum dose required is 75 mg. Several weeks of treatment may be necessary before an adequate response is achieved. Mild side-effects of tiredness and weight gain are frequently reported. Tiredness can be reduced in some patients by giving the medication earlier in the evening or in divided doses. Weight gain, tinnitus and palpitations may be poorly tolerated and force a change of medication, however, patients are more likely to persist with treatment if they understand that it will not be long term. Medication can often be tapered and ceased once symptoms have been controlled for several months. One prospective non-randomised, non-placebo controlled follow-up study demonstrated a 50% reduction in pain among 56–90% of the participants when using amitriptyline, paroxetine and other selective serotonin reuptake inhibitors.

Drugs such as gabapentin or pregabalin have been used in cases resistant to TCAs. One such study found a reduction of 80% in subjective complaints (primarily burning pain in the vulva, dyspareunia and irritation in the vulva) following 30 months of treatment with gabapentin in 64% of women diagnosed with general, unprovoked vulvodynia.

Teamwork is crucial as we should all work within our clinical skills zone but not deny patients access to other health and holistic professionals. Psychosexual counselling and physiotherapy specialists all have a role to play (Table 3). Not all patients require referral to these practitioners but it will be up to the clinician as to how complex the patient's problem is. For example, hypertonicity of the pelvic floor musculature in women is a contributory factor in vulvodynia and has led to the emergence of biofeedback therapy in the management of vulvodynia with a reported favourable outcome in nearly 90% of women following biofeedback but these patients did have other treatments. A physiotherapy referral may be necessary in those patients with sex-related pain.

Identification of psychosexual morbidity is important as psychosexual counselling may be necessary to complement the medical treatments being offered. Sexual dysfunction is common and frequently reported. Most studies focus on provoked pain where superficial dyspareunia is the presenting feature. Reduced sexual

arousal, more negative sexual feelings and less spontaneous interest in sex (not elicited by a partner) have all been described. In this situation psychosexual counselling can help.

Discussion

Patients with vulvodynia are likely to be initially referred to clinicians. In the hospital setting, this is often gynaecologists. They should take the lead and liaise with colleagues in difficult cases where pain management issues become a problem or when there are psychosexual issues. Public awareness of this condition and the increasing access to the Internet for information will mean that more patients will come forwards for care. Health professionals need to embrace this and take interest in these patients. Care does not have to be given in clinical isolation but as a part of the wider team. Teamwork should be nurtured and developed and seeing patients together in joint clinic is a practice that is being developed and encouraged. ♦

FURTHER READING

- Haefner HK, Collins ME, Davis GD, et al. The vulvodynia guideline. *J Low Genit Tract Dis* 2005; **9**: 40–51.
- International Society for the Study of Vulval Diseases website. www.issvd.org.
- National Vulvodynia Association website. www.nva.org.
- Weijmar SWC, Gianotten WL, Meijden van der, et al. Behavioural approach with or without surgical intervention to the vulvar vestibulitis syndrome: a prospective randomised and non-randomised study. *J Psychosom Obstet Gynecol* 1996; **17**: 143–148.

Patient information

- Vulval Pain Society. PO Box 7804, Nottingham, NG3 5ZQ, UK. www.vulvalpainsociety.org.
- British Pain Foundation. Third Floor Churchill House, 35 Red Lion Square, London WC1R 4SG, UK www.britishpainsociety.org/patient_publications.
- British Society for the Study of Vulval Disease website. www.bssvd.org.

The multidisciplinary team members

Lead clinician (gynaecologist, GP, dermatologist)
 Physiotherapist
 Psychosexual counsellor
 Pain management team
 Acupuncturist

GP, general practitioner.

Table 3

Practice points

- Vulvodynia is diagnosed clinically and a team approach is often necessary depending on the individual needs of the patient. Gynaecologists can help triage patients and refer on according to needs
- Simple measures (e.g. information on good skin care and patient information) will benefit many patients
- Unprovoked vulvodynia should be managed as a chronic pain problem rather than a skin problem
- Provoked pain is often sexual pain and psychosexual input can be very helpful