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Leading Article

Vulvodynia - A Clandestine Challenge of Postmenopausal Life: What is New?

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Key Facts

- Vulvodynia has been shown to both develop and persist in peri and post-menopausal women.
- Incidences reported as high as 15.6% in women over age 65.
- This decreases overall well-being and causes low quality of life.
- Multiple factors involved in pathogenesis.
- Clinicians primarily treat symptoms over the pathology.

Introduction

Many postmenopausal women experience persistent vulval pain that affects their quality of life. Vulval pain can be due to a specific cause or maybe unexplained/idiopathic in origin. The latter is known as Vulvodynia (Fig-1). According to the International Society for the Study of Vulvovaginal Disease, Vulvodynia (ISSVD) is considered vulval discomfort in the absence of relevant visible findings or identifiable neurological condition.

This pain can be described as burning (most commonly), itching, stinging, rawness, or irritation that may be localized to one area or generalized to the entire vulva. It could be triggered by direct touch (inserting a tampon or sexual intercourse), indirectly by walking, or even without provocation.

Vulvodynia has been shown to both develop and persist in peri- and post-menopausal women, with incidences reported as high as 15.6% in women over age 65[1]. The negative psychological and sexual impact of Vulvodynia and the number of patients who do not seek treatment, this number is probably underreported. Unfortunately, Sri Lankan data on the prevalence of Vulvodynia is not available.

Women with Vulvodynia report decreased overall well-being and low quality of life. Women are often told that no physical cause can be found for their pain, implying that their pain results from psychological problems or does not exist at all[4,5]. The lifetime prevalence of depression among women with vulvodynia has been estimated to be 45% and, for two-thirds of patients, their first depressive episode appears to have preceded the pain[8].

Newer classification has eliminated former terms used to describe vulval pain such as vulvar dysesthesia and vestibulitis. According to new terminology introduced in 2015, Vulvodynia is the term used and further details of conditions in accordance to pre-set descriptors.

Figure 1: 2015 Consensus Terminology and Classification of Persistent Vulvar Pain and Vulvodynia

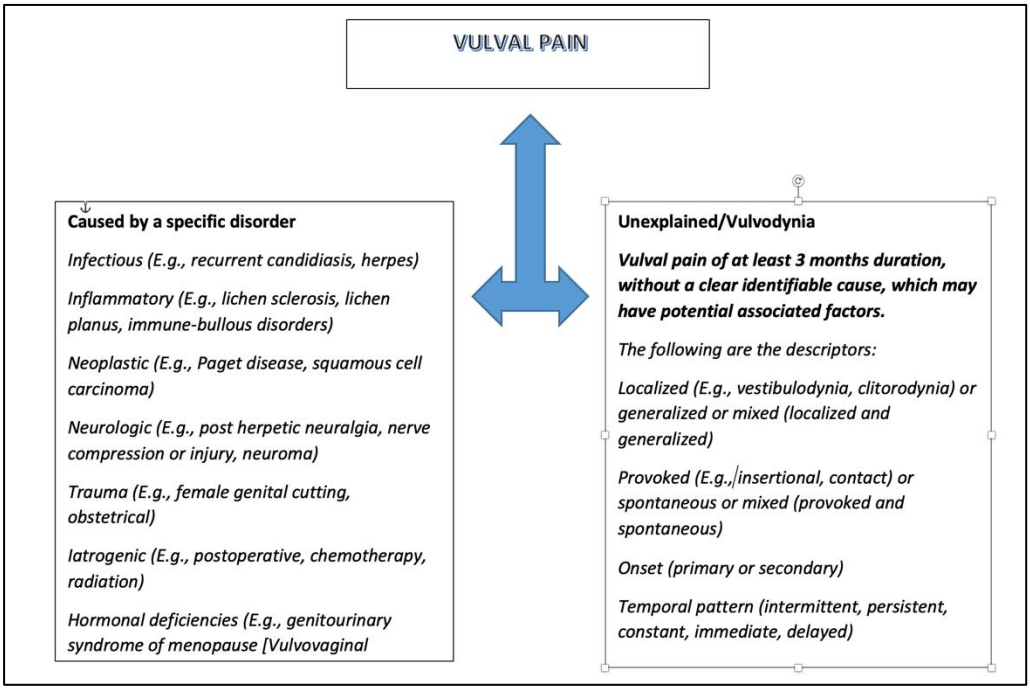

Table-1: Comparison between GVD & LVD

FACTOR	GVD	LVD
Prevalence	6-7%	12%
Age group	Post-menopausal	Pre-menopausal
Onset	Unprovoked, Spontaneous	Provoked
Affects	Entire vulva	Specific Area of the Vulva
Appearance of vulva	Normal	Erythematous
Cotton swab test	Negative	Positive
Local Lidocaine Gel	Not alleviate pain	Alleviate pain

Generalized Vulvodynia (GVD) is defined as pain affecting the entire vulvar region and occurs in 6–7% of women in the general population. Pain that is restricted to a portion of the vulva is referred to as localized Vulvodynia (LVD); for example, the pain may be restricted to areas such as the vestibule, clitoris (termed clitorodynia) or a portion of the vulva (termed hemi vulvodynia). The most common subtype of Vulvodynia is localized provoked vulvodynia, which has an estimated lifetime prevalence of 12% among premenopausal women[6] (Table-1).

Pathophysiology

There are multiple proposed etiological factors for the pathogenesis of Vulvodynia. Some of these include abnormality which comes from early foetal development, genetic factors, immune factors, endocrine factors, infections, inflammation, dietary oxalates, and neuropathic conditions. However, no single factor is solely responsible and a multitude of these may together play a significant role in pathogenesis.

Most clinicians believe that the presence of vulvar pain is attributable to an underlying inflammatory process or a dysregulation of the peripheral nervous system and the CNS; this model is termed the 'neuropathic pain hypotheses. However, not all studies detected evidence of inflammatory mediators and the cause of hyper-innervation is unknown[3]. Alternatively, others believe that the presence of pain in the vulva is the result of a pre-existing psychosexual dysfunction and, thus, is psychosomatic in nature[7].

Clinical presentation

Post-menopausal Women with GVD most often experience an unpleasant abnormal sensation over the entire vulvar area. The pain is most often described as burning, but it may have an irritating, sharp, stinging, and/or occasionally pruritic (itchy) quality. It may have arisen suddenly with or without provocation and may last for several days following coitus or a gynaecological examination.

Diagnosis

Vulvodynia is a diagnosis of exclusion, which requires ruling out other potential sources of pain, and the pain must be at least 3 months in duration[2].

(a) Clinical History

Systematic history of patient-reported symptoms is a crucial step in the assessment[9].

The onset of symptoms- to distinguish whether this condition is primary or secondary in origin.

Duration-At least 3 months of symptoms duration is a must when considering vulvodynia.

The character of pain as burning, stinging, irritating and raw sensations may aid in diagnosis. Self-reported dyspareunia and stinging pain were strongly associated with vulvodynia[10].

Site of pain-identification of generalized or focal pain points is important to differentiate between GVD versus LVD. (Localized disease is seen in young patients with features like pain provoked by touch and Pain most frequently felt in the 4-8 o'clock position in the vulva, proximal to the hymenal ring.

Aggravating factors- not only in finding a treatable cause but also in helping the patient in her everyday life and avoiding possible provocative factors.

Co-existing symptoms-pruritus and a tendency toward fissures in the vulva were not associated with vulvodynia. It is important to inquire about symptoms of painful bladder syndrome (pain settles with urination, worsen by acidic foods and last > 6 months) and IBS (irritable bowel syndrome). These

two conditions are known to be associated with vulvodynia[10].

Psychosocial and sexual impact-need to be inquired and addressed if any impact is identified.

(b) Physical Examination

Understanding of normal anatomy of the vulva is important. Any identifiable skin lesion, fissuring, discharges, or erythematous changes should be accurately identified as these may reflect other causes for vulval pain (Fig-1).

Cotton Swab Test-helps to identify areas of pain thereby differentiating generalized pain from localized pain. The cotton swab test has been established as a reliable tool for diagnosing LVD[11].

The test starts from the innermost thigh and a wet swab is used. The cotton swab gradually moves towards the labia majora, inter labial sulcus labia minora and the vestibular area. The vestibular area is checked at 2, 4, 6, 8, and 10 o'clock positions. When pain occurs, it is quantified as mild, moderate, or severe. A diagram of pain distribution will help to monitor response to treatment.

Musculoskeletal assessment-helps to assess factors like pelvic muscle over-activity that contribute to vulvodynia.
Ex.1.Palpation of obturator internes muscle on stretch
2. Palpation of pubo-vaginalis and urethra-vaginal sphincter.

(c) Investigations

Infection screening-Saline wet mounts, Vaginal P^H studies, Gram stains and cultures, PCR testing as appropriate to the scenario.

Vulvoscopy+/-Biopsy-similar to Colposcopic evaluation, the vulva is examined with a colposcope, and acetic acid is avoided to minimize pain and caustic effect. For any suspicious area, a biopsy is necessary.

EMG bio-feedback-can be used to identify pelvic muscular origin pain.

Treatment

The effects of vulvodynia are often complex, an individualized treatment approach is needed. When selecting appropriate treatment option/s, the decision should be based on the results of controlled studies. Over the years, treatment decisions have been largely based on expert opinion and not on evidence from randomized, clinical trials. The literature on treatment for GVD is minimal and does not consist of strong randomized trials. But there are RCT-derived data for the treatment of LVD. Fortunately, many treatment options exist and are sharable between GVD and LVD. This knowledge can be adapted to GVD management in postmenopausal women. Options are often used in combinations than alone for better outcomes.

Treatment options can be divided into

a. General vulval care
b. Medical
c. Surgical

d. Behavioural /Cognitive-Behavioural
e. Alternative methods

General vulval care (Table-2)
The primary aim is to reduce irritation. Few known options exist and none of these are RCT based.

Table 2: General Vulval Care

Pure cotton undergarment
Avoid irritant shampoos, perfumes, and douching
Use only mild bathing soaps and no direct application to the vulva
Clean vulva only with water
Do not use hair dryers to dry the vulval area
Switch to cotton sanitary pads if needed
Non-irritant lubricant gels for sex when needed
Rinse and pat the vulva after urination/intercourse
Preservative-free topical emollients application to the vulva after bathing
Cool gel packs application to the vulva

Medical Options

1. Topical agents or injections

When considering topical agents' particular attention must be paid to treatment preparation as certain substances that function as "vehicles" per se cause irritation. This is more with creams than ointments.

Lignocaine ointment- topical 5% lignocaine nocturnal application has a very limited effect on GVD than LVD in studies. This is basically related to intercourse-provoked vestibulodynia[12]. However, RCT conducted later showed this is not superior to placebo in GVD[13].

Gabapentin oinment-2-6% topical gabapentin showed promising results for both GVD and LVD by 50% reduction in pain with nocturnal application and in LVD, there was improvement in sexual function[14].

Botox A local injection- botulinum toxin A blocks the cholinergic innervation of the target tissue. Recently, it has been proven effective not only at a neuromuscular junction but also within parasympathetic or sympathetic neural synapses. There are small-scale studies where Botox A is used in low doses (20-40IU) in women with vulvodynia and they showed promising results[15]. But larger RCTs are essential for its routine use.

Local steroid injection per se ineffective treatment modality. However when combined with bupivacaine relieved pain in some LVD patients.

2. Oral agents

Tricyclic antidepressants and anti-convulsant are effective options for GVD and LVD. Often used in clinical practice. But care must be taken to avoid polypharmacy due to unacceptable side effects such as dry mouth, sedation, gait imbalances, cognitive issues and dizziness. Over time patients will start tolerating these and stepwise dosing is important. Good patient counselling is important, and patients must be informed that clinical efficacy will take about 3 weeks.

Amitriptyline (TCA) is the frequent first-line agent usually started at 12.5-25mg low dose and can go up to 150mg daily dose depending on response to symptoms and side effects tolerance. Near 60% improvement in pain is well evident in RCTs.

Gabapentin is an effective alternative agent. Usually given as a 300mg daily dose (3-divided doses). This can titrate up to 3600mg total daily dose depending on the response to symptoms and side effects tolerance. In RCTs, the efficacy of gabapentin was high as 80% in GVD[17].

These medications should not be stopped abruptly and gradually tailed off when they are no more effective.

Surgical Options

Surgeries for GVD are less well-developed and unlike in localized disease refractory to medical management, it is not recommended for GVD.

Behavioural / CBT

Psychosexual counselling, supportive groups and cognitive behavioural therapy, all have played a role in coping with chronic pain and its impact on lifestyle. Significant reduction in pain severity and improvement of function is best seen with CBT[18].

Alternative Methods

Transcutaneous nerve stimulation- when using vaginal TENS there was a significant improvement in pain, and sexual functions in LVD patients. But its use for GVD is not well evident.

Vaginal laser treatment- a known rejuvenation therapy format. However, it has been used in LVD with promising results as a 60% reduction in pain. But data for GVD is not found in the literature.

Non-invasive cerebral cortical stimulation was found to have an effective treatment modality for GVD with the improvement of mood and pain. But further research is required for its clinical use[21].

Electromyography biofeedback offers an immediate impression of how pelvic wall tone behaves and small-scale studies showed promising results. However, this non-invasive, cost-effective technique should be further studied[22].

Multimodal physical therapy (combination of pelvic exercises, TENS and etc.) was extensively studied with regard to LPV with good results in pain profile. But, for GVD further data is necessary[22].

Acupuncture has been tried for GVD for decades and there are studies showing its effectiveness with regard to the GVD pain profile. Acupuncture is applied to acupoints on the abdomen, supra public region, and the extremities, but not directly to the vulva[23,24].

Novel Interventions

Medical cannabis[25]-becoming popular and one online survey has been done (2020) to assess the efficacy of medical cannabis on vulvodynia. Despite of assessment of the route of administration, this has the potential benefit to overcome vulval pain and dyspareunia.

Intra-vaginal diazepam – is used in vulvodynia and hypertonic pelvic muscles and studies were done with regard to hypertonic pelvic muscles. But no reduction in pain profile was noted[22].

Estradiol/progesterone cream[22] (or conjugated equine oestrogen) - effective for LPV. But its use in GVD has not been proven by studies.

Enoxaparin does play a role in LPV reduction. But the evidence is lacking for its use in GVD[22].

Conclusion

Despite its high prevalence and negative ramifications, vulvodynia is still far from understood. Much remains unknown regarding the factors involved in the aetiology and maintenance of this condition. Due to this reason current treatments for vulvodynia only focus on symptoms. There is a greater need for studies on prevalence, clinical presentations and current management strategies in Sri Lankan population. Also due to unresolved gaps in knowledge and treatment, large-scale multicentre RCTs are essential.

Table 3: Summary of Treatment Options According to Invasiveness

First line	**CBT** **Topical ointments**
Second line	**Oral Agents**
Third line	**Botox A** **Acupuncture**

Conflicts of Interests - None

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