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Provoked Vulvodynia: A Holistic Treatment Approach

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ABSTRACT

Provoked vulvodynia (PVD) is a disorder characterized by intense vulvar pain, most often reported as raw, burning, or stinging tissue. Current treatment options for PVD are insufficient and narrow in focus, as they predominantly address the physical pain associated with the disorder. Current publications regarding cognitive behavioral therapy and mindfulness treatment indicate that both therapies are highly effective. Mindfulness and cognitive behavioral therapies are noninvasive, efficacious long term, and provide a comprehensive biopsychosocial approach. The aim of this study is to educate nurse practitioners regarding these treatment options, which manage the physical as well as psychosocial aspects of PVD.

Keywords: cognitive behavioral therapy, dyspareunia, provoked vulvodynia, mindfulness, vestibulodynia

OVERVIEW OF PVD

Provoked vulvodynia (PVD) is a disorder characterized by intense vulvar pain, most often reported as irritated, raw, burning, tearing, throbbing, or stinging tissue.[1] Approximately 8% of women in the general population are affected by PVD.[2] The majority of women with vulvodynia (previously known as "vestibulodynia" or "vulvar vestibulitis") experience pain localized to the vaginal vestibule when touched or "provoked," such as during a pelvic exam, intercourse, or tampon insertion.[3] When the pain is diffuse, constant, and *un*provoked, it is referred to as generalized vulvodynia.[3] In 2015, the International Society for the Study of Vulvovaginal Disease released an updated definition of PVD: "Vulvar pain of at least 3 months duration, without clear identifiable cause, which may have potential associated factors."[4(p1)] The associated factors include inflammation, genetics, hormonal factors, psychosocial factors, structural defects, comorbid pain syndromes, musculoskeletal factors, and neurologic mechanisms.[4]

ETIOLOGY

The likely etiology of PVD is a complex and interconnected network of biologic and psychological factors.[1] The interplay between chronic stress and pain is noteworthy. Women with PVD are found to have lower pain thresholds and increased pain ratings compared to controls.[5] Sensory testing has demonstrated that affected women have increased pain receptor sensitivity and/or nerve stimulation in the vestibular tissue.[5] Similar to other types of chronic pain, women with PVD process pain differently than women without the disorder; acute pain is processed in sensory areas of the brain, whereas chronic pain is processed in the anterior cingulate and insular cortex, which are associated with motivation, rewards, and emotion.[5] It is hypothesized that this shift occurs in the presence of chronic stress.[5] Stress can interrupt the function of the hypothalamus-pituitary-adrenal axis, which modulates the release of cortisol, leading to a sustained pain response.[5]

The patient's emotional reaction and mood patterns likely heighten the interaction of stress and pain. Those with antecedent depression or anxiety disorders are 4 times more likely to develop PVD than those without.[5] Subsequently, women with a known diagnosis of PVD are 10 times more likely to develop anxiety disorders and 4 times more likely

to develop depression.[5] Pelvic floor musculature has been found to be responsive to anxiety.[6] It is possible that, in PVD, increased anxiety can cause a response of tension in the pelvic floor, which makes intercourse painful, if not impossible. In addition to the effects of stress and anxiety, multiple etiologies have been proposed, including recurrent infection, inflammation, hormonal factors, neuropathic changes, genetics, embryologic abnormalities, high urinary oxalate levels, and other psychological factors.[1]

PSYCHOSOCIAL CONSIDERATIONS

Unfortunately, by the time most women receive a diagnosis of PVD, they may have already begun participating in a cycle of fear and avoidance. The fear-avoidance model of chronic pain proposes that fear and anxiety arise in the presence of real and perceived threats; this model ascribes that *pain catastrophizing* (exaggerated negative cognitions regarding pain) may intensify fear as well as *pain hypervigilance* (extreme attention to pain).[7] The result is an ongoing cycle of hypervigilance, fear, and avoidance of pain triggers, which increase disability, and depression.[7] It has been suggested that the fear-avoidance model be modified to include self-efficacy, as research suggests it is a key mediator between pain intensity, fear, and disability.[7] *Pain self-efficacy* is the confidence one has in his/her own ability to cope with and manage pain.[7] In PVD, lower levels of self-efficacy and higher levels of pain hypervigilance, fear, and catastrophizing are correlated with increased pain severity.[7]

Due to the intimate nature of PVD, it is important to consider the effect pain has on partners and relationship dynamics. Couples are often burdened by a reduction of intercourse frequency, sexual satisfaction, and sexual function.[8] When a partner offers supportive and encouraging communication, they contribute to a reduction in pain intensity and greater sexual satisfaction.[9] Partners also report that pain has a negative impact on their relationship; compared with controls, they have less sexual satisfaction, poorer sexual communication, and less affectional expression in their relationships.[8] Feelings of sexual and relational intimacy may be protective for couples with PVD; higher levels of intimacy result in greater pain self-efficacy, sexual satisfaction, and sexual function.[9]

The pain associated with PVD incurs a high cost to patients and society.[9] Provider awareness and education are lacking as most women see between 4 and 6 providers before they receive an appropriate diagnosis or efficacious treatment.[10] A large population-based study showed that, of all the participants who met the vulvodynia criteria, 48.6% had sought treatment but only 1.4% had been diagnosed with the condition.[11] Many providers may not be cognizant of the presentation, prevalence, and/or treatment of PVD.[11] As a result, women are left feeling isolated and invalidated; believing they are suffering from a seemingly "untreatable" condition.[12]

DIAGNOSIS

Provoked vulvodynia is a diagnosis of exclusion. The work-up includes a thorough past medical, surgical, sexual, and psychological history as well as a physical exam.[3] Cotton swab testing is a standard diagnostic tool used to identify pain intensity by touching the vestibule with the cotton tip at various locations.[3] This test may also be helpful in monitoring treatment response over time.[3] The use of a colposcope to examine the vulva is helpful to evaluate for erythema, inflammation, trauma, ulceration, scarring, lichenification, atrophy, and dermatitis.[3] A pelvic exam using a pediatric speculum is completed, along with a wet mount prep, fungal and bacterial cultures, and blood work to rule out other possible etiologies (including candidiasis, lichen sclerosis, lichen planus, sexually transmitted infections, and atrophic and bacterial vaginitis).[3]

TREATMENT

Because this disorder has been overwhelmingly unknown by providers until recently, many recommended treatments are based on lower level evidence.[3] Traditional treatment options include topical anesthetics and/or corticosteroids, tricyclic antidepressants, and anticonvulsants; however, research supporting their efficacy is lacking.[3] Practitioners may refer patients to pelvic floor physical therapists who incorporate dilators, vaginal massage, biofeedback, and other exercises intended to increase control over pelvic floor musculature.[3]