THE PATHOPHYSIOLOGY AND ETIOLOGY OF VAGINISMUS

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SUMMARY

Vaginismus is defined as an involuntary spasm of the pelvic muscles surrounding the outer third of the vagina, especially the perineal muscles and the levator ani muscles. Its severe form usually makes penetration virtually impossible and causes a severe, burning pain, and leads to unconsummated marriage. There appears to be basic agreement that vaginismus is a psychosociologic disorder with phobic elements resulting from actual or imagined negative experiences with penetration attempts. Fear and anxiety concerning penetration is expressed physiologically via the involuntary vaginal muscle spasm that characterizes vaginismus. Since 1547, when vaginismus was first described, thousands of research papers have been published on this female sexual disorder. However, the etiology of vaginismus remains controversial. Women with vaginismus generally experience shame, disgust and dislike toward their genitals. They frequently have or have had other phobias. They are usually overprotected by their fathers and have been "good girls" since childhood. Their sexual partners are usually kind, gentle, considerate and passive "nice guys". The male partner's lack of aggressiveness actually leads to unconsummation of the marriage. The sexually secure husband can usually overcome mild degrees of vaginismus by persistent but firm penile insertion. For moderate to severe degrees of vaginismus, medical intervention is usually necessary to lead to consummation of the marriage. [*Taiwanese J Obstet Gynecol* 2004;43(1):10–15]

Key Words: vaginismus, female sexual disorder

Introduction

Vaginismus is defined as the involuntary spasm of the pelvic muscles surrounding the outer third of the vagina, especially the perineal muscles and the levator ani muscles [1–3]. In severe cases of vaginismus, the adductors of the thighs, the rectus abdominis, and the gluteus muscles may be involved. This reflex contraction is triggered by imagined or anticipated attempts at penetration of the vagina or during the act of intromission or coitus.

The severest form of classical vaginismus makes penetration virtually impossible, causes a severe, burning pain, and leads to unconsummated marriage. However, there are less pronounced degrees of vaginismus, characterized by a "stiffening" of the vaginal musculature, allowing penetration, yet accompanied by the same sort of pain. The condition may be primary (present from the first attempt at penetration) or secondary (following physical or psychologic trauma, infection, menopausal change, or pelvic pathology) [4]. Our discussion will focus on primary vaginismus.

Pathophysiology

Huguier first introduced the term "vaginismus" in 1834, as the title of his M.D. thesis. However, it was probably Trotula Of Salerno, in her 1547 treatise on "The Diseases of Women", who provided the first description of what we now call vaginismus: "a tightening of the vulva so that even a woman who has been seduced may appear a virgin" [5]. In an early review, Faure and Siredey [6] concluded that vaginismus represented an involuntary, painful, spasmodic contraction of the vulvo–vaginal canal provoked by a hypersensitivity specific to the

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genital organ. Walthard [7] questioned Sims' [8] notion of hypersensitivity specific to the genital organs and suggested that the vaginal muscle spasm represented a phobic reaction resulting from fear of pain. He stressed the importance of psychotherapy and education rather than surgery and dilatation.

Before it was correctly identified as a conditioned response, vaginismus was considered to constitute a hysterical or conversion symptom, being conceptualized as a symbolic expression of a specific unconscious intrapsychic conflict. Some authorities still believe that women who suffer from vaginismus are envious of and hostile toward men, and harbor an unconscious desire to castrate them. These clinical formulations postulate that penis envy is a universal phenomenon which emerges during the phallic phase of a young girl's development. According to this theory, if the girl does not resolve her "penis envy", she is likely to develop vaginismus in later life. Vaginismus is explained as the physical expression of a woman's unconscious wish to frustrate the man's sexual desires or, more specifically, of her wish to "castrate" him in revenge for her own "castration". It follows that psychoanalytically-oriented approaches to the treatment of vaginismus attempt to foster the patient's awareness of her hypothetical unconscious hostility toward men and the resolution of the conflict from which it derives. According to Kaplan [3], reports on the results of this form of treatment have been poor and have never been made available.

Vaginismus is a psychogenic phenomenon that expresses itself by spasm of the muscle of the vagina, starting with slight contraction at the beginning of intercourse, to extreme cases in which the spasm causes severe pain, adduction of the thighs and opisthotonos, and does not allow the introduction of the male sexual organ or even a fingertip into the vagina [9].

Most women who exhibit vaginismus believe that "they are too small inside", which in fact they are during the time that the spasm exists. While vaginismus may serve the purpose of keeping the penis out, it should be noted that true vaginal spasm cannot be produced voluntarily and so cannot consciously be used by women to avoid intercourse.

Dawkins and Taylor [10] divided these women into two groups. The first group consists of those who have not succeeded in reaching sexual maturity. Here, the doctor's functions are to help the woman integrate her sexual organs into her body and to feel herself to be a complete human being and to enable her to control her whole body. Women with personality disturbances and unconsummation of marriage are included in the second group. These patients, although they seek help, resist treatment.

Frank sees vaginismus as a defense mechanism against sex for such reasons as fear of pregnancy, feelings of nausea, a broken engagement, the discovery of a physical defect in the husband after marriage, or denial of womanhood. Other factors are lack of consideration or attention during foreplay to sexual union or halitosis, which can be the basis of an aversion toward the husband, and, subconsciously, the beginning of sexual resistance and defense. In some cases, the husband has come to represent the "father" in the mind of the woman, so she feels that sex with him would be incest.

Silverstein [11] sees vaginismus as a symptom. It represents a defensive need to be closed, to protect oneself, to keep out, to barricade and provide boundaries. Vaginismus protects against anticipated pain and also against expected violation and intrusion. It represents a wish to maintain the integrity of the self. In most cases, the perception of violation results from a history of actual violations and passive anger towards the partner as a representation of the aggressor (father). These women are unable to get angry directly at the actual aggressor, so they project their aggression onto their partners. They do not feel safe to be open emotionally or physically. The partners, for their own historical reasons, collude in the projective identification and view their own sexuality as aggressive [11].

Silverstein thinks that the vaginismic woman's choice of a partner is based on an internalized object relationship with her father, choosing what appears to be the opposite character. The reaction to the introjected father image is projected aggressiveness onto the husband, perceiving him to be threatening and intrusive [11].

In general, vaginismus is a condition in which the outer third of the musculature of a woman's vagina contracts spasmodically when anticipation of intercourse occurs. Tightening of the vaginal muscle is involuntary. The condition may result from a variety of organic problems such as infection, but there is often no physiologic or biologic basis.

Vaginismus results from fear of pain and fear of intercourse, making coitus impossible or extremely difficult. This condition occurs in many unconsummated marriages. Vaginismus has been likened to an eye blink response when a threat of touch occurs [12]. The symptom is ego-syntonic; the marriage may go on for many years before some other motivation, such as a desire for childbearing, brings the woman or couple in for treatment.

Recently, there appears to be basic agreement that vaginismus is a psychophysiologic disorder with phobic elements resulting from actual or imagined negative experiences with sexuality/penetration and/or organic pathology [1,13]. Fear and anxiety concerning penetra-

tion is expressed physiologically via the involuntary vaginal muscle spasm that characterizes vaginismus.

Although vaginismus is not a common problem, neither is it rare, and it may occur to a minimal degree in many women. It is troublesome not only because the women and their partners are unable to enjoy intercourse, but also because their self-esteem is affected by the repeated failures or by avoidance of intimate relations entirely. Women with vaginismus, however, do not necessarily have other sexual inhibitions, and they may be quite capable of pleasure and orgasm by other sexual methods.

Etiology

Various etiologic factors have been postulated to be important causes of vaginismus. They are sorted by Reissing et al [14] in an excellent critical review and modified as below.

Misinformation, ignorance, and guilt about sexuality

Ellison [15] reported that 90% of his vaginismus patients showed a high degree of ignorance and misinformation regarding their sexuality. For example, some women believed that menstruation was unclean or that they had to have an orgasm in order to reproduce. Dawkins and Taylor [10] have proposed, however, that the ignorance may be a symptom rather than a cause of the difficulty, with refusal to accept or seek information about sex being part of the personality problem; one study has shown that only one-sixth of patients with vaginismus received direct information at home [2].

A lack of sex education has also been noted in later studies of vaginismic women [16,17]. It was further hypothesized that this lack of information, along with the identification with an erotophobic mother, leads to fear of pain and ultimately to withdrawal from intercourse. Yet, in a controlled study, Duddle [18] found no difference in the level of sex education between a group of vaginismic women and a comparison group of women visiting a contraception clinic. Ellison [15] identified a second source of fear important in the development of vaginismus: sexual guilt was the result of deep sexual conflict, leading in turn to a fear of punishment and an even stronger physical defense reaction. Vaginismic women's personal theories about the causes and effects of their condition were evaluated by Ward and Ogden [19]. Sixty-seven sufferers and 22 ex-sufferers gave the second highest rating to "being brought up to believe sex was wrong". Basson [20] found that the majority of women in her study held negative views about sexuality in general and sexual activity before marriage in particular.

Women with vaginismus generally experience shame, disgust and dislike toward their genitals [11, 21]. These feelings and the misinformation are learned from identification with mothers who also dislike her own genitals, and often also dislike sex, and, in some cases, also had vaginismus and/or hymenectomy. The assumption therefore, is that vaginismus is not based on intrapsychic conflict but on learned factors [11].

Fear of pain

Dawkins and Taylor [10] suggested that fear of pain is a symptom rather than a cause of vaginismus, but others have stressed its possible causal and maintaining role in the disorder [2]. In an interview study of 476 women with vaginismus, Blazer [22] listed fear of pain as the primary reason for abstinence. This was supported more recently by Ward and Ogden's [19] findings, in which 74% of vaginismic women reported fear of pain as the primary reason underlying their condition. A variety of childhood experiences have been implicated in the development of this fear of pain, including childhood physical trauma, such as enemas and suppositories [9], fear of a violent father [11,23,24], and negative maternal conditioning [25].

However, one has to consider the cause–effect relationship of pain in vaginismus: is the pain secondary to some factors other than the putative vaginismic muscle response (e.g. vulvar vestibulitis syndrome, infections, sexually transmitted diseases, etc.), or is the pain the result of the spasmodic muscle activity [26]? Currently, we do not understand the nature, severity, or causal mechanism of vaginismic pain [14].

Women with vaginismus frequently have or have had other phobias [11,21]. They saw their mothers as ineffectual (in that they would not protect themselves or their children) and, at times, helplessly dependent, although not usually passive. Their mothers often fought hard against their fathers' dominance, but not successfully. Having intercourse represents identification with the mother – a dreaded role [11].

Organic pathology

Organic theories of the etiology of vaginismus are generally limited to lists and short descriptions of pathologies that may lead to painful attempts at penile–vaginal intercourse [14]. The following are usually included in lists of possible organic causes of vaginismus: hymeneal abnormalities, congenital abnormalities, vaginal atrophy and adhesions, vaginal atrophy and adhesions due to vaginal surgery or intravaginal radiation, prolapsed uterus, vulvar vestibulitis syndrome, endometriosis, infections, vaginal lesions and tumors, sexually transmitted diseases, and pelvic congestion

[20,25,27–33]. It has been suggested that when any medical problem causing dyspareunia persists, the likely result is vaginismus [25,29,31,33].

Steege [32] has suggested that the spasm may represent an appropriate initial response to understandably painful stimuli (e.g. intercourse during an episode of vaginitis), but continues as a conditioned response even after the primary problem is resolved. Yet, vaginismus is not the likely end result for many women suffering from dyspareunia, even if the problem has been long-standing [34]. In clinical studies of vaginismus, Gaafar [35] found local lesions in five of 19 cases, whereas Basson [20] found a 42% rate of comorbidity with vulvar vestibulitis syndrome. Lamont [29] found evidence for physical factors other than the vaginal spasm that was related to the onset of vaginismus in 32% of his sample. Conversely, when examining patients with urethral syndrome, Kaplan and Steege [36] discovered that 70% also experienced vaginismus.

Sexual violation

It has been argued that experiencing or witnessing sexual trauma is a causal factor in the development of vaginismus [11,37–40]. However, in studies with control or comparison groups, no significant group difference in the prevalence of sexual abuse was noted [23,24,41]. In one study, the prevalence rate for sexual abuse in vaginismic women was actually lower than that in the general population [20]. When asked to indicate their causal attributions for developing vaginismus, current sufferers and ex-sufferers ranked sexual abuse as the least important [19].

Early childhood physical trauma (e.g. with enemas or urinary catheters) has also been postulated to play a role [9]. However, only two patients in one study gave such a history, and they were also not different in the mean number of sessions [17]. In Jeng's study, no patient among 60 vaginismic women had such a history of childhood physical trauma [21].

Religious orthodoxy

Masters [1] believed that vaginismus is characterized by an excessively severe form of control stemming from religious orthodoxy, a history of sexual trauma, or, after attempted heterosexual activity by a woman, with previous homosexual identification.

Although some authors have thought that high moral expectations instilled by the mother [23] or sexual guilt resulting from a strict, religious up-bringing [11] can result in vaginismus, religiosity as a causal factor has failed to receive consistent support [18,38,42]. In Jeng's study, religious orthodoxy had nothing to do with vaginismus [21].

Personality

Personality has also been linked to the development of vaginismus. Based on a clinical sample of 100 vaginismic women, Friedman [43] hypothesized that women in unconsummated marriages use a variety of defenses to deal with their conflicting emotions about sexuality; these defenses subsequently become a part of their personality. However, attempts to confirm these clinical hypotheses have failed when investigators used standard personality inventories [18,44].

Reissing et al's [14] survey reveals that feminist theory conceptualizes sexuality in general, and vaginismus in particular, within a sociocultural context as an integral part of the discourse on theories and perceptions of masculinity and femininity [45,46]. This approach disregards the vaginal spasm (and the traditional therapeutic goal of penetrative intercourse) and instead focuses on the emotional hindrances to intercourse underlying vaginismus, i.e. fear of intimacy [19], a symptom of a defensive need to be closed [11], the woman's way of fighting back to gain the right to be coauthor of the sexual agenda [44], a covert signal protesting against the cast of sexual roles [45], or a symptom of a lack of self-defined boundaries [47]. This theoretical approach views vaginismus as a defensive bodily response to emotional pain, but without the negative connotation of a sexual dysfunction. The physical defense may not be due to the experience and/or expectation of physical pain, but can represent a defense from emotional pain and unwanted "intrusion" [14].

Parents' relationship and the father–daughter relationship

In Silverstein's study of 22 patients [11], the fathers of vaginismic women tended to be extremely critical, domineering, moralistic and threatening when these women were children. More than 90% of the women with vaginismus reported feeling afraid of their fathers. In 45.5%, the fathers were alcoholics, and 22.7% of the fathers had mental or nervous breakdowns requiring hospitalization.

The parents' relationships were poor, and actual violence or physical abuse occurred between parents in nearly 55% of the cases. Many of the women had witnessed or heard their mothers being forced to have sex. The mothers tended to oblige, but sometimes resisted their husbands [11].

Silverstein [11] found that 63.6% of the vaginismic women had often been treated as the special child by the father. They were overprotected, but the father did not respect the privacy or boundaries of their daughters. In 72.7%, the fathers were overly seductive with their daughters. The daughter seemed to replace

the mother in certain special ways. The fathers acted like jealous lovers when their daughters dated, and on the one hand, were moralistic, but on the other hand, were overly curious about their daughters' sexuality [11]. Jeng had a similar observation in a recent study [21].

Male partners' personality

Malleson [9] implicated the male partners in the etiology of vaginismus by arguing that the problem is emotionally infectious. The male can potentially cause or exacerbate vaginismus in the female partner by being "under-competent, over-anxious, or too forbearing". The most common assertion is that the male partner has been chosen because he is passive and unassertive, and the couple is involved in an unconscious collusion to avoid intercourse [2,10,11,43,48–50]. However, when the personality characteristics of the male partners are empirically compared with controls or norms, no group differences have been established [18,44].

On the other hand, the partners can be generally described as kind, gentle, and considerate [10]. They tend to be passive, dependent, overprotective, cautious, and afraid of their own aggression and aggressive sexuality. They are "nice guys" [11]. Their lack of persistence reveals an unconscious collusion to preserve the status quo, which protects them from dealing with their own anxieties about their sexual role. It has been pointed out that the sexually secure husband might overcome mild degrees of spasm by persistent but firm penile insertion. Both partners, however, may fear the aggressiveness of sex and the woman's choice of a weak partner may be an unconscious decision to avoid being hurt. The husband's acceptance of the situation may also represent latent homosexuality in some instances [51].

Male partner's sexual dysfunction

Masters [1] listed male sexual dysfunction as the most frequent etiologic factor, where the vaginismus serves to protect the couple from confronting the man's problem. In O'Sullivan's study [24], husbands were twice as likely (26%) to have a sexual dysfunction of their own if their wives had vaginismus rather than an orgasmic dysfunction. However, an increased incidence of impotence and premature ejaculation in the husband of a vaginismic woman may be a result of the vaginismus. In response to repeated frustration, male sexual functioning may well be adversely affected [21].

In studies where subjects were queried about the chronology of the male dysfunction, erectile dysfunction and premature ejaculation appear to be secondary to vaginismus and/or transient with successful treatment for vaginismus [23,29,41,52].

The couple's relationship

According to Reissing et al's literature review [14], several investigators have suggested that various types of difficulties in the couple's relationship (e.g. infidelity, conflict) may result in vaginismus [25,29,33,48]. However, this has not been supported by other studies [7, 11]. In one study, Hawton and Catalan [41] found that vaginismic couples demonstrated significantly better communication and better overall relationship ratings than a comparison group. On the other hand, vaginismus without appropriate treatment may result in difficulty in the couple's relationship, and may lead to separation or divorce.

Summary

Silverstein [11] concluded that a combination of predisposing factors produce and maintain vaginismus: 1) early learning that men (usually because of the father) are not safe and are threatening; 2) early learning that women (usually because of the mother) are weak and helpless, and that men dominate; 3) early learning that intercourse is bad and painful, but men need it and women should comply; 4) things going into the body hurt (e.g. needles, enemas) and are experienced as a violation; 5) fear and anger must be suppressed or repressed, their expression is not tolerated, and it is unsafe to be open emotionally or physically; 6) early attempts at intercourse did indeed produce pain. Thus, all women with vaginismus appear to have some real experience of pain and trauma [11], but this was not found in other studies [14,20,21,36].

Conclusion

There appears to be agreement that vaginismus is a psychosociologic disorder with phobic elements resulting from actual or imagined negative experiences with penetration attempts. Fear and anxiety concerning penetration is expressed physiologically via the involuntary vaginal muscle spasm that characterizes vaginismus.

Women with vaginismus generally experience shame, disgust and dislike toward their genitals. They frequently have or have had other phobias. They are usually overprotected by their fathers and have been "good girls" since childhood. Their sexual partners are usually kind, gentle, considerate and passive "nice guys" The male partner's lack of aggressiveness can actually lead to unconsummation of the marriage. The sexually secure husband can usually overcome mild degrees of vaginismus by persistent but firm penile insertion [21]. However, the real etiology of vaginismus remains unknown.

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