A Woman Who Never Could Have Coitus: Treatment of Lifelong Vaginismus

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17.1 Introduction and Aims

Lifelong vaginismus is diagnosed when a woman has never been able to have intercourse. The prevalence rates vary between 0.4 and 6.0 % in a general population. Research on the etiology of vaginismus is scarce, and no definitive cause has been identified. The aim of this chapter is to provide insight into the recent diagnostics and treatment of lifelong vaginismus. A fear-avoidance model for vaginismus is described that can give the professional (gynecologists, psychologists, physical therapist) and the women herself pointers to understand a woman's physical and emotional response(s) to (attempts at) penetration.

17.2 Definition in Lay Terms

Vaginismus is commonly described as a persistent difficulty in allowing vaginal entry of a penis or other "objects" (e.g., tampons, fingers, speculum), despite the woman's expressed wish to do so.

17.3 Didactic Goals

After reading this chapter you:

- Are able to recognize lifelong vaginismus as a sexual problem
- Are familiar with the fear-avoidance model of vaginismus

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- Are familiar with the most recent insights in diagnostics in lifelong vaginismus
- Are familiar with the most recent insights in treatment interventions in lifelong vaginismus

Case History

Jane Periwinkle, 32 years old, 5 years married to Peter, is referred by her general practitioner with the complaint that sexual intercourse has never been possible; attempts resulted in pain. She and her partner are very hopeful to overcome this problem in order to be able to conceive children.

Questions Belonging to the Case History

1. Give three possible explanations why sexual intercourse has never been possible?
2. As a doctor (general practitioner/gynecologist), would you perform an internal gynecological examination to exclude physical pathology?
3. If this couple is only interested to overcome this problem in order to conceive children, what would you advise them?
4. If this couple wants to overcome this problem in order to have sexual intercourse, what would you advise them?

17.4 Facts and Figures: Definitions, Classification, and Prevalence

Vaginismus is defined in the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition, text revision (*DSM-IV-TR*), as an involuntary contraction of the musculature of the outer third of the vagina interfering with intercourse, causing distress and interpersonal difficulty [1]. This definition has received considerable criticism. For example, the focus on vaginal spasm as the key diagnostic criterion has never been empirically supported [2]. In response to the lack of empirical support for the *DSM-IV* diagnostic criteria and the persistent difficulties in clearly differentiating vaginismus from dyspareunia, these two sexual pain disorders in the *DSM-IV-TR* have been merged into a new *DSM-5* "genito-pelvic pain/penetration disorder" (GPPPD) [3]. The diagnostic criteria of the DSM-5 refers to four commonly comorbid symptom dimensions: (1) difficulties with having intercourse, (2) marked genito-pelvic pain, (3) marked fear of pain or vaginal penetration, and (4) marked tension of the pelvic floor muscles. Lifelong or primary vaginismus occurs when a woman has never been able to have intercourse. In acquired or secondary vaginismus, a woman loses the ability to have intercourse after a non-symptomatic period of time mostly as a consequence of vulvovaginal pain during intercourse. In this chapter, however, the focus lies on women with lifelong vaginismus. Epidemiological studies often subsume vaginismus in more generalized questions about pain with

intercourse resulting in only a few accurate prevalence estimates. The best estimates of reported rates vary between 0.4 and 6.0 % in a general population [4–7]. In the more traditional Islamic populations in Turkey, vaginismus is the most important reason for seeking help (58–76 %) [8–11]. In Western and Southern Europe, these figures vary between 14 and 25 % [12, 13]. Cultural influences, such as strict religious and social rules concerning sexuality, virginity, (demonstration of virginity at) the first coitus during the wedding night, and/or fertility could possibly be associated with vaginismus.

17.5 Etiology and Pathogenesis

Although lifelong vaginismus has been a well-known concept for a long time, up till now no specific cause for this problem is known. Somatic, pelvic floor, sexological, and psychological factors are intertwined but are discussed here for didactical reasons as separate entities.

17.5.1 Somatic Factors

There is rarely a physical explanation for lifelong vaginismus (0–5 %) and can include congenital hymeneal or vaginal abnormalities (e.g., hymen semilunaris altus or septum vaginalis) [2, 14, 15]. Many women diagnosed with vaginismus also experience vulvar pain on touch (40 %–100 %) [2, 14–16]. This vulvar pain is typically diagnosed as provoked vestibulodynia (PVD) [17] (see Chap. 18).

17.5.2 Pelvic Floor Muscle Involvement

Because of the 150-year consensus concerning the nature of vaginismus, most clinical reports and etiological studies take for granted that women diagnosed with vaginismus exhibit vaginal muscle spasms upon attempted vaginal penetration [18]. This remarkable consensus is based primarily on expert clinical opinion and is preserved in the DSM-IV-TR. However, recent studies showed that the spasm criterium is neither reliable nor valid [2].

Pelvic floor muscle activity can be assessed with a surface electromyography (EMG), vaginal probe, or needle EMG, and pelvic floor muscle palpation by trained physical therapists.

Women suffering from vaginismus would be expected to demonstrate higher levels vaginal electromyography (EMG) in response to external threat stimuli, such as threat-inducing films.

Until now there are no additions that women with vaginismus differ from women without vaginismus in terms of the degree of pelvic floor muscle tension as a response to a physically and sexually threatening stimulus. Consequently, it has been suggested that increased pelvic muscle tension and/or contraction is more a

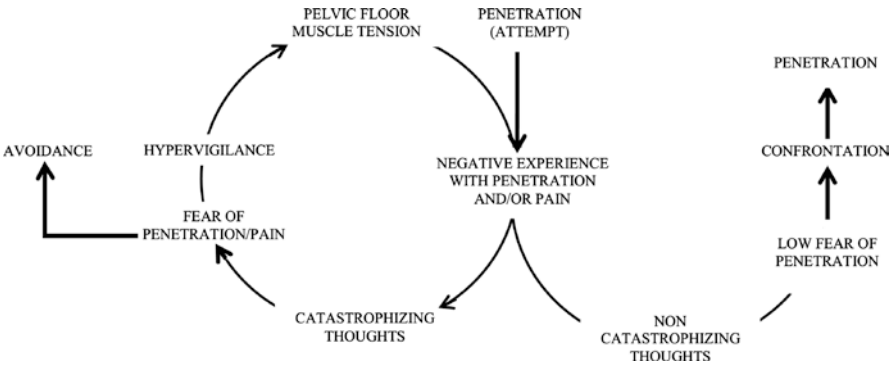

Fig. 17.1 Fear-avoidance model of vaginismus (FAM-V) (Used with permission of Guilford Press from ter Kuile and Reissing [28])

"general" protective mechanism in response to potential threat for all women [19] and women with vaginismus show this specific defense reflex in response to potential vaginal penetration [20].

17.5.3 Sexual and Psychological Factors

Conservative and religious attitudes, lack of sex education, sexual abuse, and relationship factors have all been reported as potential causal variables; however, none have been confirmed empirically (using cross-sectional study design) [21]. Vaginismus is classified as a sexual dysfunction; however, little information is available on sexual function and response in sufferers. While some women report few sexual problems if vaginal penetration is not anticipated or attempted, others find their sexual functioning significantly compromised [21]. Women with vaginismus appear to respond differently to erotic stimuli; they report more thoughts about negative consequences of intercourse and demonstrate increased negative affective appraisal of vaginal penetration. For example, they have been found to have elevated fears of injury, losing control, as well as negative self-and genital image, and worries about genital incompatibility [22, 23]. Other studies have identified that feelings of sexual disgust appear to be more prominent in women with lifelong vaginismus [24–26].

17.5.4 Fear-Avoidance Model of Vaginismus (FAM-V)

On the basis of the fear-avoidance model of Vlaeyen and Linton (2000) [27], a fear-avoidance model was proposed for vaginismus (Fig. 17.1) [28]. This model provides an explanation of why vaginal penetration problems develop in a minority of women who experience discomfort or pain with attempted vaginal penetration. The basic tenet of the model is that catastrophic thinking about vaginal penetration and/or a catastrophic interpretation of a negative experience with penetration (e.g., pain, genital incompatibility) elicits vaginal penetration-related fears. To cope with fear, a woman may avoid all activities related to vaginal penetration, or she may be

Table 17.1 Anamnesis questions

What can and what cannot be inserted into the vagina?
Can the woman insert a tampon or 1 or 2 of her own fingers or of her partner's fingers or penis?
Does the woman have any experience with gynecological examination, in particular a speculum examination? If so: was this possible?
Has it always been this way or has this come about over time?
Vulvar pain
Is there vulvar pain when inserting a tampon or 1 or 2 of her own fingers or of her partner's fingers or his penis?
What is the nature of the pain?
What is the course of the pain?
Is there also vulvar pain when urinating after (attempted) intercourse?
Does vulvar pain exist not associated with sexual activity?
What is, according to the woman, the cause of the inability to have intercourse: the pain? It does not fit?
What are the consequences of the problem in the sexual situation?
Does the woman recognize that she is more tense/more anxious in general and specifically in the pelvic floor area? Does she anticipate the pain by becoming more tensed?
Does the woman recognize that she is less sexually excited during lovemaking, particularly less moist/lubricated?
Does the woman recognize that she has gradually less or no desire in sexual contact, intercourse? Does she avoid every (sexual) contact?
Are there other pelvic floor hypertonic symptoms, such as frequent urination and/or constipation?
Are there other gynecological complaints such as excessive vaginal discharge?
Does the woman have negative/traumatic sexual experiences?
What are the consequences of the problem for the woman herself in the psychological sense, such as experiencing shame and having a feeling of guilt toward the partner?
What is the impact of the problem for the relationship with her partner, such as tensions in the relationship? Why is (are) the woman (and her partner) seeking help now? To improve the sexual relationship and function better or a child wish?

hypervigilant for stimuli that are related to her specific fearful thoughts (e.g., pain, genital incompatibility). The latter can result in an exaggerated attention to physical sensations and increased fear that facilitates the experience of pain during attempted vaginal penetration. These attempts are met with defensive pelvic muscle contractions. Increased muscle tone results in further pain or failed attempts. The experience of the inability to "achieve" penetration in turn confirms negative expectations, thereby further exacerbating and perpetuating the vicious cycle of vaginismus.

17.6 Specific Diagnostic Aspects

17.6.1 History Taking

The diagnosis is made on the basis of the anamnesis. Questioning related to the problem goes through various steps (Table 17.1). The clinical presentation of and the request for help made by women with vaginismus are very diverse: she can be young (around 20 years of age) or somewhat older (around 30 years old); she may

be able to function sexually very well without intercourse or on the other hand avoid every sexual situation; she may not be able to insert anything into her vagina, or be able to insert tampons or allow a speculum examination, while insertion of the penis is impossible; and finally she may wish to improve her sexual functioning or she may wish to become pregnant in "a natural way."

Moreover, it is not always easy through the anamnesis to distinguish between "vaginismus" and "dyspareunia." In both groups, there can be vulvar pain when the penis is inserted or attempts at insertion of the penis are made. When intercourse has never been successful, the woman is diagnosed with "lifelong vaginismus." When intercourse has been possible but became painful at the start or over the course of time and eventually is no longer possible, this is acquired "secondary" vaginismus.

Case History: Continued

Jane Periwinkle, like most other woman with lifelong vaginismus, has never been able to insert a finger or tampon into her vagina or have a pelvic exam with finger or speculum insertion. Jane initially indicates that she desired nothing more than being able to experience intercourse, but her inability to insert a tampon led her to believe that her vagina could not possibly accommodate a penis. She and her partner are very anxious that "physical causes" were making vaginal penetration impossible.

Jane's partner colludes with her in avoiding intercourse. He has observed her difficulties and shared her fears about physiological pathology. He cares for his partner and wants to avoid the negative emotional fallout. They have been married for 5 years but could barely remember attempts at intercourse. However, Jane and Peter do not avoid sexual intimacy with the explicit agreement that vaginal penetration will not be attempted. She reports no history of sexual abuse. This is their first attempt at formal treatment and both are very hopeful to overcome the problem in order to be able to conceive children in a natural way.

17.6.2 Physical Examination

An (external) gynecological examination is carried out on women with lifelong vaginismus to assess, on the one hand, any congenital abnormalities of the hymen or vagina and, on the other hand, to inform the woman about her genitals, about the location of the pain that she may be experiencing during an attempt at intercourse, and about what can happen when her pelvic floor muscles tighten voluntarily or involuntarily. The examination thus has an educational purpose. Patient preparation is central to an educational pelvic examination (EPE) to avoid further distress (for details about patient preparation, see also Chap. 30). To facilitate the EPE, the patient is informed of what to expect and reassured that no vaginal insertion (of a finger or speculum) will be attempted. She is invited to be an active participant (e.g.,

holding a mirror to observe exam, ask questions) and reminded that she can terminate the exam whenever she wishes. Instructions on coping with fear/anxiety can be very helpful (e.g., breathing techniques).

The examination consists of inspection of the external genitals, the vaginal introitus, and the hymeneal ring and palpation of the vaginal vestibule. In a large group of women (40–100 %) with lifelong vaginismus, findings as are described in the diagnosis "provoked vestibulodynia" (PVD) (see Chap. 18) can be found. In that case, the woman indicates having pain when the vaginal vestibulum is touched with a moistened cotton wool swab, the so-called "touch test" or "Q-tip test," in which sometimes vestibular erythema is also visible. The pain is regularly recognized by the woman as the pain that she feels during (attempted) intercourse.

17.6.2.1 Evaluation of Vaginistic Response or Pelvic Floor Hypertonicity

It is logical that the woman tightens her pelvic floor muscles as a response to pain. This behavior is frequently seen on performing the Q-tip test. Sometimes a traditional or classic vaginistic response can be observed with tightening of the pelvic floor muscles, adduction of the thighs, curling of the toes/feet and lower back, and sometimes autonomous tension responses. Because intravaginal palpation is not possible or desirable, pelvic floor hypertonicity or the constant tensing of the pelvic floor muscles can be assumed when the woman has difficulties lying on the edge of the examination couch with her pelvis relaxed or remaining relaxed during the examination and palpation.

17.6.2.2 Do Not Do

Speculum examination and bimanual internal examination must be avoided. This will frequently also be impossible, or if one perseveres in doing so will be accompanied by pain and the occurrence of a vaginistic response.

Case History: Continued

Jane Periwinkle's physical examination is limited to a visual inspection of her external genitals, and no pathology is noted. She is quite anxious in anticipation; she displays an elevated degree of pelvic reactivity during the EPE but put at ease by the process of the EPE. She reports pain on the Q-tip test at 5 and 7 o'clock. She recognizes "the pain" during the Q-tip test as the pain she has felt during the unsuccessful penetration attempts she has carried out a long time ago.

17.6.3 Discussion of Findings

After the physical examination, it is logical to discuss the findings and to explain the complaint in a way that is comprehensible for the woman and her partner. It can help to make a schematic drawing of the vulva on which the urethra, vaginal introitus, the

pain spots, and location of the pelvic floor muscles can be drawn while talking. It is not possible to say what a possible cause might be, but one can explain how physical and psychological factors could influence sexual functioning and the inability to have intercourse. The FAM-V model can be useful in this context (Fig. 17.1). The FAM-V model can give the woman pointers to understand her own physical and emotional response(s) to (attempts at) penetration. She often recognizes various elements that are maintaining the vicious circle in which she is caught up.

Case History: Continued
The FAM-V model is discussed, taking into account Jane Periwinkle's fearful cognitions "it does not fit" and her behavioral response (elevated degree of pelvic reactivity during the EPE), to explain her response to attempts at penetration. Jane and Peter recognize the various elements of the FAM-V model. And both think that the explanation that it is all "normal" will help to overcome the fearful cognition "there is something wrong."

17.6.4 Treatment Plan

On the basis of the information obtained from the anamnesis and the physical examination, a purely medical approach is not appropriate. In the further course of the consultation, the different components of treatment can be discussed. When the wish for a child is prominent, an explanation can be given about self-insemination do-it-yourself (DIY insemination with own sperm). For women with vaginismus who wish to have intercourse, a sexological coaching session is appropriate. Clinical psychologists/sexologists, who are trained in the basic principles of exposure, are best equipped to accompany the couple during exposure treatment. There is, above all, a role for the pelvic floor physiotherapist in addition to medical and psychological expertise specifically when a woman prefers this approach.

17.7 Specific Therapeutic Aspects

17.7.1 Medical Treatment

Different forms of treatment have been used to address the somatic correlates of vaginismus, for example, surgical removal of the hymen or widening of the introitus [29], injections of botulinum toxin in the pelvic musculature [30], or application of topical anesthetic creams [31]. No evidence of the effectiveness of one of these treatments is available from controlled studies [21, 32].

17.7.2 Physical Therapy

Although physical therapy is often used in clinical practice, evidences from prospective and controlled studies is lacking [32].

17.7.3 Psychological Treatment

The widespread application of the anxiety-reduction approach of gradual exposure reflects the consensus among theoreticians and clinicians about the important role of anxiety in vaginismus [32]. Since Masters and Johnson (1970) [33], most therapies for vaginismus have used vaginal "dilatation" in which initially the woman becomes accustomed to self-touch to the vaginal introitus and insertion of her own finger or dilators through the introitus and pass way into her vagina, and then places the first of a series of inserts of gradually increasing diameter into her vagina. In reality, of course, there is no actual dilation but rather a gradual reduction of fear. According to the FAM-V model, the penetration-related fears are maintained in women with vaginismus because avoidance prevents disconfirmation of the catastrophic beliefs. By directly reducing avoidance and increasing successful penetration behaviors, fears are disconfirmed; catastrophization is reduced and eventually eliminated.

Gradual exposure is nearly always combined with relaxation instruction, which in the literature is described as systematic desensitization. These core elements are often included within the context of a broader approach involving cognitive restructuring, education, sex therapy, and homework assignments. Although there have been many reports in the literature about the various versions of the treatment inventions described for vaginismus, only a few randomized and controlled effect studies have been conducted until now. The success (intercourse is possible) of these few studies varied greatly: 14–96 % [32]. The treatment success of recent, exposure-type treatments [34] is significantly greater than that of therapies that combine multiple treatment techniques [35].

Case History: Continued
Jane and Peter Periwinkle are referred to a sexologist/psychologist, recommended to start with stepwise exposure treatment.

17.8 Critical Reflection and Conclusive Remarks

When intercourse is not possible and has never been successful, despite the expressed wish of the woman to do so, this is regarded as lifelong vaginismus. Studies have shown that fearful penetration cognitions and avoiding behavior appear to play an important role in this problem.

If a woman with lifelong vaginismus consults a gynecologist, a focused anamnesis is the appropriate instrument for making the diagnosis. The physical examination is a first step in the treatment. Inspection of the external genitals during which, in particular, the vaginal vestibulum, the introitus, and the proximal part of the vagina can be assessed provides sufficient information about the existence of coitus-obstructing somatic factors. Moreover, the examination has a significant educational character. A speculum examination and bimanual internal examination are absolutely not advised.

After the physical examination, the gynecologist informs the woman and her partner about the findings. Here too, information can be given about the prevailing ideas about vaginismus on the basis of the fear and avoidance model for vaginismus. Many couples acknowledge and recognize that they over time had started avoiding "wanting to have intercourse" and they are living with various anxious/negative ideas about this. Also the components of the current treatment can be discussed. Following this, the couple can be referred for subsequent treatment. The chance of success with exposure treatment is very high. When the wish for a child is prominent, an explanation can be given about self-insemination do-it-yourself (DIY insemination with own sperm). The wish for a child is sometimes the only reason to consult a gynecologist, and then referral for subsequent treatment is not necessary.

Tips and Tricks

- The diagnosis of vaginismus is made on the basis of the anamnesis.
- Speculum examination and bimanual internal examination must be avoided.
- An (external) gynecological examination is carried out on women with lifelong vaginismus as an educative pelvic examination (EPE) in order to assess, on the one hand, any congenital abnormalities of the hymen or vagina and, on the other hand, to inform the woman about her genitals, about the location of the pain that she may be experiencing during an attempt at intercourse, and about what can happen when her pelvic floor muscles tighten voluntarily or involuntarily.
- On the basis of the information obtained from the anamnesis and the physical examination, a purely medical approach is not appropriate.
- The FAM-V model (Fig. 17.1) can give the woman pointers to understand her own physical and emotional response(s) to (attempts at) penetration.
- The chance of success with exposure treatment is very high.
- When the wish for a child is prominent, an explanation can be given about self-insemination do-it-yourself (DIY insemination with own sperm).

Test Your Knowledge and Comprehension

1. With the persistent difficulties in clearly differentiating vaginismus from dyspareunia, these two sexual pain disorders in the DSM-IV-TR have been merged into a new DSM-5 "genito-pelvic pain/penetration disorder" (GPPPD). Give at least three symptoms that are often reported in women with lifelong vaginismus and women with dyspareunia.
2. Is a history of sexual abuse a contra indication for a stepwise penetration exposure treatment? Motivate your answer with arguments.
3. Describe the FAM-V model, step by step for Jane and Peter, taking into account, i.e., Jane's fearful cognitions and her behavioral response during the physical examination to explain her response to attempts at penetration.

4. Jane and Peter are referred to a psychologist/sexologist. Jane and Peter want more information about the psychological treatment interventions that can be expected. Describe a stepwise exposure treatment plan for the couple.
5. The sexologist/psychologist also invited Peter to participate in the stepwise exposure treatment. Give three (possible) reasons that the therapist invited Peter to participate in the exposure treatment. Motivate you answer with arguments.
6. Physical explanation (i.e., congenital hymeneal or vaginal abnormalities) for lifelong vaginismus is found frequently (20–40 %).
   (a) True
   (b) False
7. A very few women diagnosed with lifelong vaginismus also experience vulvar pain on touch (0–5 %).
   (a) True
   (b) False
8. The diagnosis of lifelong vaginismus is made on the basis of the anamnesis.
   (a) True
   (b) False
9. Speculum examination and bimanual internal examination must be avoided in women with lifelong vaginismus.
   (a) True
   (b) False
10. If a couple wants to overcome lifelong vaginismus only to conceive children, then an explanation can be given about in vitro fertilization (IVF).
    (a) True
    (b) False
11. In most of the stepwise exposure treatments, it is the woman who is inserting fingers/dilators herself and not the therapist.
    (a) True
    (b) False

Answers

1. For answers, see Chap. 18.

2 through 5 are open book answers based on Chap. 17.

6. False
7. False
8. True
9. True
10. False
11. True

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