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Prevalence and nature of dyspareunia in different age groups of women with pelvic organ prolapse

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Abstract

Genital prolapse is one of the pathological conditions that contribute to dyspareunia occurrence.

Objective: to study the prevalence and nature of dyspareunia in different age groups of women with pelvic organ prolapse in the context of other manifestations of sexual dysfunction.

Material and Methods: We examined 191 sexually active women aged between 27 and 69 years old with pelvic organ prolapse. Two study groups were formed: a reproductive period group aged between 27 and 46 years old consisting of 98 women, and a group of 66 menopausal women aged between 51 and 69 years old. The degree of pelvic organ prolapse was determined according to the POPQ classification. At the first stage, the frequency of dyspareunia manifestations was determined in the two combined study groups using a self-controlled questionnaire to determine the index of female sexual function. The results were compared with the parameters obtained during a questionnaire survey in two control groups of 35 healthy and sexually active women. At the second stage, the frequency of manifestations of dyspareunia was compared between the study and control groups at different periods of life.

Results: Dyspareunia was detected in $43.3 \pm 3.9\%$ women based on a questionnaire survey performed in two combined groups of women in the reproductive and menopausal periods of their life suffering from pelvic organ prolapse. Parameters of sexual function of women of reproductive age with clinical manifestations of pelvic organ prolapse differed significantly from the parameters of healthy women. Such a pronounced decrease in sexual desire occurred in 27 ($27.6 \pm 4.5\%$) women ($p < 0.05$), a pronounced decrease in vaginal lubrication was noted in 48 ($49.0 \pm 5.0\%$) women ($p < 0.01$), constant pain during sexual intercourse occurred in 31 ($31.6 \pm 4.7\%$) women ($p < 0.01$). Parameters of sexual function of women of reproductive age with clinical manifestations of pelvic organ prolapse were significantly worse than those of healthy women.

Conclusions: Severe manifestations of dyspareunia in women suffering from pelvic organ prolapse are observed significantly more often compared to healthy women. This is due to a decrease in vaginal lubrication caused by poor circulation and trophic changes that occur in case of genital organs prolapse.

Keywords: Dyspareunia, sexual function, genital prolapse

Introduction

Pain or discomfort experienced during or after sexual intercourse, defined as dyspareunia, is one of the most common complaints in the practice of gynecologist. A review of 18 representative studies on this issue found that the incidence of dyspareunia among sexually active women ranged from 8 to 21% [1]. At the same time, if the term "dyspareunia" is considered from a broader perspective of view, the number of women experiencing episodes of pain during sexual intercourse exceeds 60% [2]. However, the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-4) states that dyspareunia is appropriate when the pain is persistent or recurrent and contributes to significant distress or impairment of interpersonal relationships [3].

This pathology refers to variants of female sexual dysfunction. At the same time, a number of authors consider it not as a sexual dysfunction characterized by pain, but as pain disorders that interfere with sexuality [4]. This approach helps the clinician and researcher focus on pain as a central phenomenon.

The term "dyspareunia" includes disorders with various etiopathogenetic mechanisms. In some cases, the main causes are organic disorders such as inflammatory processes,

endometriosis, and cicatricial changes in the genital organs. A deficiency of sex steroids is of great importance in the development of this pathology [5, 6]. In addition to factors of an organic nature, psycho-emotional aspects play a significant role causes of dyspareunia including neurotic and depressive states, interpersonal problems in relationships with a sexual partner. At the same time, the psychosexual aspects of dyspareunia are often associated with organic causes, and vice versa, the formation of somatic pathological processes is possible under certain conditions [7].

One of the pathological conditions contributing to dyspareunia onset is genital prolapse. Patients with impaired pelvic organ support often experience pain during sexual intercourse caused by the sensation of a foreign body in the vagina, venous stagnation and innervation disorders associated with this disease [8-10]. An important role in this process belongs to the emerging feeling of awkwardness and negative perception of one's own body image [11, 12]. These circumstances lead to serious restrictions in the sexual life, and often to refusal from it. All this stir discord into their mental balance and negatively affects interpersonal and family relationships. At the same time, a number of researchers indicate that pelvic organ prolapse is a disease which clinical manifestations more often occur in older women, and age-related atrophic changes in the genital organs play a major role in the occurrence of dyspareunia in them [13, 14].

Study objective is to study the prevalence and nature of dyspareunia in different age groups of women with pelvic organ prolapse in the context of other manifestations of sexual dysfunction.

Materials and Methods

We examined 191 sexually active women aged between 7 and 69 years old with pelvic organ prolapse. We formed two study groups in order to study the presence and nature of dyspareunia in this pathology at different age periods: a group of the reproductive period including 98 women aged between 27 and 46 years old (Average age: 41.38 ± 3.45) and a group of 66 menopausal women aged between 51 and 69 years old (Average age: 58.53 ± 5.65). The degree of pelvic organ prolapse in them is determined in accordance with the POPQ classification. Reproductive age group includes 22 patients with grade 2 of severity ($22.4 \pm 4.2\%$), 67 ($68.4 \pm 4.7\%$) patient – grade 3, 9 ($9.2 \pm 2.9\%$) patients – grade 4. Group of menopausal patients includes 12 ($18.2 \pm 4.7\%$), 43 ($65.2 \pm 5.9\%$) and 11 ($16.7 \pm 4.6\%$) women, respectively ($p > 0.05$).

The study design included two stages. At the first stage, the frequency of manifestations of dyspareunia, which was of a pronounced nature and contributed to the occurrence of distress or disruption of interpersonal relationships, was determined in the combined two study groups. For this purpose, we performed analysis of data obtained through a self-administered questionnaire to determine the Female Sexual Function Index (FSFI) [15]. At the same time, the answers to the last three questions regarding dyspareunia were considered with the calculation of parameter ranging from 1 to 6. The value of this parameter below “3” was taken as a criterion for severe dyspareunia.

A comparison of the obtained results was carried out with the corresponding parameters obtained during a survey in

the two combined control groups of 35 healthy and sexually active women - of reproductive age and those in menopause. The age of healthy women of reproductive age ranged between 31 and 46 years old (Average age: 39.76 ± 5.75), in menopause - 51 and 67 years old (Average age: 57.66 ± 6.38). The average age of women in the study groups and the corresponding control groups did not differ significantly ($p > 0.05$).

The study was conducted in compliance with the ethical standards of Declaration of Helsinki (1975, as amended in 2005), and written voluntary informed consent was obtained from all participants.

At the second stage, a comparison of the frequency of manifestations of dyspareunia was performed between the study and control groups at different periods of life. In this case, cases of dyspareunia were considered together with other disorders of sexual function, such as decreased sexual desire, arousal and vaginal lubrication in accordance with the FSFI questionnaire. Parameter value below “3” is also taken as a criterion for severe violations of these parameters of sexual function.

Results

Data obtained on the basis of a questionnaire survey in two combined groups of women of the reproductive and menopausal period of life suffering from pelvic organ prolapse indicated that severe dyspareunia occurred in 71 ($43.3 \pm 3.9\%$) women. In two combined groups of healthy women of the reproductive and menopausal period of life, 22 ($31.4 \pm 5.5\%$) women indicated the presence of dyspareunia which was significantly lower than in the combined study group ($p < 0.05$). At the same time, it was noteworthy that in the vast majority of cases dyspareunia was observed in menopausal women in the combined control group. This circumstance served as the basis for conducting the second stage of the study, namely, comparing the frequency of manifestations of dyspareunia between study and control groups at different periods of life in the context of other sexual dysfunctions.

A study of sexual function parameters in healthy women of reproductive age showed significant decrease in sexual desire in 5 ($14.3 \pm 5.9\%$) women, arousal - in 6 (17.1 ± 6.4) women, lubrication - in 9 ($25.7 \pm 7.4\%$) women. Severe constant pain during intercourse was noted by 3 ($8.6 \pm 4.7\%$) women.

Parameters of sexual function of women of reproductive age with clinical manifestations of pelvic organ prolapse differed significantly from the parameters of healthy women. Such a pronounced decrease in sexual desire occurred in 27 ($27.6 \pm 4.5\%$) women ($p < 0.05$). There were 19 ($19.4 \pm 4.0\%$) patients with reduced arousal showing not statistically significant differences with the number of women with a similar problem in the healthy group ($p > 0.05$). At the same time, a pronounced decrease in vaginal lubrication was noted in 48 ($49.0 \pm 5.0\%$) patients form study which was significantly higher than among healthy people ($p < 0.01$). Thirty-one ($31.6 \pm 4.7\%$) women indicated severe constant pain during intercourse ($p < 0.01$).

Data on the number of women with impaired sexual function as a percentage of the total number of women in the study groups is presented in Figure 1.

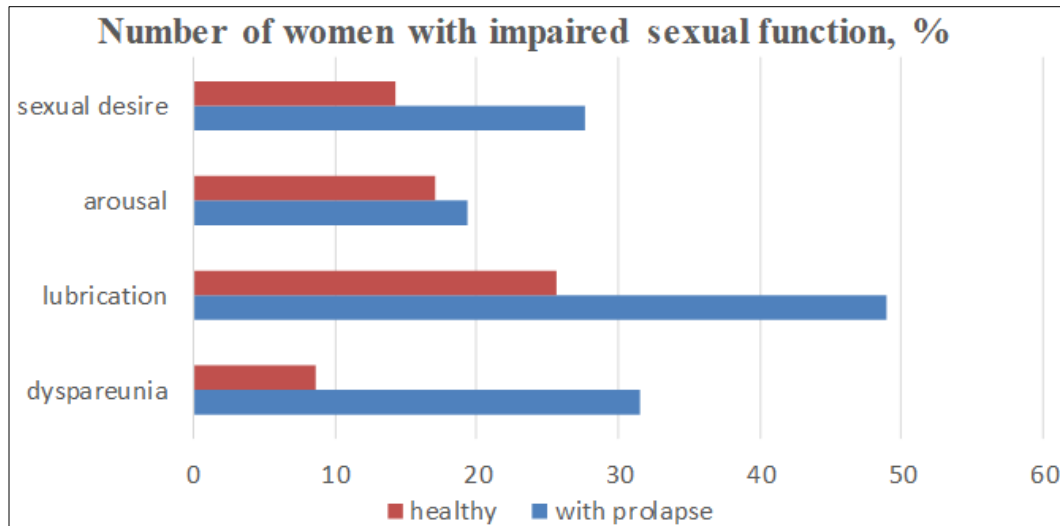


Fig 1: Graphic diagram of the number of women of reproductive age with impaired sexual function parameters

Examination of women of both groups who were in the menopausal period revealed significant decrease in the studied indicators of sexual function. Data on the number of

women with impaired sexual function as a percentage of the total number of women in the study groups are presented in Table 1.

Table 1: Number of women in the menopausal period with a pronounced decrease in sexual function parameters

Parameter of sexual function	Healthy (n=35)	Women with pelvic organ prolapse (n=66)	P
Sexual desire	17 (48.6±8.4%)	30 (45.5±6.1%)	>0.05
Arousal	15 (42.9±8.4%)	32 (48.5±6.2%)	>0.05
Lubrication	22 (62.9±8.2%)	47 (71.2±5.6%)	>0.05
Dyspareunia	19 (54.3±8.4%)	40 (60.6±6.0%)	>0.05

Note. There was no significantly significant difference between the groups at $p>0.05$.

As can be seen from Table 1, there are no significant differences in the number of women with decreased sexual function, including those with dyspareunia, between the group of pelvic organs prolapse and healthy control.

Discussions

The results of studying the sexual function of women of reproductive age indicate that, despite the absence of any gynecological pathology, they quite often had various disorders. These data are consistent with the results obtained by other researchers on this issue. They indicate that the adequacy of sexual reactions in women is affected by many factors: physical, psychological and emotional. They depend on the hormonal background, which varies at different periods of life. It is associated with the presence of endocrinological diseases, and the use of hormonal medications. Sexual function can be negatively affected by various somatic pathologies and systematic use of a number of medications [16]. Psychological factors such as anxiety, stress, depression and other behavioral disorders can lead to dysfunction. The important role of low self-esteem, the appearance of the partner and the quality of the relationship with him should be noted among the emotional factors [17]. In our study, decreased sexual desire in healthy women was correlated with decreased vaginal arousal and lubrication. At the same time, an excess of cases of decreased lubrication in relation to decreased arousal was noted due to three women of late reproductive age. Most likely, this circumstance was due to a reduced level of sex steroids and the beginning of involutive processes in the reproductive system. Despite the fact that low lubrication was noted in every fourth woman in this group, dyspareunia was three times less common in them.

Decreased sexual desire was significantly more common in the group of women of reproductive age with clinical manifestations of pelvic organ prolapse than in the healthy group. Obviously, this was due to psychological problems caused by the presence of the disease. At the same time, a decrease in arousal in this group was observed much less frequently, most likely due to the presence of sexual memory without significant differences with the number of women with a similar problem in the healthy group. At the same time, a pronounced decrease in lubrication was significantly more often than among healthy women. In contrast, in this group the number of patients with decreased lubrication was more than twice as large as the number of women with decreased sexual arousal. Apparently, this circumstance was associated with innervation impairment, venous stagnation and trophic changes that occur during prolapse of the genital organs. At the same time, the number of cases of severe dyspareunia occurred almost four times more often than in the healthy group.

In women of menopausal age, the main cause of dyspareunia is a decrease in estrogenic effects and the resulting vulvovaginal atrophy [18]. It occurs in more than half of all postmenopausal women [19]. Proliferation of the vaginal epithelium in the vaginal mucosa is disrupted due to a lack of estrogen. It becomes thinner and is easily injured during sexual intercourse. Estrogens also mediate vasodilation by stimulating the release of vasoactive substances such as nitric oxide from endothelial cells. Their deficiency reduces vaginal circulation. A progressive decrease in blood circulation in the vaginal stroma leads to hyalinization of collagen fibers and fragmentation of elastic fibers. The amount of connective tissue increases [20]. As a result, in addition to pain and discomfort during sexual

intercourse the elasticity of the vagina decreases due to the thinned mucous membrane. The processes of sexual arousal, achieving orgasm and sexual satisfaction are hampered. The hampering of arousal processes further reduces lubrication, which facilitates the sliding of the penis and protects the vaginal mucosa from injury. Another mechanism is activated. It increases discomfort during sexual intercourse. In our study dyspareunia was noted in more than half of healthy women of menopausal age. This disorder was observed along with other disorders of sexual function. It indicates the presence of trophic changes in the reproductive system caused by a deficiency of sex hormones. The frequency of sexual dysfunction, including dyspareunia, in the group of menopausal women suffering from pelvic prolapse was similar and did not have significant differences with the group of healthy women. This circumstance indicates that the presence of pelvic organ prolapse at menopausal age is not a leading factor for this pathology.

Conclusions

1. Severe manifestations of dyspareunia are observed significantly more often in women with pelvic organ prolapse compared to healthy women
2. An increase in the frequency of manifestations of dyspareunia in pelvic organ prolapse was noted due to its significant excess in the group of patients of reproductive age and. It is associated with a decrease in vaginal lubrication caused by circulatory disorders and trophic changes that occur with prolapse of the genital organs.
3. In the menopausal period of life, the prevalence of dyspareunia in patients with genital prolapse and healthy women does not differ significantly and is caused by atrophic changes in the genital organs caused by a deficiency of sex hormones.

Conflict of Interest

Not available Financial

Support

Not available

Reference

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