

Female sexual function after surgical treatment of Bartholin's Gland Abscess: Marsupialization versus Gland excision

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ABSTRACT

Objective: In this research, we compared the pre-operative and post-operative sexual function scores in patients who underwent marsupialization and gland excision procedures for Bartholin's gland abscesses using the validated Female Sexual Function Index (FSFI).

Material and Methods: A total of 106 patients were enrolled in the study. Patients undergoing surgery due to a Bartholin's abscess were divided into two groups: 54 (51%) were treated by marsupialization and 52 (49%) by gland excision. The FSFI was used to evaluate sexual function status. The patients were asked to complete the FSFI questionnaire preoperatively and at 3 months after the post-operatively, and the pre-operative and post-operative total and subscale FSFI scores were compared between the treatment groups.

Results: Both treatment groups had significantly improved sexual quality of life at the 3-month follow-up. The mean total FSFI score in the marsupialization group increased from 19.5 ± 7.2 to 24.9 ± 7.5 ($p = 0.001$). The mean total FSFI score in the gland excision group increased from 18.3 ± 6.8 to 25.3 ± 3.2 ($p = 0.001$). When the two groups were compared preoperatively and post-operatively, there was no statistically significant difference. The gland excision group was characterized by higher mean post-operative lubrication, satisfaction, and pain FSFI subscale scores compared to the marsupialization group.

Conclusion: Gland excision and marsupialization methods applied to Bartholin's gland abscesses significantly improved the quality of sexual life. Although not statistically significant, greater FSFI scores were observed for patients who underwent gland excision. The physiological aspects of sexual life improved more in the women in the cyst excision group. Total removal of the gland did not seem to affect sexual function adversely.

Keywords: Bartholin abscess, gland excision, female sexual function, female sexual function index, marsupialization

INTRODUCTION

Bartholin's glands, also known as the greater vestibular glands, are located on each side of the labia minor, external to the vaginal opening (1). These glands are an important part of the female reproductive system; their main function is to secrete mucus to lubricate the vagina and vulva, particularly during sexual intercourse (2,3).

Bartholin's gland cysts and abscesses are associated with significant discomfort and disruption of the sexual function and daily activities of women. No consensus regarding the management of symptomatic cysts or abscesses of Bartholin's gland exists (4). Many treatment options are available, including aspiration, incision and drainage, carbon dioxide laser treatment, the application of silver nitrate to the cyst cavity, Word catheter placement, marsupialization, and total excision of the gland (4).

Few studies have investigated the effects of surgical treatment of Bartholin's cysts or abscesses on sexual function (5-7). Thus, knowledge of how surgical treatment of Bartholin's cysts and abscesses affects sexual function is limited.

In this study, the effects of marsupialization and cyst excision procedures applied to Bartholin's gland abscesses on sexual function were evaluated in women of reproductive age. We compared the effects of the two surgical methods on post-operative sexual functioning using the validated Female Sexual Function Index (FSFI).

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MATERIAL and METHODS

This cross-sectional study was conducted at Zekai Tahir Burak Women's Health Education and Research Hospital between January 2018 and August 2018. The local ethics committee approved the study (permission number: 13/2017), and all patients provided written informed consent form before enrollment. A total of 116 sexually active women between the ages of 25 and 40 years, who had a symptomatic abscess of Bartholin's gland and were admitted to the gynecology unit for management, were included in the study. The following demographic, lifestyle and clinical characteristics were recorded: age, body mass index (BMI), gravidity, parity, age at first coitus, average frequency of intercourse per week, tobacco habit, and abscess site and diameter. The inclusion criterion had an active sexual life at least 6 months before the surgery. The exclusion criteria were systemic, neurological or mental disorders, suspicion of a gynecologic malignancy, current pregnancy, or presence of recurrent or bilateral Bartholin's abscesses. Women who decided to undergo surgery for a Bartholin's gland abscess were divided into marsupialization (Group 1) and gland excision (Group 2) groups. The marsupialization group received a small (1.5–3-cm) incision over the abscess, which was then drained. After drainage, the gland wall was everted and sutured to the vestibular skin edge using 2-0 absorbable sutures. The gland was totally removed in the gland excision group, and the skin was sutured using interrupted 2-0 absorbable sutures. Most procedures were performed under general anesthesia in an operating theatre. The Turkish version of the FSFI was used to evaluate the sexual function of the patients. This instrument has been validated for use in Turkish women (8). The patients were asked to complete the FSFI preoperatively and at 3 months post-operatively, and the pre-operative and post-operative total and subscale FSFI scores were compared between the surgical groups.

Female Sexual Function Index: The FSFI is a standardized, validated self-report questionnaire composed of 19 items that assess female sexual function in six domains: sexual desire, arousal, lubrication, orgasm, satisfaction, and pain. The scale was developed by Rosen et al. (9) and is used to assess the sexual functioning of women in the previous 4 weeks, based on the six subscale scores and total score. The total FSFI score ranges from 2 to 36, with higher scores indicating better sexual function. Female sexual dysfunction (FSD) is represented by a score of ≤ 26.5 .

Table 1. Demographic, clinical, and lifestyle characteristics of the study groups

	Marsupialization (Group 1) (n=54)	Gland Excision (Group 2) (n=52)	P value
Age (years)	30.6 ± 5.2	31.2 ± 7.6	0.453
BMI (kg/m ²)	25.16 ± 2.7	24.6 ± 2.3	0.067
Gravidity	3 (1-4)	2 (1-3)	0.148
Parity	1 (0-4)	2 (0-3)	0.286
Duration of marriage	5.8 ± 5.6	6.3 ± 4.7	0.442
Intercourse per week	3 (1-4)	3 (1-3)	0.467
Tobacco addiction n (%)	8 (14.8)	6 (13.4)	0.618
Abscess diameter (cm)	3.4 ± 1.0	3.5 ± 1.0	0.155
Abscess site, n (%)			
Right	29 (53.7)	27 (51.9)	0.854
Left	25 (46.3)	25 (48.1)	

BMI: Body mass index, the values were presented as mean±standard deviation, median (minimum-maximum), or number (percentage), P>0.05 is statistically significant.

Statistical Analysis

Statistical analysis was performed using SPSS for Windows, version 21.0 (SPSS Inc., Chicago, IL, USA). The Kolmogorov-Smirnov test was used to assess the normality of the distribution of the data. Continuous variables are expressed as mean ± standard deviation or median (range). Categorical variables are expressed as numbers (percentages). The chi-square test and Student's t-test were used to evaluate the associations between the categorical and continuous variables. Two-sided p values were considered statistically significant at <0.05.

RESULTS

A total of 138 patients were diagnosed with a Bartholin's gland abscess during the study period, and 116 were referred for surgery. Of these patients, 106 met the inclusion criteria. Fifty-four patients (51%) underwent marsupialization, and 52 (49%) underwent gland excision.

The baseline demographic, lifestyle, and clinical characteristics of the patients are shown in Table 1. The mean age of the marsupialization group was 30.6 ± 5.2 years and that of the gland excision group was 31.2 ± 7.6 (p = 0.453). No significant differences in age, BMI, gravidity, parity, smoking status, duration of the marriage, abscess site, or abscess diameter were observed between the groups (Table 1). The average length of the marriages was 5.9 ± 5.4 years (median=4). No differences in demographic, lifestyle, or clinical features were found between the groups.

Both treatment groups had significantly improved sexual quality of life at the 3-month follow-up. Table 2 shows the FSFI scores of the 106 patients who completed the FSFI before and after surgery. The total mean FSFI score in the marsupialization group increased from 19.5 ± 7.2 to 24.9 ± 7.5 (p = 0.001). The total mean FSFI score in the gland excision group increased from 18.3 ± 6.8 to 25.3 ± 3.2 (p = 0.001). The mean FSFI scores were significantly higher post-operatively than preoperatively in both groups (Table 2).

The mean post-operative desire, arousal and orgasm FSFI subscale scores were similar between the groups. The mean lubrication, satisfaction, and pain FSFI subscale scores were significantly higher in the gland excision than the marsupialization group after surgery (Table 3).

Table 2. Outcomes of FSFI assessment pre- and post-operatively

Characteristic	Marsupialization (Group 1)			Gland Excision (Group 2)		
	Before surgery	After surgery	<i>P</i> value	Before surgery	After surgery	<i>P</i> value
Total score	19.5 ± 7.2	24.9 ± 7.5	0.001	18.3 ± 6.8	25.3 ± 3.2	0.001

The values were presented as mean±standard deviation, P>0.05 is statistically significant.

Table 3. FSFI scores among the treatment groups, postoperatively

	Marsupialization (n=54)	Gland Excision (n=52)	<i>P</i> Value
Total Score	24.9 ± 7.5	25.3 ± 3.2	0.366
Desire	4.0 ± 0.8	3.9 ± 0.84	0.319
Arousal	3.7 ± 0.7	3.8 ± 1.0	0.350
Lubrication	3.9 ± 0.9	4.3 ± 0.9	0.004
Orgasm	4.4 ± 0.8	4.4 ± 0.9	1.000
Satisfaction	3.6 ± 0.8	4.2 ± 0.9	0.001
Pain	3.6 ± 0.9	4.15 ± 1.0	0.001

FSFI: Female Sexual Function Index, The values were presented as mean±standard deviation, P>0.05 is statistically significant.

DISCUSSION

Both treatment groups had significantly improved sexual quality of life at the 3-month follow-up. The mean post-operative FSFI scores of the patients were significantly higher ($p = 0.001$) than those during the pre-operative period. The mean desire, arousal and orgasm FSFI subscale scores were similar between the groups. The mean post-operative lubrication, satisfaction, and pain FSFI subscale scores were significantly higher in the gland excision than the marsupialization group.

Sexuality, which plays an important role in quality of life, is affected by psychological, biological, and socio-relational factors (10). FSD is defined as marked distress or difficulty with interpersonal relationships as a result of a decrease in sexual desire and changes in psychophysiological factors that constitute the sexual response (11). FSD is related to anatomical, physiological, medical, psychological, and social factors. FSD is a common problem (incidence of 30–63%), and is very difficult to assess (12). A number of instruments have been developed to measure female sexual function (13). The FSFI is the most widely used validated questionnaire. Therefore, it was used in the present study to evaluate the effect of surgery for a Bartholin's gland abscess on the sexual function of patients (9).

Little is known about the effect of surgical treatment on Bartholin's gland on sexual functioning. Di Donato et al. evaluated changes in sexual functioning after treatment of Bartholin's gland abscesses with a CO₂ laser (6). In that study, a significant advantage of CO₂ laser over cold knife treatment was observed in terms of the lubrication, pain, and total FSFI scores. Reif et al. evaluated sexual function in terms of activity, pleasure, and discomfort using Fallowfield's Sexual Activity Questionnaire during the treatment of Bartholin's cysts and abscesses with a Word catheter; the Word catheter was well tolerated and had few adverse effects on sexual health (5). Aydoğan Mathyk et al. compared post-surgical FSFI scores between marsupialization and excision groups; the FSFI scores were higher in the latter group. Dyspareunia was detected less frequently in patients who underwent excision of Bartholin's gland (7).

Sexual desire and arousal are psychological aspects of sexual life, while orgasm, satisfaction, pain, and lubrication are physiological aspects. In our study, sexual desire and arousal were similar between the treatment groups. The mean lubrication, satisfaction, and pain FSFI subscale scores were significantly higher in the gland excision than the marsupialization group. These results show that physiological aspects of sexual life improved more in women whose cysts were excised.

Vaginal lubrication is an essential physiological sexual response that occurs at the onset of sexual arousal. Sexual arousal increases blood flow, and therefore promotes the formation of the transudate that facilitates intercourse (14). Insufficient vaginal lubrication can lead to various problems, such as orgasmic disorder and sexual pain (15). Bartholin's gland secretions provide moisture to the vulva but are not necessary for sexual lubrication; therefore, removing the Bartholin gland does not compromise sexual functioning (16,17). Total removal of the gland did not hamper sexual functioning in the study of Aydoğan Mathyk et al. (7), similar to our study.

In our study, the mean lubrication, satisfaction, and pain FSFI subscale scores were significantly higher in the gland excision group; the quality of sexual life improved more in this group. In agreement with other studies, total removal of Bartholin's gland did not adversely affect sexual functioning, possibly because of preservation of the functions of other glands, such as the skene glands, which are also involved in lubrication.

Study Limitations

Some limitations of our study should be noted. FSD is related to anatomical, physiological, medical, psychological, and social factors, but we only evaluated the psychological and physiological aspects. Furthermore, the small number of patients may have limited the power of the analyses.

CONCLUSION

The gland excision and marsupialization methods applied to treat Bartholin's gland abscesses significantly improved the quality of sexual life. The physiological aspects of sexual life improved more in women who underwent cyst excision. Total removal of the gland did not adversely affect sexual functioning, although the effects of gland removal remain controversial. Large-scale clinical trials are needed to fully elucidate the impact of surgical treatment of Bartholin's gland on female sexual functioning.

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