

Marsupialization vs word catheter in the treatment of Bartholin cyst or abscess: retrospective cohort study

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Abstract

Objective: Bartholin cysts or abscesses are observed in approximately 2% of women frequently in their reproductive period. Although none of the treatments appear to be superior to over another, there are several options including drainage with basic incision, Word catheter application, marsupialization, silver nitrate application, and excision. The primary outcome in this study was to evaluate the recurrence rates in the patients who underwent Marsupialization or Word catheter for the treatment of Bartholin cyst or abscesses, and the secondary outcome was to evaluate the rates of the patient satisfaction.

Material and Methods: A total of 196 patients submitted to Word catheter or Marsupialization for the treatment of Bartholin cyst or abscesses between 2014 and 2017 were included in this retrospective cohort study. The size, its location, the length of the operation, and the recurrence was recorded. The information gained from a 5-point VAS (Visual Analog Scale) used to assess the patients' satisfaction and whether they would recommend this treatment to others were recorded.

Results: The recurrence was observed in 11 (8.3%) patients in the Marsupialization group, and 12 (18.8%) patients in the Word catheter group ($p=0.034$). VAS scores of the Marsupialization group (Score: 4, minimum:1, maximum:5) was better than the Word catheter group (Score: 3, minimum:1, maximum:5) ($p<0.001$).

Conclusion: Higher recurrence rate and unsatisfaction level were detected in the Word catheter group. The only advantage of the usage of Word catheter was its short operation time. According to our results, Marsupialization should be the first-line treatment for Bartholin cysts and abscesses. The small number of cases and the retrospective nature of this study are the most important limitations. (J Turk Ger Gynecol Assoc 2022; 23: 71-4)

Keywords: Bartholin abscess, Bartholin cyst, recurrence, patient satisfaction

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Introduction

Bartholin cyst is described as a swelling resulted by mucus built-up located at the 4- and 8-o'clock positions of the vulvar vestibule. If the same swelling is accompanied by signs of infection or inflammation such as redness, swelling, hotness, and tenderness, it is described as an abscess. Bartholin cysts or abscess are observed in around 2% of women generally in their reproductive period (2). Several management options are available for Bartholin cysts including drainage with basic incision, Word catheter, Marsupialization, silver nitrate application and excision (3). In the Marsupialization procedure,

to provide the drainage of the glands and to prevent scar formation, a 1.5-3 cm long incision is made on the cyst/abscess. After performing drainage to prevent the closure or formation of a new cyst, the cyst capsule is sutured to the edge which is fixed to the outer side, and re-epithelialization occurs ultimately (4). Local, regional or general anesthesia is required during the Marsupialization procedure. Word catheter is a 5.5 cm long, 15-French silicone device with a 3 cm long balloon, which is placed in the cyst or abscess to provide canal drainage and epithelialization. This procedure eliminates the requirement for the operation (2). It can be performed in the office; however, its location should not change for the drainage for approximately



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4 to 6 weeks. (2). In the literature, the recurrence rates reported for both approaches are quite distinct and vary over a wide range. While the recurrence rate is 2%-25%, this rate is between 3% and 17% for a Word catheter (2,3).

Objective

In this study, we aimed to compare the results obtained from the patients who underwent Marsupialization or Word catheter due to Bartholin cyst or abscesses. The primary outcome of the study is to compare the recurrence rates, and the secondary outcome is to compare the satisfaction levels of the patients.

Material and Methods

In this retrospective cohort study, a total of 196 patients were included who underwent Marsupialization or Word catheter for Bartholin cyst or abscess in our hospitals between 2016 and 2021. Before the study, the approval form was taken from the local ethics committee of our hospital. (Approval number: 2021-20/28).

Patients were reached by their health records and contact information. The size of the Bartholin cysts or abscesses, their location, length of operation, the presence or absence of recurrence were recorded.

Patients were asked how satisfied they were the treatment and whether they would recommend this treatment to others via survey. The responses were recorded.

The patients who do not have current contact information or did not undergo any application rather than Marsupialization or Word catheter were excluded from the study.

In Marsupialization, the patient was placed in the lithotomic position and 2% lidocaine was infiltrated to the skin lateral to hymen. The stabilization of the cyst manually followed by the opening of the cyst wall with a vertical incision about 1.5-2 cm long. The cyst was drained of its ingredients, cyst membrane was everted, and the cavity was washed with saline. Cyst wall was everted to the skin edge with 2-0 absorbable suture (polyglactin 910).

Whereas in Word catheter procedure, the infiltration of 2% lidocaine followed by a 5 mm incision. The contents of the cyst or abscess were cleaned out then Word catheter (Cook Medical Inc, Bloomington, IN, USA) was placed after being inflated with 3 ml saline solution and one suture was placed. It was kept stationary for 4 weeks.

All patients were interviewed about their overall discomfort levels, evaluated by using a 5-point VAS (Visual Analog Scale) (1, poor/very difficult; 2, sufficient/moderately difficult; 3, medium/average difficulty; 4, good/easy; 5, excellent/very easy). Finally, patients were asked if they would recommend their surgery type to other patients undergoing the same procedure.

Statistical analysis

SPSS version 25.0 (SPSS, Chicago, IL, USA) was used for analysis. Continuous variables were expressed as mean \pm SD, median (range), whereas categorical variables were expressed as percentages and frequencies. The Shapiro-Wilk test was used to assess the equality of variance of the data. Chi-squared and Fisher exact tests were used for categorical variables, t-test to compare independent variables with normal distribution, and Mann-Whitney U-test to compare independent variables with abnormal distribution. Kaplan-Meier curves were conducted to present the time to recurrence of the cyst or abscess and log-rank test was used to test differences in time to recurrence. Statistical significance was defined as $p \leq 0.05$.

Results

In this study, a total of 196 patients were included. 132 (67.3%) of these patients underwent marsupialization and 64 (32.7%) of them underwent Word catheter procedure. The mean age of the patients was 37.29 ± 10.37 in the marsupialization group and 36.10 ± 11.26 in the Word catheter group ($p=0.297$). The basic demographic data and their comparison were given in Table 1. There was no significant difference between the groups in terms of demographic features.

Table 1. The basic demographic data of the groups

	Marsupialization (n=132)	Word catheter (n=64)	p
Gravida*	2 (0-5)	2 (1-5)	0.675
Parity*	2 (0-4)	2 (1-4)	0.069
Age (year)*	37.29 ± 10.37	36.10 ± 11.26	0.297
Body mass index (kg/m ²)*	24.4 ± 3.9	23.8 ± 3.2	0.394
Menopause (+), (%)	22 (16.7%)	8 (12.5%)	0.447
Menopause length (year) n, (%)	3.39 ± 3.40	5.6 ± 8.53	0.544
Chronic disease (+) n, (%)	19 (14.4%)	4 (6.31%)	0.129
Previoud operation (+) n, (%)	26 (19.7%)	21 (32.8%)	0.078
Values are given as mean \pm standard deviation or median (minimum-maximum)			

Bartholin cysts were present in 104 (78.8%) and abscess in 28 (21.2%) of the patients in the marsupialization group while cyst in 47 (73.4%) patients and abscess in 17 patients (26.6%) in the Word catheter group before the treatment ($p=0.404$).

While 60 (45.5%) of the cyst-abscesses in the marsupialization group were on the right and 2 (1.5%) were bilateral, in the Word catheter group 24 (37.5%) were on the right and 2 (3.1%) were bilateral. The mean cyst-abscess size was 3.66 ± 1.21 cm in the marsupialization group and 3.65 ± 0.73 cm in the Word catheter group. The location and size of the cysts were similar between the two groups ($p = 0.473$ and $p = 0.146$, respectively).

The mean operation time was shorter in the Word catheter group (15.85 ± 2.88 min), compared to the Marsupialization group (21.67 ± 4.87 min) ($p=0.001$). Postoperative complications was observed in 7 (5.3%) patients in the marsupialization group and 2 (3.1%) patients in the Word catheter group ($p=0.495$). All of the complications were postoperative infection.

A total of 11 patients (8.3%) in the marsupialization group and 12 patients in the Word catheter group (18.8%) had relapse ($p = 0.034$). The recurrence interval was 7.27 ± 6.46 months for the marsupialization group and 5.58 ± 3.34 months for the Word catheter group. The time interval to recurrence of the groups after the operation was shown in Figure 1 (log-rank test, $p=0.543$).

Ten patients with recurrence in the marsupialization group were treated with cystectomy and 1 patient with antibiotics; Nine patients with recurrence in the Word catheter group underwent cystectomy and 3 had antibiotic treatment ($p = 0.660$).

The patient satisfaction was assessed with postoperative 5 points VAS scale. The VAS scores (score: 4 min:1 max:5) in

the marsupialization group were significantly better than the Word catheter group (score: 3, min: 1 max: 5) ($p < 0.001$). When patients were asked if they would recommend this surgical procedure to other patients, 12 (9.1%) patients in the Marsupialization group and 13 (20.3%) patients in the Word catheter group responded negatively ($p=0.027$). In the Marsupialization group, 4 out of 12 (33.3%) patients because of the recurrence, and 8 out of 12 (66.7%) patients because of the pain were unsatisfied. Whereas, in the Word catheter group 8 (61.5%) patients because of length of the treatment, 4 (30.8%) patients because of the recurrence and 1 (7.7%) patient because of the pain expressed dissatisfaction ($p=0.001$).

Discussion

In this retrospective cohort study, we compared Marsupialization and Word catheter treatments for Bartholin cyst or abscesses. Our primary outcome was to compare the recurrence rates. Similar to the reported literature, we observed the recurrence rate was 8.3% in the marsupialization group and 18.8% in the Word catheter group. Although the recurrence rates, and the pain scores were investigated and the average treatment cost was evaluated in previous studies there has not been any current study which compares the patients' comfort and satisfaction (5-7).

Treatment of the Bartholin cyst or abscess also depends upon the symptoms. There are many treatment options, including medical treatment, simple drainage, destruction with silver nitrate or alcohol, Word catheter, marsupialization, and excision of the gland. Asymptomatic and small Bartholin cysts can may not need any treatment while large symptomatic cysts and abscesses need to be treated with surgical intervention.

Incision and drainage is a simple and quick method of providing relief; however, this method is prone to recurrence of cyst or abscess formation (8). The most important issue in the selection of treatment methods is the recurrence rate and it differs by the initial type of management.

Recurrence rates are not very clear in the literature, Recurrence rates for Bartholin duct cysts or gland abscesses after Word catheter compared with marsupialization are reported to range from 2% to 17% and 3% to 25%, respectively (2,9).

JA Kroese et al. (5) has found that the pain scores are higher for the Word catheter compared to Marsupialization and they did not observe significant difference in the recurrence rates. Philip Reif et al. (6) claimed that Word catheter application has acceptable recurrence rates and it is a low-cost procedure. However, we detected noticeably higher patient satisfaction in Marsupialization group in our study.

The secondary outcome is to compare the satisfaction levels of the patients. When they were asked whether they would recommend this surgical application to the other patients,

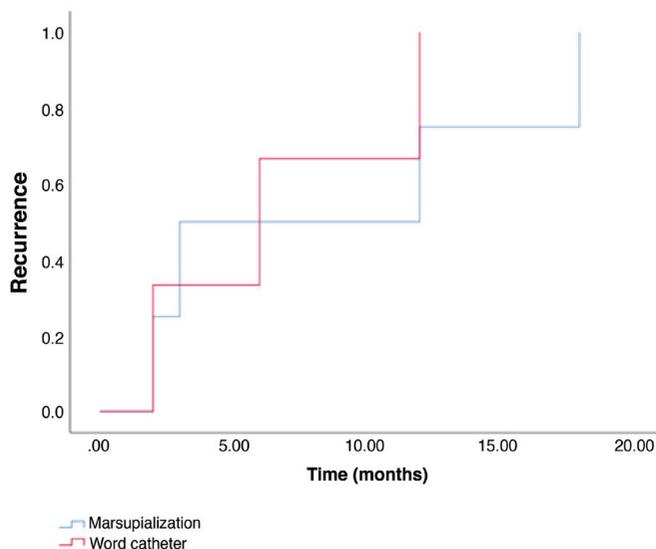


Figure 1. Kaplan-Meier curve for time to recurrence of the Bartholin cyst or abscess after treatment

12 (9.1%) patients in Marsupialization group and 13 (20.3%) patients in Word Catheter group declared that they were dissatisfied with the treatment and they would not recommend to anyone. The patients in the Word catheter group were dissatisfied prominently. The main reason for this was the length of the treatment and the high rate of the recurrence.

Conclusion

We observed a higher recurrence rate and dissatisfaction in the Word catheter group. The only advantage of the Word catheter application was its short operation time. According to our results, Marsupialization should be the first-line treatment for Bartholin cysts or abscesses.

Conflict of Interest and Authorship Conformation Form

The Author has participated in (a) conception and design, or analysis and interpretation of the data; (b) drafting the article or revising it critically for important intellectual content; and (c) approval of the final version. This manuscript has not been submitted to, nor is under review at, another journal or other publishing venue. The author has no affiliation with any organization with a direct or indirect financial interest in the subject matter discussed in the manuscript

Ethical Committee Approval: Before the study, the approval form was taken from the local ethics committee of Acibadem University Hospital (approval number: 2021-20/28).

Informed Consent: It was obtained.

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