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"Management of Bartholin Cysts and Abscess" in a Tertiary Care Centre, Jeddah, Saudi Arabia

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Abstract

Objective: To analyse all cases of Bartholin glands pathology (cysts and abscess), and identify the different variable affecting the method of management with Marsupialization or excision. **Methods:** This study is a cross-sectional retrospective analysis of all cases of Bartholin cysts and abscess admitted and managed at KAUH, from January 2017 to December 2017. **Results:** 48 patients were analysed: age (32.60 ± 9.9), parity, BMI (26.9 ± 4.98). Out of 48 patients, 25 (52.1%) were diagnosed as Bartholin cysts and 23 (47.9%) as Bartholin abscess. 72.9% (35) patients were managed with Marsupialization, and only 27.1% ended with excision. Comparing age in years, parity and BMI in the cases managed by Marsupialization with those with excision, the only statically significant difference was found in the parity. When comparing the important factors collected, younger subjects less than 35 years old, never being pregnant and BMI less than 30 had more Marsupialization than excision. But age < 35 was statistically significant (Table 1). Abscess and non-recurrent had more Marsupialization but were statistically not significant. Other factors, past medical and surgical history and type of anaesthesia were the same in both groups. Logistic regression performed using the dependent variable for Marsupialization rather than excision with different covariant categorised variable, age less than 35, single, abscess, non-recurrent, and BMI less than 30 (Table 2). Age less than 35 and BMI less than 30 were likely to have Marsupialization whether it is an abscess or cysts, but the difference is not statistically significant. When we looked at different variables like single and non-recurrent, there was no difference. But Abscess formation was in favor of Marsupialization statistically significant p < 0.002 (OR95% CL 2.446; 1.209 - 37.844). **Conclusion:** The traditional treatment modality, which is Marsupialization, was save effective and still mostly performed in the younger age group of patients. Abscess formation is favoring its choice as treatment.

Keywords

Bartholin, Management, Cysts, Abscess, Marsupialization, Excision

1. Introduction

The Bartholin glands play an essential role in the female reproductive system, located in the posterior region of the vaginal opening. Two Bartholin glands are found in the posterior aspect of the vaginal opening, contributing to mucus secretion and vaginal lubrication, playing a crucial role in the female reproductive system [1] [2].

Bartholin cysts and abscesses are a typical presentation in women of childbearing age, due to obstruction of the glands' openings and the accumulation of mucus in the duct [2] [3].

Although Bartholin cysts and abscesses are the most frequent presentations, malignancy and other benign lesions are possible pathologies. Swab, culture and biopsy of suspicious lesions are used if needed for definite diagnosis, directing the management plan [4] [5].

Treatment methods vary between different institutes, word catheter and Marsupialization being the most popular of all. Other interventional techniques include, but are not exclusive to needle aspiration, surgical excision, silver nitrate and carbon dioxide laser vaporisation [6]. In respect to the two most conventional treatment methods, recurrence rates vary between 12% allocated for the word catheter procedure, versus 10% in women who underwent Marsupialization [7].

Cochrane reviews summary in assessing the effectiveness of interventions for Bartholin pathology regarding healing and recurrence. There were multiple interventions all failed to identify the best treatment approach [5].

Although Bartholin cysts and abscesses are commonly seen, research in the area of Bartholin pathology is generally small in number. Furthermore, in Saudi Arabia, there is an apparent deficiency of local data regarding Bartholin diseases and management.

Hence, this research aims to retrospectively analyse all cases of Bartholin glands (cysts and abscess), different variable affecting the method of management either Marsupialization or excision.

2. Methods and Material

This study is a cross-sectional retrospective analysis of all cases of cases of Bartholin cysts and abscess admitted and managed at (KAUH) King Abdulaziz University Hospital, Jeddah, Saudi Arabia, from January 2017 until December 2017.

The total number of cases 48, the charts of all patients reviewed, variables collected and analysed were; age in years, parity, and BMI. The diagnosis recorded

as Bartholin cysts or abscess as per clinical evaluation of the treating gynaecologists. We recorded if this is a recurrent or non-recurrent and past medical and surgical history and finally the method of surgical management either Marsupialization or excision wither under spinal or general anaesthesia.

Inclusion criteria included, all woman admitted with a diagnosis of Bartholin cysts or abscess to the gynaecological word facility, managed with Marsupialization or excision at KAUH.

Patients refused to be treated, or continue treatment at KAUH, or if treated with different surgical methods were excluded.

Ethical approval obtained from King Abdulaziz University IRB and the methods carried out in "accordance" with the approved guidelines. Discloser of all authors that there is NO conflict of interest.

Statistical analysis

SPSS version 22.0 (Statistical Package for the Social Sciences), (Chicago, IL, USA), was used to analyse data using a chi-square test. The frequency of occurrence of variables calculated P-Value less than 0.05 with Odds ratio and 95% confidence limit.

3. Results

Forty-eight patients analysed; the youngest was 16 years and the eldest 69 years old with a mean ± St.dev, (32.60 ± 9.9). Parity range from 0 to 5 with a mean ± St.dev, (0.79 ± 1.46). BMI ranged from 22 to 39 with a mean ± St.dev, (26.9 ± 4.98).

Out of 48 patients, 25 (52.1%) diagnosed as Bartholin cysts and 23 (47.9%) as Bartholin abscess. 72.9% (35) patients managed with Marsupialization and only 27.1% ended with excision.

When we compare the mean and standard deviation of the variable collected (age in years, parity and BMI) using student and ANOVA test in the cases managed by marsupialisation with those with excision the only statically significant difference found in the parity, which means high parity seems to have more excision than marsupialisation.

When compare the important factors collected, between the two groups using chi-square test and risk by odds ratio and 95% confidence limit … patents how are younger than 35 years old, never being pregnant and BMI less than 30 had more marsupialisation than excision. But age < 35 was statistically significant (Table 1).

Abscess and non-recurrent Bartholin had more marsupialisation than excision but statistically not significant. Other factors such as past medical and surgical history and type of anaesthesia were the same in both groups.

We have two cases of recurrent chronic infection in the Marsupialization group, and only one in the excision group had bleeding that packed for 24 hours.

Logistic regression was done using a dependent variable for Marsupialization rather than excision with a different covariant categorised variable such as age less than 35, single, abscess, non-recurrent, and BMI less than 30, Table 2. Age

Table 1. Demographic characteristics of patient's different type of treatment.

Variable	Marsupialization	Excision	P value
	Mean ± St.dev (Min - Max)	Mean ± St.dev (Min - Max)	
Age	31.9 ± 9.8 (16 - 69)	34.6 ± 10.0 (18 - 48)	P < 0.394
Parity	0.49 ± 1.17 (0 - 5)	1.62 ± 1.85 (0 - 15)	P < 0.015
BMI	27.2 ± 5.2 (22 - 39.0)	26.2 ± 4.5 (22 - 39)	P < 0.535
	(N =35)	(N =13)	Odds ratio & 95% CL P < value
Age < 35	25	5	4.000 (1.051 - 15.223)
Age > 35	10	8	P < 0.040
Para 0	28	7	0.525 (0.097 - 2.837)
Para 1 or more	7	6	P < 0.077
BMI < 30	23	12	0.160 (0.018 - 1.380)
BMI >30	12	1	P < 0.064
Cysts	14	11	0.121 (0.023 - 0.632)
Abscess	21	2	P < 0.006
Not Recurrent	26	11	0.525 (0.097 - 2.837)
Recurrent	9	2	P < 0.368
−VE PMH	27	11	0.614 (0.112 - 3.361)
+VE PMH	8	2	P < 0.449
−VE PSH	31	9	3.444 (0.715 - 16.591)
+VE PSH	4	4	P < 0.124
Spinal	29	8	3.021 (0.729 - 12.519)
GA	6	3	P < 0.121

Mean ± St.dev = mean ± stander deviation; (Min – Max) = range (minimum – maximum); BMI = Body mass index (BMI); PMH = past medical history; PSH = past surgical history; GA = general anesthesia.

Table 2. Logistic regression of dependent variable was (Marsupialization-excision) with different covariant categorized variable.

Variable	OR 95% CL	Lower	upper	Significant (2-tailed)
Age < 35	−1.515	−34.429	0.535	0.055
single	0.306	−20.528	20.953	0.688
Abscess	2.446	1.209	37.844	0.002
Non-Recurrence	−0.010	−18.967	20.973	0.814
BMI < 30	2.261	−0.328	40.417	0.063

less than 35, and BMI less than 30 likely to have marsupialisation whether it an abscess or cysts but the difference is not statistically significant. Variable such as single compared to married and non-recurrent compare to recurrent no difference. Abscess formation in favor of marsupialization statistically significant p < 0.002 (OR 95% CL 2.446; 1.209 - 37.844).

4. Discussion

Bartholin's glands are a well-known and studied part of the female reproductive system. Casper Bartholin first described it in the 17th century, and it was furthermore found to be an organ that functions in secreting mucus and lubricate

both the vulva and vagina. They are also called the greater vestibular gland. They are located visibly at the posterior region of the vaginal opening and occupy an average size of 0.5 cm and open at 3 - 4 and 7 - 8 o'clock position at the vestibule of the vagina on each side of the vaginal opening.

They are the same as the male bulbourethral or Cowper's glands. They primarily originated from the urogenital sinus and therefore is supplied by the external Pudendal artery. Moreover, it is innervated by the Pudendal nerve and drains to the superficial inguinal and pelvic nodes [1].

Complication of Bartholin glands by the formation of cysts that affects the ducts because of outlet blockage [2]. Whenever mucus effect and form a cystic dilatation that creates a block these glands. Infection on top of the cystic formation will result in the creation of Bartholin's gland Abscess. Even though Abscess formation is three times more common after Bartholin cyst formation, it might be formed without the other cystic formation. These infections have been found as the result of a polymicrobial infection [3].

In our cases, all Bartholin had either cysts or abscess, and the results of the two methods the treatment We have two cases of recurrent chronic infection in the Marsupialization group and only one in the excision group had bleeding we had packed for 24 hours.

Patients who present with small not inflamed cysts tend to be asymptomatic. Abscesses present with surrounding cellulitis, on the other hand, a cyst would show as a mass without surrounding cellulitis. Moreover, larger cysts or abscesses usually present with severe symptoms comprising pain and swelling associated with all activities including walking, sitting, and sexual intercourse. A sudden relief of pain after spontaneous discharge is a typical presentation of a very large expandable cyst [3].

Many treatment modalities have been proposed for the management of Bartholin pathologies. For asymptomatic small cysts, conservative management is the best option. The choice of incision and drainage is also offered to patients to relieve the symptoms followed by suture closure. The risk of recurrence or abscess formation should be explained to the patient. These are considered Office-based management options [4] [5].

Other methods that were used to prevent recurrence include Ward catheter which been described as a conservative method that works by inflating a balloon into the abscess cyst. This catheter is left in place for 4 - 6 weeks [5] [6] [7] [8]. another alternative less invasive approach is marsupialisation, which is used for the treatment of cysts but not preferable in cases where the abscess is noted [3].

Some other newly used methods include CO_2 laser therapy, which decreases the risk of infection, and the recurrence rate has been observed to be very minimal [7]. For all of these treatment modalities, there is no doubt that sitz bath is highly recommended in the treatment [4] [5] [9] [10].

There is some evidence that broad-spectrum antibiotics should be used in some cases such as cellulitis. Moreover, in menopausal or perimenopausal

Table 3. Options of managements.

Number	Methods of managements	References
1	No treatment for Asymptomatic Bartholin's gland cysts	[4] [5]
2	Sitz baths for an abscess tend to spontaneously rupture.	[2]
3	incision and drainage prone to recurrence of cyst or abscess formation	[8]
4	A "Word" catheter	[9]
5	Marsupialization	[3] [6]
6	Silver nitrate gland ablation	[11]
7	laser, needle aspiration with or without alcohol sclerotherapy	[7]
8	Gland excision	[10]

women with irregular, nodular glands and excisional biopsy is recommended to rule out adenocarcinoma [4] [11]. **Table 3** illustrates the options of management.

In our study we choose the method commonly used in our institution to compare the results and to identify the risk for each modality.

Limitation (Retrospective, Only one institution, Small number)

5. Conclusion

The traditional treatment modality, which is Marsupialization, was save effective and still mostly performed in the younger age group of patients. Abscess formation is favoring its choice as treatment.

Conflicts of Interest

Ethical approval obtained from King Abdulaziz University IRB and the methods carried out in "accordance" with the approved guidelines. Discloser: All authors had no conflicts of interest.

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