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Original Article,

Retrospective analysis of vulvar benign masses: 5-year single center experience

Nazlı KORKMAZ[1], Necdet ÖNCÜ[2]

[1]Demiroglu Bilim University, Gynecology and Obstetrics, Istanbul, Turkey
[2]University of Health Sciences, Istanbul Kanuni Sultan Süleyman Health Practice and Research Center, Department of Gynecology and Obstetrics and, Istanbul, Turkey

Abstract:

Aim
Although benign lesions in the vulva occur rarely, they are one of the reasons for women to apply to the hospital. Although the most common benign masses in the vulva are bartholin cysts; First of all, it is necessary to rule out malignancy. Our aim is to analyze the demographic and presentation characteristics, clinical and laboratory findings, and surgical operation results of women who applied to a tertiary center with a vulvar mass.

Materials and methods
All women who had vulvar mass in a tertiary perinatology center between January 2016 and January 2021 were retrospectively included in this study. The demographic data of the patients (age, gravida, parity, abortus numbers), complaints and comorbidities were analyzed. Clinical findings, hospitalization times, treatments and surgery results were recorded.

Results
Overall, 198 patients who had vulvar masses were included in this study. The median age was 35.0 years. While 15.2% of the patients were nulliparous; 51.1% (n=135) had at least one abortion history. The most common complaints were genital swelling/mass in 77.8% and pain in 36.9%. The most common diagnoses were "bartholin cyst/abscess" in 89.9% and vulvar mass in 6.6%. Cyst excision, abscess drainage and mass excision were performed in 59.6%, 30.3% and 6.6%, respectively. No morbidity or mortality was observed in any of the patients.

Conclusion
Bartholin's cysts/abscesses are the most common cause of benign masses of the vulva. However, in all women presenting with a vulvar mass, malignancies should be excluded and a biopsy should be obtained if necessary.

Keywords: vulva, benign lesion, vulvar mass, vulvar cysts, bartholin's cysts.

Introduction:

Although benign lesions in the vulva occur rarely, they are one of the reasons for women to apply to the hospital. While it is necessary to rule out malignancy in the etiology; infectious lesions should also be included in the differential diagnosis (1). Benign vulvar masses are divided into two groups as solid and cystic (1-4). While Bartholin's cyst, Nuck's canal cyst, epidermal cyst and mucous cyst are reported as the most common benign cystic masses in the vulva; Squamous, glandular and mesenchymal masses are also stated as the most common benign solid masses (2-6).

Because benign masses of the vulva are not of vital importance and generally follow a chronic process, they are often overlooked by women and the diagnosis is delayed (7). Among these, the most common benign masses in the vulva are bartholin cysts (2, 3). Bartholin cysts affect approximately 2% of women in the reproductive period (8, 9). Although it is often asymptomatic, it can also progress with symptoms such as vulvar

pain and dyspareunia. While no treatment is required in asymptomatic patients, drainage is required in patients with symptoms (10).

Our aim in this study is to analyze the demographic and presentation characteristics, clinical and laboratory findings, and surgical operation results of women who applied to a tertiary center with a vulvar mass.

Materials and methods:

All patients who had bartholin cyst during the January 2015 and January 2021 period were retrospectively included in this study. Ethics committee approval was given by the medical faculty scientific research ethics committee. All procedures were carried out in accordance with the ethical rules and the principles of the Declaration of Helsinki.

The demographic data of the patients (age, gravida, parity, abortus numbers), complaints and comorbidities were analyzed. Clinical and ultrasonography (USG) findings, hospitalization times, treatments and surgery results were recorded.

Data were analyzed using the SPSS 25.0 (IBM, Armonk, NY: IBM Corp.) program. Continuous variables were expressed as mean ± standard deviation, median (interquartile range, IQR), and categorical variables as numbers (n) and percentages (%). Student's t-test and Mann-Whitney U test were used to compare differences between independent groups. The Chi-square or Fisher's exact probability tests were used to compare demographics. In all analyses, $p < 0.05$ was considered statistically significant.

Table 1. Demographic characteristics of patients who had vulvar mass.

Age (year) [median (min-max, *IQR*)]	**35.0 (17-82, *27-43*)**
Gravida (n) [median (min-max, *IQR*)]	2 (0-12, *1-3*)
Parity (n) [median (min-max, *IQR*)]	2 (0-9, 0-*2*)
Abortus [n *(%)*]	
0	135 *(68.2)*
1	44 *(22.2)*
≥2	19 *(9.6)*
Nulliparity [n *(%)*]	
+	40 *(20.2)*
-	158 *(79.8)*
Comorbidity [n *(%)*]	
+	16 *(8.1)*
-	158 *(84.8)*

IQR: interquartile range, min: minimum, max: maximum

Table 2. Obstetric and prenatal outcomes of twin pregnants and neonates

	n *(%)*
Complaints	
Swelling/mass	154 *(77.8)*
Pain	73 *(36.9)*
Itching	34 *(17.2)*
Discharge	26 *(13.1)*
Asymtomatic	12 *(6.1)*
Diagnosis	
Bartholin's cyst/abscess	178 *(89.9)*
Mass	14 *(7.1)*
Gardner cyst	4 *(2.0)*
Canal of Nuck cyst	2 *(1.0)*

PROM: premature rupture of membranes, HT: hypertension, IUGR: intrauterine growth restriction, IUFE: intrauterine fetal exitus, NICU: neonatal intensive care unit

Bulgular

A total of 198 patients were included in the study. The median age was 35.0 years (minimum 17 – maximum 82, IQR 27-43) (Table 1). The median number of gravida was 2 (minimum 0 - maximum 12, IQR 1-3), and the median parity number was 2 (minimum 0 - maximum 9, IQR 0-2). While 20.2% (n=40) of the patients were found to be

nulliparous; 22.2% (n=44) had at least one abortion history (Table 1). In addition, 8.1% (n=16) of the patients had chronic disease.

The most common complaints of the patients participating in the study were genital swelling/mass in 77.8% (n=154) and genital pain in 36.9% (n=73) respectively (Table 2). The most common diagnoses were "bartholin cyst/abscess" in 87.8% (n=174) and vulvar mass in 7.1% (n=14), respectively (Table 2). Cyst excision was performed in 59.6% (n=18) of the patients, abscess drainage was performed in 30.3% (n=60) and mass excision was performed in 7.1% (n=14).

More than half of the patients (57.1%) were hospitalized for only one day and the median length of stay was 1 day (minimum 1 – maximum 5, IQR 1-2). While 56.1% (n=111) of the patients did not use antibiotics after the operation; Antibiotics were used for three days in 26.7% (n=53) and 5 days in 17.1% (n=34). No morbidity or mortality was observed in any of the patients.

Discussion:

The vulva, which appears as a small part of the genital organs, may cause many benign and/or malignant masses due to its histological and embryological complex structure (1, 7, 11). It is often overlooked because of its asymptomatic course, incidental occurrence, and difficult diagnosis (11). In this study, the complaints, clinical findings and post-surgical results of women with vulvar benign mass were evaluated.

While the malignancy status of vulvar masses detected in advanced age and/or postmenopausal women is higher, it has been reported that younger and premenopausal vulvar masses are mostly benign (12-14). In our study, the median age was 35 years, and only 39.4% of the women were in the postmenopausal period. Since only women with benign masses were included in the study, it was thought that the age group was younger and this supported the literature.

In our study, it was seen that the most common bartholin cyst/abscess was. Bartholin's cyst is the most common cystic formation in the labia majora. After infection, abscess formation develops. It is more common especially in sexually active people of reproductive age (15, 16). The diagnosis is usually made clinically, and most women present to emergency services with severe pain (17, 18). In our study, it was observed that the most common bartholin cyst/abscess (89.9%) was in women with vulvar mass; genital swelling and pain were the most common reason for admission, similar to the literature. The findings were supportive of the literature. The frequency of Nuck canal cyst and Gardner cyst was quite low.

Treatment of benign masses or cysts diagnosed after excluding malignancy in the etiology of ovarian masses varies according to the symptoms, age and recurrence of the patients (19). Biopsy is recommended to rule out malignancy in rapidly growing and/or hyperpigmented masses (20). Their treatment consists of observation and surgical excision. Mismanagement of benign masses leads to recurrences and consequent radical treatment that leads to unnecessary interventions (11). While no treatment is required in asymptomatic cases, only observation is sufficient; Excision and/or drainage are used as first-line therapy in symptomatic patients. While excision is applied in the foreground for masses or cysts; there are many treatment methods such as silver nitrate, total excision, needle aspiration, and drainage for the treatment of Bartholin's abscesses (19). In our study, cyst excision was performed in 59.6% of the patients, abscess drainage was performed in 30.3% and mass excision was performed in 6.6%. Because of the high rate of Bartholin's cyst, cyst excision was performed most frequently.

Limitations of this study; (1) retrospective and being a single-center study and the low number of cases constitute important limitations in the generalization of our results; (2) the second limitation is the evaluation the clinical findings by different physcians

Conclusion:

Bartholin's cysts/abscesses are the most common cause of benign masses of the vulva. However, in all women presenting with a vulvar mass, malignancies should be excluded and a biopsy should be taken if necessary. While observation is usually sufficient in benign masses, surgical treatment should be considered in symptomatic ones.

Ethics committee approval: The study was initiated with the approval of the Demiroglu Bilim University Medical Faculty Clinical Researches Ethics Committee **(Date: 2021, Decision No: 2021-154).**

Informed consent: Because the study was designed retrospectively, no written informed consent form was obtained from patients.

Referee evaluation process: Externally peer-reviewed.

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