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Management of bartholin's gland swelling in a tertiary health institution in north-western Nigeria

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Abstract
Background: Bartholin's gland swellings are the most common cystic swelling of the vulva in women of reproductive age.
Aims and Objectives: The aim of study was to assess the cases of Bartholin's gland cyst/abscess managed.
Methodology: This was a retrospective study carried out over a period of ten years. All cases of Bartholin's gland cyst and abscesses managed. Statistical package for social sciences version 20 was used for data management. Both descriptive and inferential statistics were used for data presentation
Result: The prevalence of Bartholin's gland abscess/ swelling was 1.48%, among which abscess was 6.7%. Their mean age was 24±50. There was about four fold risk of developing cyst/abscess with previous history (RR=4.688, CI=0.736-29.83). The prevailing symptom was pain and left vulva was affected in 53.3% and they all had marsupialisation.
Conclusion: Bartholin's gland swelling is relatively common in our environment.

Keywords: Bartholin's abccess, bartholin's cyst, left vulva, pain, marsupialisation

Introduction

Bartholin's glands are a pair of pea-sized glands located bilaterally at the posterior region of the vaginal wall, lateral to the bulbocavernosus muscle. The openings of the ducts are at the 5 and 7 o clock position on each side of the hymenal ring and each Bartholin's duct is lined with transitional epithelium measuring about 5milimeter in diameter and 1.5 to 2 centimeter in length. The gland produce and secret mucus which is of alkaline pH and serves as a lubricant during sexual intercourse while it keeps the vulva moist [1]. They were first described by the Danish Anatomist, Casper Bartholin in the 17th century [2].

Bartholin's gland cysts are the most common cystic enlargements of the vulva and are frequently benign than malignant. Approximately 2% - 3% of women mostly in their reproductive age would develop Bartholin's gland cyst or abscess at some point in their life [2], The abscesses is almost three times more common than the cysts [6, 7]. It has been found that about 50% occur on the right labia, 42.9% on the left side, and 7.1% are bilateral [3]. They are palpable only if the duct becomes cystic or a gland abscess develops and they are more common in blacks and whites than Hispanics, and those of low parity [4, 5].

The Bartholin's duct cyst may follow obstruction with resultant retention of secretions and dilatation of the duct. While gland abscess develop either when the cyst becomes infected or the gland itself become infected [6, 9]. However, a duct cyst is not a pre-requisite for gland abscess development [2, 6].

Bartholin's abscess was initially thought to be a sexually transmitted disease because of the microbiological organisms that were isolated from it. However, various studies had recently shown that it is of polymicrobial origin with *Escherichia coli* as one of the most commonly associated pathogens [6, 10]. It could also result from vestibular injury, iatrogenic occlusion from stitches during surgery, congenital narrowing of the duct, and inspissations of mucus leading to plugging and inflammations from specific and non specific infection. The risk profile is similar to those of women at risk for sexually transmitted diseases [11, 12], Other risk factors include; previous history of Bartholin's gland cyst, multiple sexual partners and medio-lateral episiotomies and vulva trauma [11, 4].

Cysts could be asymptomatic and found on routine pelvic examination. However, symptomatic cysts and abscesses can be associated with significant discomfort and disruption of sexual function and daily activities [8] and is usually the reason for consultations in the emergency

departments. The cysts or abscesses are usually unilateral, distends the affected site causing asymmetry with or without vaginal discharge [12]. When palpable, it is fluctuant and may or may not be tender especially abscesses [13, 14].

Diagnosis is mainly clinical. Discharge from the gland if present should be sent for culture and sensitivity [6]. In its absence, swabs are taken from endocervix, rectum, vagina and urethra for microbial culture and sensitivity [7, 13, 15, 16]. Isolated organisms are usually polymicrobial, but *Bacteroides* spp and *Escherichia coli predorminate* [13, 14]. Other organisms such as *Staphylococcus aureus*, *Neisseria gonorrhea* and *Chlamydia trachomatis* had also been implicated [8, 12]. Biopsy and histology is recommended in women over 40 years due to fear of possible malignancy [2, 14].

Treatment will depend on the age of the patient, the size of the cyst or abscess, expertise of the care giver, facilities available and history of recurrence [17]. Asymptomatic cyst may be managed expectantly [2, 4]. Conservative management of symptomatic cysts or abscesses may include, warm sitz baths, compresses, analgesics and antibiotics where appropriate [7, 18]. Others include; Carbon-dioxide laser vaporisation, application of silver nitrate and alcohol sclerotherapy. They are ablative procedures that allow destruction of the epithelial lining of the cyst by a coagulative necrosis and then a fibrosis which obliterates the cavity and prevents the re-accumulation of fluid, with excellent results of up to about 95.7% with Carbon-dioxide laser vaporization method [19, 20].

The definitive management for Persistent and symptomatic cysts and abscesses as collaborated by most authors include; surgical procedures such as; marsupialisation, word catheterization and cyst excision [1, 8]. Simple incision and drainage or aspiration of the cyst are available options but results in high reoccurrence [21], Maruslpialization, is generally favoured especially in low resource setting because it has low recurrence rate and the function of the gland is preserved [2, 6, 8]. Post-operatively, broad spectrum antibiotics should be given depending on sensitivity pattern [2, 6, 15]. The word catheter despite its success rate may fall off prematurely thereby causing recurrence and is not readily available especially in developing countries. The cyst excision is technically difficult, and usually performed in women who experience high recurrence and are above 40 years due to risk of malignancy [17].

Literatures are scanty in this region regarding this important condition and none has been reported from our centre. This work is therefore, conceived to establish the incidence, mode of presentation, risk factor, recurrence rate and management of Bartholin's gland cyst/abscess in Usman Danfodio University Teaching Hospital, Sokoto (UDUTHS).

Materials and Methods

This was a retrospective study carried out at the Usman Dan fodiyo University Teaching Hospital Sokoto over a period of ten years from January, 2007 to December, 2016. Records of the gynaecology clinic, emergency unit, operating theatre and gynaecology ward of all cases of Bartholin's cysts and abscesses managed were reviewed and retrieved from the medical records department. Relevant information including socio-demographic data, mode of presentation, and site of the vulva affected presence of abscess or cyst, previous history of Bartholin's cyst or abscess, risk factors, treatment modality and recurrence was obtained. Data processing and analysis were carried out using SPSS version 20 (Statistical package for social sciences).

Descriptive statistics was used in calculating percentages, mean, and standard deviation.

Results

During the study period, there were 40 cases of Batholin's gland swellings out of 2,026 gynaecological surgeries giving a prevalence of 1.48% (1:67). Bartholin's abscess was diagnosed in 76.67 % (23/30) while, cyst was seen in 23.33% (7/30). However, only 30 case files were retrieved giving a retrieval rate of 75%, of which relevant information was extracted, Majority (66.67% -20/30) of the patients were between the age range of 21-30 years with a mean age of 24.50 ± 4.70 years., while 23.33% (7/30) were mostly of adolescent age group of 11 to 20 years. Only 10 % (3/30) were within the age range of 31 to 40 years and none among 41-50 years.

Seventy percent (21/30) were married, 26.67% (8/30) were single and 3.33% (1/30) was a divorcee. Among them, 23.33% (7/30) had no formal education, 6.67% (2/30) had primary education or secondary education and majority 63.33 (19/30) had tertiary level of education. Table 1 shows the demographic characteristics of the patients.

Table 1: Socio-demographic characteristics of the patients

S/No.	Frequency	Percentage%
1.Age (years)		
11-20	7	23.3
21-30	20	66.7
31-40	3	10
41-50	0	0
Total	30	100
2.Marrital Status		
Married	21	70
Single	8	26.7
Divorced	1	3.3
Total	30	100
3. Educational Status		
No Formal Education	7	23.3
Primary	2	6.7
Secondary	2	6.7
Tertiary	19	63.3
Total	30	100

About 87% (26/30) of the women were nulligravidae/primiparae while 10% (3/30) were grandmultiparae.

Majority, 56.67% (17/30) had previous history of Bartholin's abscess or cyst while history of sexually transmitted infections and multiple sexual partners were seen in 3.33% (1/30) each. There was about a four fold increase risk of developing bartholin's cyst/abscess in women with previous history (RR=4.688, CI=0.736-29.83). However, the above finding was not statistically significant (p-value- 0.08). There was no documentation of the possible risk factor in 36.7% (11/30) of patients. This is shown in table 2.

Table 2: Risk factors

Risk Factor	Frequency	Percentage (%)	Relative risk	Confidence Interval	p-value
1- Age	-		0.57	0.044, 7.432	0.666
2- Marital status	-		1.133	0.172, 7.469	0.869
2- Previous history	17	56.7	4.688	0.736,29.834	0.087
3- Sexually transmitted diseases	1	3.3	0.759	0.618, 0.932	0.575
4- Multiple sexual partners	1	3.3	0.759	0.618, 0.932	0.575

About 80% (24/30) presented with painful vulva swelling while, 20% (6/30) had pain alone.

Figure 1 Symptoms on presentation

More than half of the patients 53.33% (16/30) presented with left vulval swellings while, 43.33% (13/30) had that on the right side. However, 3.33% (1/30) was unspecified. Figure 2. Site of disease.

Staphylococcus aureus was isolated in 6.7% (2/30) of cases and there was no growth in 20% (6/30) of them. However, there was no documentation regarding the isolated organism in 70% (21/30). This is depicted on table 3.

Table 3: Microbiological result

Organism	Frequency	Percentage (%)
Staphylococcus aureus	2	6.7
No documentation	21	70
No growth	6	20
Others	1	3.3
Total	30	100

Discussion

From this study, the prevalence of Bartholin's gland swelling was 1.48%. This is similar to 1 to 2% quoted by other studies [2, 18, 21] in Portharcort and Abakaliki, South-East Nigeria. Past history of Bartholin's gland cyst or abscesses was the highest risk factor recorded in our study seen in 56.7% of patients, this could be explained by over-the-counter medications in our environment. Most of the patients with reoccurrence were previously treated conservatively or had an incision and drainage. The lack of documentation of possible risk factors in 36.7% of the patients is likely due to poor record keeping. Majority 24(80%) of patients had vulva swelling and pain while. This finding is in conformity with other studies [8, 9, 15] More than half (53.3%) of the patients presented with left vulva swelling and this is similar to findings in other studies [2, 20].

The diagnosis of Bartholin's abscess was made in 23 (76.7%) of cases including 10(2.3%) pregnant women with a history of re-occurrence while Bartholin's cyst was diagnosed in 7(23.3%) patients. This ratio of 3:1 is also quoted in the literature [6, 8].

There was no documentation of the microbiological isolate in 70% of cases and this could be explained by poor documentation during the patient evaluation and majority of the patient failed to come back for follow up probably due to poor health seeking behaviour.

Although there are many treatment modalities for this condition, all patients that were studied had Marsupialisation. This is because it is the common practice in our centre due to its safety, simplicity and can be performed on an outpatient bases [13, 21] Moreover, it has low recurrence rate of 3%-6% with preservation of gland function [20]. The same treatment modality is the most common in other developing settings like our's [5, 7].

Conclusion

Bartholin's gland swellings are associated with significant morbidity and previous history is a risk for recurrence especially when poorly managed. Marsupialisation remain the only available option of treatment of symptomatic cases in our environment. Therefore, there is need to provide more effective and less invasive options to minimise complications.

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