

Bartholin's Cyst and Abscesses in a Tertiary Health Facility in Port Harcourt, South-South Nigeria

John C.O^{1*}, Enyindah C.E² and Okonya O.

Accepted 24 September, 2015

Department of Obstetrics and Gynaecology. University of Port Harcourt Teaching Hospital, Port Harcourt, Rivers State, Nigeria.

ABSTRACT

Cyst or abscess formations of Bartholin's gland are among common gynecological diseases in emergency departments in both developing and developed countries. To determine the incidence, risk factors and recurrence rate of women who presented with Bartholin's duct cyst and abscess in the gynaecological department of University of Port-Harcourt Teaching Hospital. A retrospective review of all Bartholin's duct cysts and abscesses managed at the University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt over a 5 year period (January 2009 to December 2013). There were 40 cases of Bartholin's duct cyst and abscess out of 2901 gynaecology admissions, giving an incidence of 1.4%. Thirty-eight patient's case records were available for analysis. Bartholin's abscess was the commonest diagnosis; occurring in 21(55.3%) of the patient within the study. Left vulva swelling was the commonest presentation accounting for 71% (27). The identified risk factors included; recurrent Bartholin's gland swelling 14 (36.8%) of the patients, multiple sexual partners 11 (28.9%), previous trauma to mediolateral episiotomies 5 (13.1%) and previous history of sexually transmitted infection 4 (10.5%). Bartholin's gland cyst and abscess are important common gynaecological diseases which need definite treatment to reduce and prevent recurrence. The patients' life style and practitioners' mode of medical practice are known risk factors.

Key words: Bartholin's Cyst, Abscesses, Port Harcourt, Nigeria, Recurrence and Marsupialization.

*Corresponding author. E-mail: drojay1@yahoo.co.uk. Tel: +2348038391519.

INTRODUCTION

The Bartholin's gland was first described in 1677 by Casper Bartholin. The Bartholin's or greater vestibular glands are two structures of cuboidal epithelium each the size of a pea. These glands develop embryonically from an outgrowth of the urogenital sinus. The Bartholin's glands are located left and right posterior to the opening of the vagina. 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 5 mm in diameter and 1.5 to 2 cm in length. Mucus secreted from the Bartholin's gland is of alkaline pH and serves as lubrication during sexual intercourse while it keeps the vulva moist. Blockage at

the vestibular ostium of the duct Bartholin's duct abscess results from acute infection of the cyst or infection of the gland. (Endang et al., 2012; Yuk et al., 2013; Pipingas et al., 2007; Shaheen et al, 2013). Shaheen et al. (2013) observed that Bartholin's duct cyst is the most common cystic growth of the vulva. Others include epidermal inclusion cyst, cyst of the canal of nuck and Skene's duct cyst. (Pipingas et al., 2007; Shaheen et al., 2013). Most authors in developed countries estimate that 1 to 2% of adult women develop cystic or abscess swelling on the Bartholin's gland (Endang et al., 2012; Pipingas et al., 2007; Shabana and Bora, 2009). Incidental findings by Berger et al. (2012) suggests it is slightly commoner on

the right side than on the left, occasionally it occurs bilaterally.

Bartholin's cyst could be asymptomatic and found on routine pelvic examination. However, a Bartholin's abscess is painful and tender leading to serious discomfort following activity and during sexual intercourse (Endang et al., 2012; Yuk et al., 2013; Pipingas et al., 2007; Shabana and Bora, 2009). This is usually the reason for hospital visit and consultations in the emergency departments. Bartholin's duct swelling could 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 (Kafali et al., 2004). Traditionally *Neisseria gonorrhoea* was accepted as the most common aetiological agent causing Bartholin's gland abscess. Microbiology studies have however, as illustrated by Pipingas et al. (2007), indicated that the aetiology is polymicrobial (pyogenic aerobic and anaerobic bacteria) with *bacteroides* and *E. coli* the predominant organisms. *Neisseria gonorrhoea* is the predominant aerobic pyogene and *chlamydia tracomatis* been implicated also (Pipingas et al., 2007).

Aerobic and anaerobic organisms that comprise normal vaginal and cervical flora have a role to play (Shaheen et al., 2013). Dyspareunia is a common complication (Endang et al., 2012; Pipingas et al., 2007; Shabana and Bora, 2009). Septic shock is an uncommon life threatening complication of this condition. The main causative organisms of this complication are *streptococcus pyogenes* and *E. coli* (Pipingas et al., 2007). The definitive management of Bartholin's gland cyst and abscess as collaborated by most authors include specific surgical procedure such as marsupialisation, word catheterization and cyst excision because simple incision and drainage or aspiration of the cyst results in high reoccurrence (Endang et al., 2012; Pipingas et al., 2007; Shabana et al., 2009; Donatov et al., 2013; Kushnir and Mosquera, 2009) Marsupialisation is a common mode of management with a documented recurrence rate of 5 to 15% (Wechter et al., 2009; Haider et al., 2007; Ozdegirmenci et al., 2009; Li and Gennis, 2011; Gennis et al., 2005). Gennis et al. (2005) remarked that the word catheter despite its success rate may fall off prematurely thereby causing recurrence hence a small loop device of plastic tubing is used which allows continuous drainage. However these are not readily available especially in developing countries. Kafali et al. (2004) in reporting the success of sclerotherapy remarked that the cyst excision is technically difficult (Kafali et al., 2004).

It is usually done in women who experience high recurrence and are above 40 years because of fear of malignancy. Other modalities of treatment include carbon dioxide laser vaporization and use of sclerosants like alcohol and silver nitrate (Ozdegirmenci et al., 2009; Li

and Gennis, 2011; Gennis et al., 2005). The appropriate choice depends on certain important factors such as the age of the patient, the size of the cyst or abscess, expertise of the care giver and history of recurrence. Relatively little is known about the incidence and risk factor for Bartholin's duct cyst and abscess among women in sub Saharan Africa as stigmatization, cultural beliefs and ignorance plays a major role in the life of the women within this environment. The aim of the present study is to determine the incidence and evaluate mode of presentation, risk factor and recurrence rate amongst women was presented to the gynecology department of the University of Port-Harcourt Teaching Hospital, a tertiary institution in South Nigeria. Port Harcourt, capital of Rivers State in Southern Nigeria, is cosmopolitan, oil rich and has people from all parts of the country. The population of Port Harcourt was estimated at 2.7 million in 2013. The University of Port Harcourt Teaching Hospital is an 800 bed tertiary health facility providing specialist care to the Niger Delta region of Nigeria.

METHODOLOGY

A five year retrospective study of all cases of women managed for Bartholin's gland cyst or abscess between January 2009 and December 2013 was carried out at the University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt, Rivers State. Records of the gynaecology clinic, emergency unit, operating theatre and gynaecology ward were searched and the folder numbers of this patient retrieved. Relevant data were retrieved from case notes of the study subject. The relevant information were extracted and placed on a spread sheet namely; socio-demographic variables, mode of presentation, side of vulva affected by swelling, presence of abscess formation, previous history of vulva swelling, previous history of vulva trauma, previous episiotomies, number of multiple sexual partner and sexually transmitted infection. Data was analysed using SPSS version 17.0 (IBM Armonk, NY, USA). The results are shown as percentages for frequencies, and as mean and standard deviations for continuous variables.

RESULTS AND DISCUSSION

There were 40 cases of Bartholin's gland cyst and abscess out of 2901 gynaecological admission during the period of study, however only 38 folders were available and information extracted giving a retrieval rate of 95%. The incidence of Bartholin's gland cyst and abscess is therefore 1.4%. Their age, parity, occupation, and educational status are shown on Table 1. The age of study subjects ranged from 20 to 47years. The mean age was 27.74 ± 6.56 years. The mean parity was 0.68 ± 1.25

Table 1. Socio-demographic characteristics.

Variables	Frequency	Percentage
Age (years)		
<20	-	-
20-29	27	71.1
30-39	8	21.0
>40	3	7.9
Parity		
0	24	63.2
1	5	13.1
2	3	7.9
3	3	7.9
4	3	7.9
Occupation		
Housewife	15	39.5
Student	15	39.5
Trader	6	15.7
Public servant	2	5.3
Educational Level		
Primary	3	7.9
Secondary	18	47.4
Post-secondary	17	44.7
Marital status		
Single	20	52.6
Married	16	42.1
Widow	2	5.3

Table 2. Identified risk factors for Bartholin's gland cyst and abscess.

Variables	Frequency	Percentage
Previous Bartholin's gland swelling	14	36.8
Multiple sexual partner	11	28.9
Mediolateral episiotomy	5	13.1
Sexually transmitted infection	4	10.5

Note that some patients had more than one risk factor.

and 63.2% of them were nullipara. Only 21% of the study population was in paid employment while 44.7% had post-secondary education. Over half of the patients, 52.6% were single. Table 2 reveals that Recurrent Bartholin's gland swelling occurred in 36.8% of the patients. Eleven patients (28.9%) had multiple sexual partners while previous mediolateral episiotomies was found in 4 (13.1%), sexually transmitted infection was found in 4 (10.5%). At presentation 24 (63.2%) patients were in pain (Figure 1); Bartholin's abscess occurred in 21 (55.3%) patients while 17 (44.7%) patients had a cyst. 4 (10.5%) patients were pregnant. Left vulva swelling was the commonest mode of presentation in 27 (71.1%) patients while 9 (23.7%) patients had a right vulva

swelling. Bilateral vulva swelling occurred in 2 (5.3%) patients.

Bartholin's duct cyst is the most common cystic growth of the vulva (Shaheen et al., 2013). Bartholin's abscess results from an acute infection of the cyst or the gland. Previous studies reported an incidence of 1 to 2% (Endang et al., 2012; Pipingas et al., 2007; Shabana and Bora, 2009). The incidence in this study was 1.4%. With a mean age at presentation of 27.74 ± 6.56 , majority of the patients (71.1%) were between 20 to 29 years. This is similar to the study by Shaheen et al. (2013). As observed in similar studies all patients were within the reproductive age group. These studies also noted a decrease in incidence of Bartholin's cyst or abscess after

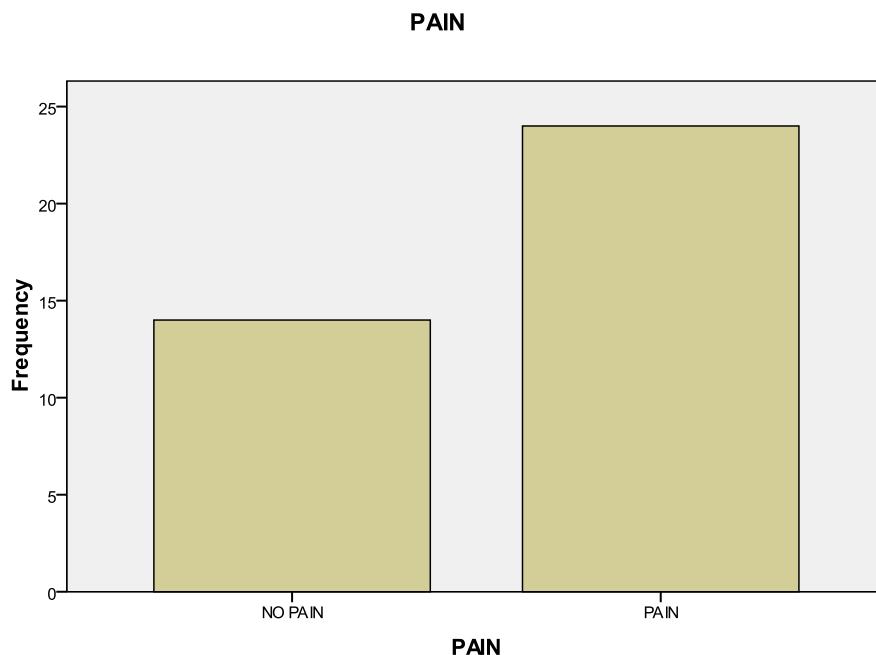


Figure 1. Pain distribution.

menopause (Yuk et al., 2013) Majority of the patients (63.2%) were nullipara and 52.6% were single. An important risk factor for Bartholin's gland cyst and abscess noted in this study was a history of previous episode of gland cyst or abscess. This was found in 14 patients bringing the recurrence rate to 36.8%.

This is comparable to findings by Wechter et al. (2009) irrespective of the study population. However in this study most of the patients with reoccurrence were previously treated conservatively or had an incision and drainage. Recurrent ipsilateral or new contralateral reoccurrence of the Bartholin's swelling were however not specified in the data collected as this was omitted in most records. Other risk factors noted were multiple sexual partners, previous vulva trauma (extensive mediolateral episiotomy) and sexually transmitted infection as admitted by the patients. The various hypothesis of seasonal or socioeconomic factors were also absent. For latter hygienic practices among the different women was difficult to evaluate in this study. At presentation 24 (63.2%) patients had vulva pain. This is in keeping with the trend from other reports (Yuk et al., 2013; Pipingas et al., 2007). More patients had Bartholin's gland abscess (55.3%) including 2 pregnant women with a history of reoccurrence. Bartholin's cyst occurred in 44.7% of the patients.

This was similar to studies in developed countries (Yuk et al., 2013). Patients with left vulva swelling accounted for 71.1%; right vulva swelling accounted for 23.7%, while bilateral vulva swelling accounted for 5.3%. This was in contrast to a previously reported study by Berger et al.

(2012) that had more right vulva swelling at presentation. In this study diagnosis was mainly clinical. All patients had Marsupialisation. This is the practice in this centre. Other modalities of treatment such as the word catheter, Jacobi ring, use of sclerosants and laser are not commonly practiced due to a range of reasons including expertise, availability of the consumables and cost. However, importantly the cure rate as evidence by comparable recurrence and treatment rates remain the same with other studies.

CONCLUSION

Bartholin's gland cyst and abscess is a clinical gynaecological condition which make women present to the emergency department. It is important to educate the public especially the rural areas of this pathology. It is also important to develop and teach medical practitioners the ideal, safe and definite treatment options to avoid reoccurrence.

REFERENCES

- Berger MB, Betschart C, Khandwala N, Delancey JO and Haefner HK (2012). Incidental Bartholin's gland cyst identified on pelvic MRI. *Obstet. Gynecol.* 120(4):798-802
- Donatov D, Bellati F, Casorelli A, Giorgini M, Perniola G, Marchetti (2013).Carbon dioxide laser treatment for Bartholin's gland abscess. Ultrasound evaluation of risk recurrence. *J. Minim. Invasive Gynaecol.* 20(3):346-52.
- Endang TW, Muhammad DA, Alwi M (2012). Bartholin's abscess caused by *Escherichia coli*. *Indian J. Dermatol.* 1(1) 68-72.
- Gennis P, Li SF, Provataris J, Shahabuddin S, Schachtel A and Lee E

(2005). Jacobi ring catheter treatment of Bartholin's abscesses. *Amer.J. Emerg. Med.* 23 (3):414-415.

Haider Z, Condous G, Kirk E, Mukri F and Bourne T (2007). The simple out patient management using the word catheter. A preliminary study. *J. Obstet. Gynaecol.* 47 (2) 137-40.

Kafali H, Yurtseven S and Ozardali L (2004). Aspiration and alcohol sclerotherapy: A novel method for management of Bartholin's cyst and abscess. *Eur. J. Obstet. Gynecol. Reprod. Biol.* 112(1) 98-101.

Kushnir VA, Mosquera C (2009). Novel technique for management of Bartholin's gland cyst and abscesses. *J. Emerg. Med.* 36(4):388-90.

Li SF, Gennis P (2011). Treatment of Bartholin's abscess. *J. Emerg. Med.* 41(2):p.187.

Ozdegirmenci O, Kayikcioglu F and Haberal A (2009). Prospective randomized study of masupialisation versus silver nitrate application in the management of Bartholin's gland cyst and abscess. *J. Minim. Invasive Gynecol.* 16(2):149-52.

Pipingas A, Dangor Y, Radebe F, Fehler HG, Khumalo S, Gouveia LD, Koornhof HJ, Ballard RC (2007). Microbiology investigation of Bartholin's gland abscess in urban women in Johannesburg. *South Afr. J. Epidemiol. Infect.* 22 (1):18-22.

Shabana A, Bora M (2009). Bartholin's vulva and perineal abscess. Best practice and research. *Clin. Obstet. Gynaecol.* 23(5)661-666.

Shaheen B, Mary P, Vijay J (2013). An unusual case of a huge vulva swelling. *Brunei Int. Med. J.* 9(4): 262-265.

Wechter ME, Wu JM, Marzano D and Haefner H (2009). Management of Bartholin's cyst and abscess: A systematic review. *J. Obstet. Gynaecol. Survey*, 64(6):395-404

Yuk JS, Kim YJ, Hur JY and Shin JH (2013). Incidence of Bartholin's duct cyst and abscesses in the republic of Korea. *Int. J. Gynaecol. Obstet.* 122(1):62-4.