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Case Report

# Recurrent Bartholin's Cyst: Literature Review and Case Report

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## ABSTRACT

Bartholin's cyst is a form of cystic (fluid-filled) tumor on the vulva. Bartholin's cyst is a cyst that forms due to blockage of the Bartholin's gland duct, which causes retention and cystic dilatation. Reports indicate that a 45-year-old woman came to the Obstetrics and Gynecology Polyclinic at Pertamina Bintang Amin Hospital, Malahayati Bandar Lampung, experiencing a recurrence of a left Bartholini abscess for the third time after two external incisions. The treatment carried out in this patient was given antibiotics and analgesics and it was recommended to do surgery with an extirpation procedure. Recurrent Bartholin's gland abscesses in women of reproductive age are generally associated with a risk of contact with sexually transmitted infection polymicrobials. Needle aspiration and incision and drainage are the two simplest procedures, not recommended because of the relatively increased recurrence rate.

**Keywords:** Bartholin cyst, extirpation, therapy

## INTRODUCTION

Bartholin's glands or major vestibular glands are glands in women that are homologous to the bulbourethral glands (Cowper's glands) in men. The glands begin to function at puberty and have the function of providing moisture to the vestibule. Bartholin's glands develop from buds in the epithelium of the posterior region of the vestibule. The Bartholin's glands are located bilaterally at the base of the labium minora, each measuring about 0.5 cm and secreting mucus into ducts 2-2.5 cm long. The glands are usually not palpable unless there is an infectious disease or in very thin women (1).

Bartholin's cyst is a blockage in the distal gland duct in the form of enlarged fluid-filled and has a structure like a swollen sac (swollen sac-like structure). If the opening in the Bartholin's gland is blocked, the mucus produced by the gland will accumulate, resulting in cystic dilatation of the proximal duct and obstruction. A blocked and infected Bartholin's cyst can develop into an abscess (2).

Bartholin's cysts and abscesses are the most common Bartholin's gland-related diseases. This disease occurs in 2-3% of women. The abscess is almost three times more common than cysts (3).

Recurrent Bartholin's gland abscesses in women of reproductive age are generally associated with sexually transmitted polymicrobial infections. The pathogenesis of this abscess begins slowly as a progressive swelling of the labia majora,

painful sensation, fever, and enlarged swelling of the genital vulva on the affected side. Some reports estimate that individuals who contract a sexually transmitted disease (STD) are more likely to develop a Bartholin's gland abscess and that there is a greater chance of contracting other STD (4).

Bartholin's cysts and abscesses can cause aesthetic complaints or interfere with the quality of life, such as pain and discomfort when walking, sitting, and having sex. There is no official consensus on managing Bartholin's cysts and abscesses (5).

Bartholin's cysts and abscesses commonly occur in women of reproductive age, aged 20-29 years, but the ideal treatment for these diseases is controversial. This study was conducted to evaluate the management of new patients with Bartholin's cysts and abscesses by establishing a diagnosis through history taking, clinical findings, and physical examination (6).

## CASE DESCRIPTION

A woman, 45 years old, came to the Obstetric and Gynecology Clinic at Pertamina Bintang Amin Hospital complaining of a large lump in the genital area two weeks before. Previously, the mass was negligible and gradually enlarged. The lump burst discharging pus and blood three days before, reducing the pain. The patient feels pain in the lump when the patient sits and moves. No history of trauma. History of sexual intercourse with the husband one month ago. The patient had experienced the same complaint like this in 2019 and 2021.

The patient underwent incisions and drainage twice in 2019 and 2021 for the same complaints and same area. For family planning, this patient had a history of Intrauterine device (IUD) in 2018, then changed to implant. The patient admitted that she is still sexually active. During this period of complaints in our clinic, she was treated with antibiotics and analgetic for five days since the gland showed an active infection phase. She was advised to come immediately if the mass burst or after the abscess refined.

The laboratory test was normal. The results of the general physical examination showed that the patient was compos mentis, with blood pressure 110/70 mmHg, pulse 80x/minute, breathing 20x/minute, and temperature of 37.0ºC. On genital examination, there was a ruptured mass in the left labia minora with a diameter of 4-6 cm, not hyperemic, and well demarcated. The patient was diagnosed with a left recurrent Bartholin's cyst.

**Figure 1**. Ruptured left Bartholin's cyst

The patient was hospitalized and planned for surgery with an extirpation procedure, performed aseptic and antiseptic measures, made an incision around the tumor with a scalpel then excision of the tumor from the tissue, control of bleeding was sutured.

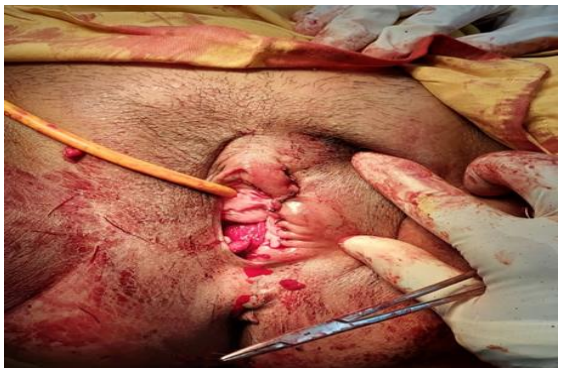

**Figure 2.** Left Bartholin's abscess surgery with extirpation procedure

Before the surgery, the patient was treated with Ringer Lactate infusion of 20 drops per minute. Broad-spectrum antibiotics given before surgery were clindamicin 300 mg orally 2x1, mefenamic acid 500 mg 3x1 for pain relief. These regiments were also given for several days after surgery with suppositoria analgetic for addition.

The patient was discharged two days after the operation and advised to visit the outpatient clinic seven days later. Treatment was continued until the next follow-up schedule. At the first control, the stitches had dried and the patient had no pain and was able to carry out normal activities.

## DISCUSSION

Bartholin's glands or the greater vestibular glands are glands in women that are homologous to the bulbourethral glands (Cowper's glands) in men. The glands begin to function at puberty and serve to provide moisture for the vestibule. Bartholin's glands develop from buds in the epithelium of the posterior region of the vestibule. The Bartholin's glands are located bilaterally at the base of the labium minora, each measuring about 0.5 cm and secreting mucus into 2-2.5 cm long ducts. The glands are usually not palpable unless it is an infectious disease or very thin woman. Bartholin's cyst is a blockage of the distal gland duct in the form of an enlarged fluid-filled and has a structure like a swollen sac (swollen sac-like structure). If the opening in the Bartholin's gland is blocked, the mucus produced by the gland will accumulate, resulting in cystic dilatation of the proximal duct and obstruction. An obstructed and infected Bartholin's cyst can develop into an abscess (7).

Bartholin's cysts and abscesses are the most common Bartholin's gland-related diseases. The disease occurs in 2-3% of women. Abscesses are almost three times more common than cysts. Bartholin's cysts, on average, have a small size of 1-3 cm and are usually unilateral and asymptomatic. Larger cysts can cause discomfort, especially during sex, sitting, or walking. Patients with a Bartholin's abscess typically present with acute, rapidly developing, and progressive vulvar pain (8).

Bartholin's cyst and abscess diagnosis is based on clinical findings and physical examination. Management of Bartholin's cysts and abscesses can be done in various ways, including medical, incision and drainage, word catheter placement, marsupialization, silver nitrate ablation, laser therapy, and excision (1).

From the history and physical examination, there was a lump in the left labia minora with a diameter of 4-6 cm, well-defined, hyperemic, and pain, especially when sitting and walking. This is consistent with the theory that an infected Bartholin's cyst becomes an abscess in the form of a painful bulge on one side of the vulva, accompanied by fluctuating redness or swelling in the vulvar area. If the cyst is infected, clinical symptoms include pain

when walking, sitting, physical activity or sexual intercourse, generally not accompanied by fever; usually there is vaginal discharge and spontaneous rupture may occur (9). Bartholin's glands can form cysts and abscesses in women of reproductive age. The two are difficult to distinguish on physical examination. Cysts are usually 2-4 cm in diameter and can cause dyspareunia, urinary tract irritation, and unexplained pelvic pain. Cysts typically contain a nonpurulent fluid containing staphylococci, streptococci, and E.coli (10).

In this patient, it could be due to blockage of the Bartholin's gland, due to disruption of the patient's hygiene factors (lack of maintaining the cleanliness of the pubic area and a history of coitus one month ago); this could be a risk factor for the Bartholin's cyst he is currently suffering from. While abscesses occur due to polymicrobial bacterial infection, which can be caused by sexually transmitted diseases or infections from other body parts due to not maintaining personal hygiene. Gonococcal-type bacteria have played the most role as the cause of Bartholin's gland infections in recent years (11).

Ten percent of patients with Bartholin's cyst/abscess were infected with N.gonorrhoeae, compared with 3% without Bartholin's cyst/abscess. The infection rates of *C.trachomatis* and *Trichomonas vaginalis* were 13% and 26%, respectively, among patients with Bartholin's cyst/abscess, compared with 8% and 30%, respectively, of those without a Bartholin's cyst/abscess (12). However, polymicrobial infections involving both aerobic and anaerobic bacteria are most common. Anaerobic bacteria are usually derived from vaginal flora and are more pathogenic than aerobes. Of particular interest are increased bacterial infections from the respiratory tract, such as *S. pneumoniae* and *Haemophilus influenza* from Bartholin's gland abscess (9). Women who have had a Bartholin's cyst before having a 20-40% risk of recurrence of these cysts. There is no guarantee that Bartholin's cyst will not recur after treatment. Because without paying attention to personal hygiene and lack of examination of the health of reproductive organs, cysts can arise or reappear (13).

Other less standard procedures include silver nitrate ablation, carbon dioxide laser evaporation, Jacobi ring placement, and Bartholin's gland excision as a last resort when other modalities fail. Women who are pregnant and have a Bartholin's abscess should be treated the same way as nonpregnant women, except for excision of the Bartholin's gland because of the increased risk of bleeding (14). Incision and drainage, and needle aspiration are simple procedures but have a higher recurrence rate than the previously discussed office procedures and are not recommended (15).

The various types of surgical therapy for Bartholin's cysts are as follows:

a) Incision and drainage is a fast and simple procedure to relieve the symptoms quickly. However, the recurrence rate is high (16).
b) Inserting a word catheter is a common treatment for drainage of Bartholin's cysts and abscesses. The word catheter is a catheter measuring 1 inch long and about the diameter of a number 10 Foley catheter. After an incision is made in the cyst/abscess, the word catheter is inserted, and the balloon at the end of the catheter is inflated with

2-3 ml of saline for fixation. The catheter is left for 4-6 weeks for the epithelialization process.

c) Marsupialization is an incision made on the cyst as long as 1.5-3 cm depending on the size of the cyst. A vertical incision was made in the center of the cyst; the cyst wall was diverted and directed to the tip of the vestibular mucosa, sutured with interrupted sutures. Complications related to this procedure are dyspareunia, hematoma, and infection (16). The most common postoperative complications are fluid discharge from the surgical site and labial edema. Studies of marsupialization report global recurrence rates varying from 2 to 25% (17).

d) Excision or extirpation is the final choice for recurrent mass. Fistulization and catheter marsupialization may be used for first-time recurrence. But for serial recurrency, a procedure to release all parts of Bartholin's gland must be considered. The patient should be referred to a gynecologist for excision if he has recurrent lesions, has a cyst larger than 5 cm, or is 40 years of age or older (15).

Based on other references and due to deficiencies in the form of recurrence, scarring, and bleeding that can be found in the previous treatment options, other things that can be done include:

a) Sclerotherapy, also known as ablation, has the principle of destruction of the epithelial cells lining the Bartholin's cyst or abscess. Sclerotherapy can use alcohol or silver nitrate. A randomized controlled trial study showed that safety did not differ much. Silver nitrate sclerotherapy has a lower risk of scar tissue formation, but the healing time is longer than alcohol sclerotherapy (5).

b) Carbon dioxide Laser. This treatment is done by incising the cyst using a carbon dioxide laser, then the cyst wall is evaporated from the inside.[5] Lasers can be used to vaporize and remove Bartholin's glands. This surgical procedure is simple and fast, but expensive (17). This treatment results in good healing and does not cause scarring with a low recurrence rate.[5] This form of treatment appears to be a good alternative, because it is less invasive, fast, and safe for cases of cysts. Bartholin. As well as the recurrence rate, the average is less than 10% and heals after the laser procedure is completed (17).

c) In cases of high recurrence or in patients who do not respond to drainage, excision can be performed (18).

d) Some experts recommend excision of the Bartholin's gland. This procedure is performed to exclude adenocarcinoma in patients with Bartholin's cysts or abscesses over the age of 40 years (16).

e) Electrosurgery technique. Electrosurgery has been shown to be applicable in various diseases of the lower genital tract as an excisional and destructive treatment method. This technique has been used as a first-line treatment of cervical cancer precursor lesions, as well as in vaginal and vulvar applications, as a practical, low-cost alternative. Fulguration with electrosurgery of Bartholin's cyst capsule is an effective treatment method, and the treatment cost of this technique is lower than that of conventional techniques and marsupialization (19).

The healing and recurrence rates of Bartholin's cysts are similar to those of fistulization, marsupialization, and silver nitrate and alcohol sclerotherapy. Needle aspiration and incision and drainage are the two simplest procedures, not recommended because of the relatively increased recurrence rate (15).

Surgical therapy was performed on this patient in the form of extirpation, because the cyst had ruptured. The procedure carried out was the patient was hospitalized and planned for surgery with an extirpation procedure, performed aseptic and antiseptic measures, made an incision around the tumor with a scalpel and then excision of the tumor from the tissue was performed with suture for bleeding control (20).

Medical therapy in this case was in the form of giving Ringer Lactate infusion fluid 20 drops per minute, broad-spectrum antibiotics given before surgery were clindamycin 300 mg orally 2x1 capsule, mefenamic acid 500 mg 3x1 tablets for pain relief, and after surgery Clindamycin 300 mg 2x1 capsule, Mefenamic acid was given 500 mg 3x1 tablets, roborantia 2x1 tablets, Pronalges Supp.

## CONCLUSION

Bartholin's cyst is caused by a polymicrobial infection that occurs in the cyst or directly infects Bartholin's gland. Recurrent Bartholin's gland abscesses in women of reproductive age are generally associated with a risk of contact with sexually transmitted polymicrobial infections. Bartholin's cysts' healing and recurrence rates are similar to those of fistulization, marsupialization, and silver nitrate and alcohol sclerotherapy. Needle aspiration and incision and drainage are the two simplest procedures, not recommended because of the relatively increased recurrence rate. Diagnosis is based on history, physical examination, and supporting examinations. This patient was treated with Bartholin's cyst and evacuated with an excision procedure and postoperative conservative therapy with broad-spectrum antibiotics to treat suspected sexually transmitted infections and analgesics to relieve postoperative pain. Prognosis depends on the cure rate and recurrence rate in the patient.

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The author has obtained direct consent from the patient and the patient's family in the form of informed consent which contains consent to take pictures of the patient and also consent to publish the patient's case.

## CONFLICT OF INTEREST

The author declares that there is no conflict of interest in this paper.

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