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Surgical management options for Bartholin's gland abscess

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Abstract

Bartholin's glands, also known as greater vestibular glands, are two mucus-secreting glands located in the posterolateral wall of the vagina opening. The function of these glands is to produce mucus that moisturizes the vestibule of vagina. When the outflow path from the gland is blocked, a cyst forms. When the abscess is formed usually it is infections with a polymicrobial background. The most common symptoms of a Bartholin's gland cyst or abscess include pain in the vulva, swelling, difficulty walking, dyspareunia, and fever.

The procedure of choice in this case is surgery. The operator can choose from among many possible options, among others there is simple incision and drainage of the cyst, marsupialization, a Word catheter, silver nitrate application, alcohol sclerotherapy, excision and laser CO2 and, as a last resort, surgical removal of the gland.

The aim of this study is to review the most common surgical procedures used in Bartholin's gland cyst or abscess.

Key words: Bartholin's gland cyst, Bartholin's gland abscess, surgical procedures

Introduction

Bartholin's glands, also known as greater vestibular glands, are two mucus-secreting glands located in the posterolateral wall of the vagina opening, approximately at 4 o'clock and 8 o'clock. The duct of the gland exits in the groove between the labia minora and the hymen. The function of these glands is to produce mucus that moisturizes the vestibule of vagina. When the outflow path from the gland is blocked, a cyst forms. [1] The formation of a gland abscess is associated with secondary infection of the contents in the cyst or with the primary bacterial infection of the gland. Usually these are infections with a polymicrobial background. The most common symptoms of a Bartholin's gland cyst or abscess include pain in the vulva, swelling, difficulty walking, dyspareunia, and fever. A Bartholin's gland cyst may also be asymptomatic. During the examination of the patient, edema, erythema and high tenderness are noticeable. A cyst or abscess of the Bartholin's gland affects about 2 in 100 women of childbearing age. [2]

The procedure of choice in this case is surgery. The operator can choose from among many possible options, among others there is simple incision and drainage of the cyst, marsupialization, a Word catheter, silver nitrate application, alcohol sclerotherapy, excision and laser CO2 and, as a last resort, surgical removal of the gland. A 2009 literature review by Wetcher et al. did not answer the question of how best to manage a Bartholin's cyst or abscess. [3]

The purpose of this study is to review the most common surgical procedures used in Bartholin's gland cyst or abscess.

Incision and drainage

The simplest procedure to perform in a patient suffering from a cyst or abscess Bartholin's gland is incision and drainage. This procedure brings immediate relief to the patient, but unfortunately it is associated with a very high recurrence rate (13%). [4]

Marsupialization

Marsupialization involves cutting and then emptying a Bartholin's gland cyst or abscess. After rinsing the remaining cavity with a physiological saline solution, the edges of the cyst wall are folded out and sutured to the vestibular mucosa with absorbable sutures. The aim of this procedure is to create a new outflow tract of the cysts/abscess.

According to a systematic review of 8 studies conducted by Illingworth et al., the rate of Bartholin's cyst or abscess recurrence after marsupialization varied between 0.1% and 54.3%. [5] However, in earlier reports, these values were between 2 and 25%. [6]

A Word catheter technique

A Word catheter is a silicone made inflatable disposable device. It can be used with Bartholin gland cysts or abscesses in local lidocaine anesthesia. The Bartholin's abscess or cyst is incised with a scalpel, ideally in a nympho-hymeneal groove, and its contents are evacuated. After rinsing the remaining abscess cavity, a Word catheter is inserted as deep as possible and it is pumped with physiological saline. The catheter placed in this way is left for about 3-4 weeks for reepithelialization. Thanks to this technique, general anesthesia and in consequence hospitalisation can be avoided, which accelerates the procedure and reduces its costs.

According to Nehuz et al. fewer patients used painkillers in the first 24 hours after surgery in the Word catheter group versus the marsupialization group (74%). [7]

Furthermore, using Word catheter technique leads to congruous recurrence rates in one year observation in comparison to marsupialization group. [8]

Silver nitrate application

Another technique for managing a Bartholin's abscess or cyst is the use of silver nitrate. It consists in cutting the cyst and draining its contents, and then placing a piece of silver nitrate in the cavity and suturing the walls of the cyst. The most common symptoms after such treatment are chemical burns and hematomas.

Ozlem et al. compared the marsupialization technique with the silver nitrate technique in a group of patients with Bartholin's gland cyst. They found that in the second group much more often the wound healed without scarring (55.7%) than in the first group (31.3%). However, no statistical differences were found between the groups in terms of the duration of the procedure, the percentage of recurrence or dyspareunia. [9] Another study compared the use of silver nitrate with the excision of the cyst, which produced comparable results. [10]

Alcohol sclerotherapy

When performing alcohol sclerotherapy on a Bartholin's cyst or abscess, the cyst needs to be grasped between the thumb and forefinger. After inserting the needle into the cyst and sucking out its contents as accurately as possible, the same volume of 70% ethyl alcohol should be introduced into the cyst. The fluid should be held in for about 5 minutes so that the entire wall of the cyst is in contact with it, and then the cyst is emptied. After the needle is removed, light pressure can be applied for a few minutes so that it deflates completely and the cyst walls collapse. This treatment may result in edema and pain in patients.

In a study by Kafala et al. the effectiveness of alcohol sclerotherapy was compared with the insertion of silver nitrate. The mean duration of the procedure was shorter in the sclerotherapy group (mean 7 minutes vs. 15 minutes). Also, the mean healing time in group I was shorter (5 days vs. 9 days). Only 1 out of 12 patients in the sclerotherapy group had recurrence of the disease after 7 months, while no such cases occurred in the second group. [11]

CO2 laser excision

The initial stage of this procedure is to prepare the surgical site, and then incision and drainage of the cyst. After rinsing the remaining cyst capsule with sterile saline solution, the tissue lining the cyst is vaporized using a CO2 laser to a depth of about 2-3 mm. A CO2 laser is also used to prevent bleeding from the edge of the incision.

In a study by Frega et al. CO2 laser treatment time was shorter (average 9 minutes) compared to traditional surgical excision of the cyst (average 42 minutes). The intraoperative bleeding occurred less frequently (5.7% vs. 14.8%), the wound healed shorter (22 vs. 28 days), and patients could return to their daily activities faster (2 vs. 14 days). [12]

Surgical excision

In the case of recurrent Bartholin's gland cyst or abscess, surgical removal of the gland may be necessary. It is also performed in postmenopausal patients. [13] It is usually performed under general anesthesia and often takes longer time than other types of procedures. The enucleation procedure is performed after cutting the tissue above the cyst, exposing and dissecting it from the surrounding tissues. The cyst cavity left after excision is usually sutured to maintain haemostasis. [12]

Summary

According to the studies and literature reviews conducted so far, it has not been possible to determine the best method of managing a Bartholin's cyst or abscess. The choice of the method of proceeding depends on the operator and the technical possibilities available at the facility where he works.

References

1. Berger MB, Betschart C, Khandwala N, DeLancey JO, Haefner HK. Incidental Bartholin gland cysts identified on pelvic magnetic resonance imaging. *Obstet Gynecol* 2012;120:798–802. DOI: 10.1097/AOG.0b013e3182699259
2. Kaufman RH (1994) *Benign diseases of the vulva and vagina*, 4th edn. Mosby, St. Louis, pp 168–248.
3. Wechter ME, Wu JM, Marzano D, Haefner H. Management of Bartholin duct cysts and abscesses: a systematic review. *Obstetrical & gynecological survey*. 2009 Jun 1;64(6):395-404. doi: 10.1097/OGX.0b013e31819f9c76.
4. Omole F, Simmons BJ, Hacker Y (2003) Management of Bartholin's duct cyst and gland abscess. *Am Fam Physician* 68(1):135–140. PMID: 31194482
5. Illingworth BJ, Stocking K, Showell M, Kirk E, Duffy JM. Evaluation of treatments for Bartholin's cyst or abscess: a systematic review. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2020 May;127(6):671-8. DOI: 10.1111/1471-0528.16079
6. Marzano DA, Haefner HK. The Bartholin gland cyst: past, present and future. *J Low Genit Tract Dis*. 2004;8:195–204. DOI: 10.1097/00128360-200407000-00006
7. Nohuz E, Lamblin G, Lebail-Carval K, Barfety G, Chabert P, Chêne G. Minimally invasive management of Bartholin gland abscesses (with demonstrative video). *Journal of Gynecology Obstetrics and Human Reproduction*. 2020 May 20:101809.DOI: 10.1016/j.jogoh.2020.101809
8. Kroese JA, van der Velde M, Morssink LP, Zafarmand MH, Geomini P, van Kesteren P, et al. Word catheter and marsupialisation in women with a cyst or abscess of the Bartholin gland (WoMan-trial): a randomized clinical trial. *BJOG* 2017;124:243–9. DOI: 10.1111/1471-0528.14281
9. Ozdegirmenci O, Kayikcioglu F, Haberal A. Prospective randomized study of marsupialization versus silver nitrate application in the management of Bartholin gland cysts and abscesses. *Journal of minimally invasive gynecology*. 2009 Mar 1;16(2):149-52. DOI: 10.1016/j.jmig.2008.10.006

10. Mungan T, Uğur M, Yalcın H, Alan S, Sayigan A. Treatment of Bartholin's cyst and abscess: excision versus silver nitrate insertion. *Eur J Obstet Gynecol Reprod Biol.* 1995;63:61–63. DOI: 10.1016/0301-2115(95)02229-z
11. Kafali H, Yurtseven S, Ozardali I. Aspiration and alcohol sclerotherapy: a novel method for management of Bartholin's cyst or abscess. *European Journal of Obstetrics & Gynecology and Reproductive Biology.* 2004 Jan 15;112(1):98-101. DOI: 10.1016/s0301-2115(03)00241-0
12. Frega A, Schimberni M, Ralli E, Verrone A, Manzara F, Schimberni M, Nobili F, Caserta D. Complication and recurrence rate in laser CO 2 versus traditional surgery in the treatment of Bartholin's gland cyst. *Archives of gynecology and obstetrics.* 2016 Aug 1;294(2):303-9. DOI: 10.1007/s00404-016-4045-6
13. Markusen TE, Barclay DL. Benign disorders of the vulva and vagina. In: DeCherney AH, Nathan L, editors. *Current Obstetric and Gynecologic Diagnosis and Treatment.* 9th ed. Los Angeles: McGraw Hill; 2003. p. 651–676.