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Research Article

Sutureless Excision of Benign Bartholin's Gland Cyst using Hydrodissection and Bipolar Forceps Haemostasis

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Abstract

Aim: To avoid recurrence and scarring following surgical treatment, the present study demonstrated a sutureless excision of the Bartholin's gland cyst or abscess using hydro-dissection and bipolar coagulation hemostasis.

Materials and methods: In a retrospective case series, we studied consecutive cases who had received surgical treatment of the Bartholin's gland cyst or abscess for benign indications in our private hospital.

Results: Of the total 28 cases, Seven cases received incision and drainage of the Bartholin's abscess, 21 cases underwent excision of Bartholin's cyst or abscess by the described procedure using hydro-dissection and bipolar coagulation haemostasis.No suture was used for layer closure of the wound. There were no major intraoperative complications. All cases experienced less postoperative pain. Spontaneous apposition of the vaginal wound margins was observed 24 hours after operation in all cases. None of the cases developed a postoperative hematoma, severe cellulitis, or abscess of the operation site requiring readmission. Postoperatively, five cases developed postoperative pyrexia, that subsided with broad-spectrum antibiotics. None of the cases developed severe postoperative scarring at the operation site following sutureless excision. None of the cases complained of difficulty in sexual function after 6 weeks. The median operation time was 17 min (13–23 min). None of the 21 cases reported recurrence of the cyst or abscess. All those seven cases who received incision and drainage of Bartholin's abscess developed recurrence.

Conclusion: Sutureless excision of Bartholin's gland cyst using hydro-dissection with bipolar coagulation hemostasis can be performed to avoid postoperative scarring and recurrence.

Keywords: Bartholin's Cyst Recurrence; Scarring following Bartholin Cyst Excision; Hydro-dissection of Bartholin's Cyst; Hemostasis during Bartholin Gland Excision

1. Introduction

Recurrence of the Bartholin's cyst and scarring of the vaginal wall following various conventional surgical procedures such as drainage of an abscess or marsupialization, etc. cause an unpleasant situation for the patient and the couple [1]. Infection of the Bartholin's gland cyst and formation of the abscess causes severe vulval pain and dyspareunia. The excision of the Bartholin's gland cyst or abscess with layer closure causes scarring of the vaginal wall and subsequent dyspareunia. To avoid scarring of the vaginal wall and recurrence following the surgical treatment [2, 3], we demonstrated the below described operative procedure to excise the Bartholin's cyst or abscess with the gland, and studied its feasibility.

2. Materials and Methods

In a retrospective study in our private hospital from December 2017 through November 2020 we studied consecutive cases who had undergone surgical treatment of the Bartholin's gland cyst or abscess for benign indications. We excluded excision of other cysts of the vagina or vulva from the study. Each patient signed informed consent before operation. Purohit general hospital ethics committee approved the study on dt. 2.6.20 (Reference no-04/2020/PGHIEC). We wanted to know the feasibility of the excision of the Bartholin's cyst or abscess by the following described procedure.

2.1 Procedure

Four drops of injection adrenaline (1:1000) were mixed with 40 ml of normal saline [4]. The solution was infiltrated subcutaneously into the loose tissues around the cyst or abscess to facilitate the development of the tissue dissection plane and to reduce intraoperative bleeding. Medial to the hymen fold, a linear incision of 2.5–3.0 cm was made by a surgical knife to incise the vaginal skin. The incision margins were grasped and stretched by Alli's forceps to make a split. The cleavage between the vaginal skin and the cyst wall was established by artery forceps or scissors using the open and close technique of dissection to expose the cyst wall.

The exposed cyst wall was grasped by another Alli's forceps and pulled gently in the medially down-ward direction. Then, the tip of the index finger was inserted into the cleavage between the vaginal margin and the cyst wall (Figure 1), and the tense cyst was gradually dissected above downwards out of the loose subcutaneous and paravaginal fascia using the tactile feel. No sharp dissection was used. Vessels and tough cords of the tissue encountered on the way during the blunt dissection were coagulated using bipolar forceps coagulation (40-45 W) and separated from the cyst wall using scissors (Figure 2) to cause bloodless enucleation. Medially downward traction of the cyst and blunt dissection by finger gradually eased complete scaling of the cyst with the gland out of the loose paravaginal bed of tissues. The labial or vaginal skin was not excised at any stage of the operation. No mops were used to clean blood during dissection. Normal saline spray by a syringe of 20 ml with suction aspiration was used to keep the operation site clean.

In the case of an open cyst or an open abscess, normal saline lavage with suction aspiration was done to clear the contents. The tip of an artery forceps was used to

grasp the cyst wall margin and pulled in the medially downward direction in a similar fashion as described before for the intact cyst. The tip of the surgeon's left index finger was placed inside the lumen of the cyst or abscess (Figure 3) to define the outer limit of the cyst wall and then, the blunt dissection procedures were carried out by the right index finger in a similar aforementioned fashion for an intact cyst.

After removal of the cyst, incision margins were retracted by Alli's forceps to expose bleeder, if any inside the wound bed and were cauterized using bipolar forceps coagulation (40-45 W) to achieve complete hemostasis. Suturing of the wound cavity in layers or closure of the wound margins was not done. No gauze packing was used inside the wound to cause hemostasis, but a betadine lotion-soaked ribbon gauze pack was placed in the vagina (outside the wound) for approximately 4–6 h to keep both incision margins in position and to keep the wound compressed. Postope-ratively, the patient was given broad-spectrum antibio-tics. She was examined vaginally by one finger 24 h after the operation to find hematoma if any and before sending her to the home. She was further advised to have sitz baths and the local application of betadine ointment for 2 weeks at home. They were followed up after 6 weeks and 6 months.

Figure 1: Shows Bartholin's cyst (C) dissection by index finger (F) from above downwards. V- vaginal wall.

Figure 2: Shows an intact Bartholin's cyst (C) following excision.

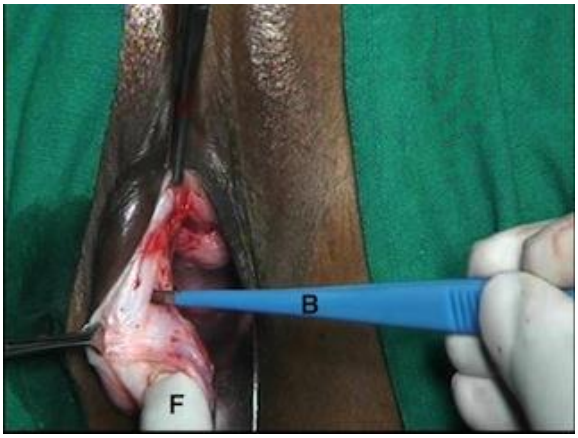

Figure 3: Shows the excision in a case of an open cyst using bipolar forceps haemostasis (B). F-Index finger tip inside an open cyst.

3. Results

The total number of cases was 28. All patients were between 22 and 40 years of age, and were married. Seven cases of 28 had undergone incision and drainage of the Bartholin's abscess as an emergency measure to provide relief of severe vulvar pain. 21 cases of 28 underwent excision of Bartholin's cyst or abscess owing to vulval swelling, pain, and dyspareunia. Of them, four cases had a history of spontaneous rupture of the abscess within 24 hours before the operation, and two cases underwent Bartholin's abscess excision during the pregnancy.

All cases underwent unilateral Bartholin's cyst gland excision by the described procedure. No other surgical procedure such as marsupialization or Word catheter

was performed in any case. There was no major intra-operative complication. None of the cases had severe intraoperative bleeding. Five cases developed postoperative pyrexia, which subsided after 48 hours of broad-spectrum antibiotic administration. All cases experienced less postoperative pain. None of cases had burn ulcer of skin. Spontaneous apposition of the vaginal wound margins was seen 24 hours after operation in all cases. None of the cases developed a postoperative hematoma, injury to the rectum, severe cellulitis, or abscess of operation site requiring readmission. None of the cases developed severe postoperative scarring at the operation site and subsequent dyspareunia. After 6 weeks following the operation, no difference between the left and the right vaginal wall was observed except a light scar mark on the site of the incision.

Histopathological study of the excised gland did not show malignancy in any of the cases. None of the cases complained of difficulty in sexual function subsequently after 6 weeks. The median operation time was 17 min (13–23 min). Hospital stay ranged from 1 to 2 days. None of the 21 cases reported recurrence after excision of the cyst or abscess. All those seven cases who received incision and drainage of Bartholin's abscess developed recurrence of the cyst or abscess.

4. Discussion

Infiltration of the normal saline mixed solution with injection adrenaline (1:1000) around the Bartholin's cyst caused temporary hemostasis and helped to develop a bloodless soft tissue dissection plane. The hydrodissection also assisted the progress of blunt dissection by finger using tactile feel to enucleate through the skin split the firm Bartholin's gland mass (cyst or abscess) entirely from the loose para-vaginal fascia. Bipolar forceps coagulation hemostasis avoided the use of sutures to ligate bleeder if any, and thus, avoided the development of subsequent suture-induced scarring of the vaginal wall.

In contrast to conventional surgical methods of excision, no layer closure was needed in this study as both incision margins fall on each other after removal of the space-occupying subcutaneous cyst. Non-recurrence of Bartholin's cyst after the excision indicated complete excision by the present procedure. Methods of fistulization of Bartholin's cyst such as marsupialization, Word catheter, and incision and drainage, though are simple have the disadvantages of frequent recurrence, scarring, dyspareunia, persistent drainage, and hemorrhage [1, 5, 8, 9].

Similar to findings by another study [6, 7], the present one-time initial surgical excision treatment of the Bartholin's gland in either cyst or abscess stage can be done. The excision avoided the botherations of recurrence in this study - finding similar to other studies [2, 3, 8,9]. Exci-sion using bipolar hemostasis avoided layer closure by sutures and the formation of excessive scarring of the vaginal wall and subsequent dyspareunia. Similar to the earlier study, the excision method did not hamper the sexual function of women of this study [9].

Contribution to Authorship

All authors qualified for authorship.

Disclosure of Interests

All authors have nothing disclosure of interest to declare.

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References

1. Reif P, Ulrich D, Bjelic-Radisic V. Management of Bartholin's cyst and abscess using the Word catheter: implementation, recurrence rates and costs. Eur J Obstet Gynecol Reprod Biol 190 (2015): 81-84.
2. Ozdegirmenci O, Kayikcioglu F, Haberal. Prospective randomized study of marsupialization versus silver nitrate application in the management of bartholin gland cysts and abscesses. J Minim Invasive Gynecol 16 (2009): 149-152.
3. Wechter ME, Wu JM, Marzano D, et al. Management of Bartholin duct cysts and abscesses: a systematic review. Obstet Gynecol Surv 64 (2009): 395-404.
4. Purohit RK. Purohit technique of vaginal hysterectomy a new approach. BJOG 110 (2003): 1115-1119.
5. Gennis P, Li SF, Provataris J. Jacobi ring catheter treatment of Bartholin's abscesses. Am J Emerg Med 23 (2005): 414-415.
6. Kallam AK, Kanumury V, Bhimavarapu N. A report of two cases of 'giant bartholin gland cysts' successfully treated by excision with review of literature. J Clin Diagn Res 11 (2017): pd11-pd13.
7. Lee MY, Dalpiaz A, Schwamb R. Clinical pathology of Bartholin's glands: a review of the literature. Curr Urol 8 (2015): 22-25.
8. Claire Cardaillac, Vincent Dochez, Pauline Gueudry, et al. Surgical management of Bartholin cysts and abscesses in French university hospitals. J Gynecol Obstet Hum Reprod 48 (2019): 631-635.
9. Begum Aydogan Mathyk, Berna Aslan Cetin, Hale Cetin, et al. Sexual function after Bartholin gland abscess treatment: A randomized trial of the marsupialization and excision methods. Eur J Obstet Gynecol Reprod Biol 230 (2018): 188-191.