

Bulky Bartholin's gland cyst: Case report of an incidental finding

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ARTICLE INFO

Article history:

Received 19 March 2019

Received in revised form 10 April 2019

Accepted 15 April 2019

ABSTRACT

Introduction: Distal blockage of the Bartholin's gland duct can result in the retention of secretions, with consequent formation of a cyst or abscess.

Case Report: A 57-year-old woman, in whom a bulky vulvar mass in the left labia majora was detected during cystoscopy for urinary symptoms, was referred to the gynaecology clinic. We performed complete removal of the mass as well as ipsilateral vulvar reconstruction. Histological analysis confirmed a large benign Bartholin's duct cyst without acute infection.

Discussion: Epidermoid cysts take a long time to develop and so large cysts are rare. The differential diagnosis of a Bartholin's cystic mass should be considered among many other pathologies in the vulvovaginal area. Treatment with complete surgical excision should be carefully performed, under prophylactic antibiotic coverage if required.

Conclusion: Urogynaecological complaints require a careful consideration of the symptoms and an adequate physical examination before additional tests are requested. Although a differential diagnosis can be made preoperatively, confirmation is necessarily histological.

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1. Introduction

Various benign cystic masses can develop in the vulvar area [1]. Bartholin's glands, which become active at puberty, measure approximately 0.5 cm, with a 2-cm duct opening into the vestibule in the groove between the hymen and the labia minora at the 5-o'clock and 7-o'clock positions [2,3]. Their function is to secrete an alkaline mucus for lubrication during sexual stimulation [3]. Distal blockage of the duct can result in the retention of secretions, with consequent formation of a cyst or abscess [2]. Though development of a Bartholin's gland cyst or abscess is a relatively common gynaecological problem (approximately 2% of women [2]), large cysts are rare [3].

2. Case Report

A 57-year-old woman was referred to urology for the study of a microhaematuria and frequent urinary tract infections in recent months. She had no relevant medical history. Given the context of the patient being a smoker and having had a normal abdominal ultrasound scan, cystoscopy was requested. In the operating theatre, a large vulvar mass was found that made the cystoscopy impossible to perform; thus, the patient was referred to the gynaecology department.

At the gynaecology clinic, she complained of a palpable painless mass in her vulva that had been present for the last 2 years but which had increased gradually in size and had become more striking in the last 6 months. She did not describe urinary or digestive symptoms. On examination, a superficial tumour located in the left vulva and labia majora 10 cm × 6 cm in diameter was observed (Fig. 1). *transillumination* was negative. On ultrasound, the internal genital apparatus appeared normal. Transperineal ultrasound showed a unilocular cystic mass of dense homogeneous content. On physical examination, there was no communication with the inguinal canal. No enlargement of regional lymph nodes was observed.

In the operating theatre, growth of the lesion since the preoperative assessment was observed, with oedema, erythema and fluctuating areas in the medial and posterior margins, suggestive of concurrent infection (Fig. 1). The patient reported having a feverish feeling over the previous few days, with local pain and difficulty in urination. Given the probability of infection, antibiotic prophylaxis with cefazolin 2 g was administered intravenously before surgery.

The surgical procedure involved an elliptical incision, parallel to the lateral margin of the labia majora, overlying the most prominent part of the mass. The plane between the capsule of the cyst and the subcutaneous tissue was identified and separated from the surrounding tissue by sharp and blunt dissection. It was not possible to preserve the integrity of the lesion due to the irregular thickness of the capsule and the inflammatory reaction in adjacent tissue. Nonetheless, the entire capsule of the cyst was removed (Fig. 2). Profuse haemostasis of the surgical site was required, with ligation of a superficial perineal collateral branch of

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Fig. 1. Preoperative image showing the large Bartholin's duct cyst. (A) A well-defined 10×6 cm cystic mass, regular and moveable, located in the subcutaneous tissue of the left labia majora. (A/B) In a caudal view, the tumour reached the lower branch of the pubic bone laterally, anteriorly to the clitoris, (B/C) with medially compromised introitus, ascending and lateralizing the urethra. (B) It produces erosion in the inner thigh laterally. (C/D) In the operating theatre, growth of the lesion since the preoperative assessment was observed, along with oedema, erythema and fluctuating areas in the medial and posterior margins, suggestive of concurrent infection.

the internal pudendal artery. Ipsilateral reconstruction of the labia majora using simple absorbable sutures (Lactomer glycolide/lactide copolymer 2/0–3/0) stitched somewhat loosely was performed (Fig. 2).

Subsequently, cystoscopy was performed without pathological findings. A Foley bladder catheter and a vaginal tamponade were maintained for the first 2 postoperative days. The patient's recovery was uneventful, and she was discharged on the fifth day after surgery. A month later, the wound was well healed, without cosmetic sequelae.

Macroscopic analysis showed a residual cystic formation $7 \text{ cm} \times 6 \text{ cm} \times 3 \text{ cm}$, with homogeneous external and internal surfaces, and a capsule 0.2–0.5-cm thick (Fig. 2). Microscopic analysis showed that the cyst was covered with a squamous stratified epithelium, transitional or simple cubic epithelial areas and chronic inflammatory infiltrate. An abscess was not found. It was concluded that the lesion was compatible with a large Bartholin's duct cyst.

3. Discussion

Vulvar benign masses are common in adult women [1,2]. Typical lesions are glandular cysts [4]. The most common types of Bartholin's gland masses are cysts or abscesses, with abscesses occurring three times more frequently than cysts [3].

Vulvar epidermoid cysts grow slowly, with most patients reporting that the mass has grown over a period of years [1,5], as with our patient. Bartholin's duct cysts typically range from 1 to 4 cm in diameter [4], and much larger ones are rare [3]. The most commonly described aetiological factor is perineal trauma [5]. Our patient had no history of genital trauma, although she continued riding a bicycle despite noticing the mass. The majority are unilateral, tender cystic masses located in the lower medial labia majora [4], as in this case. Patients can have diverse symptoms, ranging from mild discomfort to urinary symptoms such as

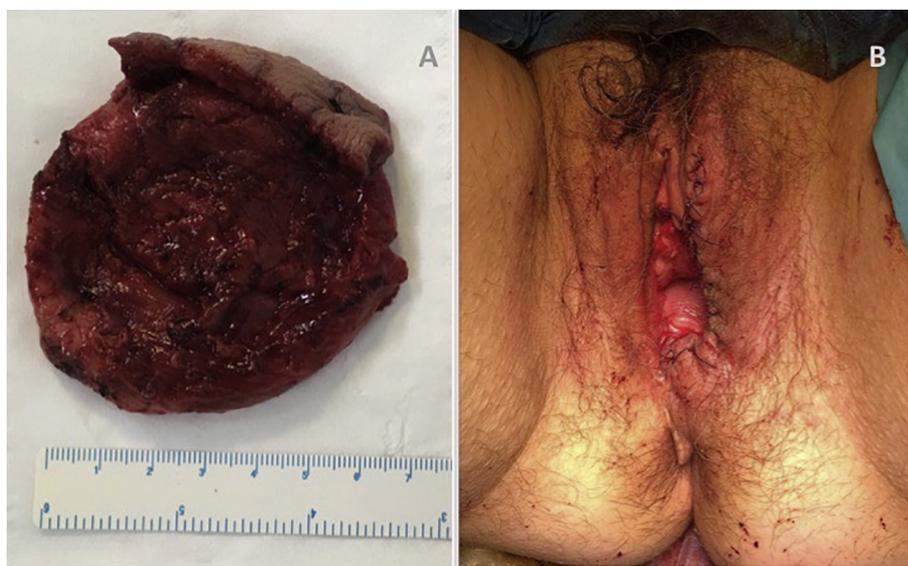


Fig. 2. Surgical specimen and view after excision of the Bartholin's duct cyst. (A) The macroscopic pathological specimen of the vulvar cyst with a piece of skin as a reference. (B) The vulvar skin was reapproximated with interrupted absorbable suture points.

obstructed voiding [4]. In our case, it is probable that the urinary symptoms were the result of the bulky lesion.

The differential diagnosis of a Bartholin's cystic mass should be considered with other vulvar pathologies, such as epidermoid or epidermal inclusion cyst, mucinous or ciliated cysts, canal of Nuck cyst, Skene's paraurethral gland cyst, vaginal wall cysts, lipoma, endometrioma, dermoid cyst, post-traumatic haematoma, inguinal hernia and vulvar malignant tumour [1,4,5]. The key to identifying a Bartholin's duct cyst is the anatomical location [3] of the mass, with a final histopathological examination required for differentiation from other vulvar lesions [1,6].

Microscopic examination of a typical Bartholin's gland reveals acini lined by columnar, mucus-secreting epithelium and ducts lined by transitional epithelium [4]. Larger ducts can contain areas of stratified squamous epithelium [4]. Thus, cysts arising from the main duct are lined by transitional or squamous epithelium, whereas cysts originating in an acinus are lined by mucinous columnar epithelium [4].

Imaging by ultrasound, computed tomography or magnetic resonance may be required to characterise the lesion further [4]. Though magnetic resonance is useful in guiding treatment planning (especially for the detection of extension into deep perineal tissue if the cyst or abscess is large [1]), surgical excision and pathological examination are necessary for diagnosis [7]. In our case, no other imaging tests were performed because the physical exploration and ultrasound did not raise concerns.

Therapeutic considerations are not usually complex [2]. There are many treatment options, including antibiotics, simple drainage, fistulisation, marsupialisation or excision of the gland [6,8]. A review published in 2009 failed to identify the best treatment approach [6]. The preferred treatment is surgical drainage and marsupialisation, as it preserves function and prevents reformation of the cyst or abscess [2,4,8]. Recurrence is reported in approximately 20% of patients (ranging from 0% to 38%), and is more frequent after simple drainage [6]. Fistulisation and marsupialisation give a very low rate of recurrence [8], although the rate is probably underestimated due to a short follow-up time [2,8].

Antibiotics are frequently included in the treatment as a second-line therapy or in addition to surgical procedures [2,8]. Less than 20% of cultures from Bartholin's cysts and approximately 67% of cultures from Bartholin's abscesses indicate infection [3]. The aetiology of Bartholin's gland abscesses is known to be polymicrobial, mainly with opportunistic bacteria [2]. Recent studies indicate that *Escherichia coli* was the single most frequent pathogen in cultures of acute Bartholin's abscess [2,8].

Thus, amoxicillin-clavulanate could be an appropriate choice of antimicrobial agent [2]. In the reported case, antibiotics were not maintained after the intervention because an abscess was ruled out.

For deep cysts and abscesses, marsupialisation should not be performed [3]. Large cysts are successfully treated with total surgical excision [3], under prophylactic antibiotic coverage if required, given that a pathological examination is needed for the final diagnosis [1]. Surgical excision of a giant vulvar mass can sometimes be difficult [4,7], mainly due to the anatomical distortion of tissue, which can result in unforeseen complications. The main risk is bleeding, which can be encountered during dissection near the clitoris or deep into the perineal fascia, where the clitoral or inferior haemorrhoidal branches of the pudendal vessels can easily be injured [7]. A safety strategy is to place a drain, but in such a limited space that option was rejected in our case, and the preferred option was the application of topical haemostats and a vaginal tamponade. Another concern is perineal reconstruction and cosmetic outcome [7]. Careful dissection, loose closure and correct self-care during wound healing are required [7]. Proper home care of the wound is very important; our patient was not discharged until she gained confidence in performing the required self-care.

4. Conclusion

For patients with urogynaecological symptoms, an adequate physical examination should be initially performed, and this examination will guide requests for additional tests. Although a differential diagnosis of a Bartholin's cyst can be made preoperatively, the confirmation is necessarily histological.

Contributors

Begoña Díaz de la Noval contributed to patient care and wrote the case report.

Irene García Fernández contributed to patient care and the content of the case report.

Beatriz Álvarez Fernández contributed to patient care and the content of the case report.

Conflict of Interest

The authors declare that they have no conflict of interest regarding the publication of this case report.

Funding

No funding was sought or secured in relation to this case report.

Patient Consent

The patient gave informed consent for publication of this case report and permission for the publication of the figures has also been obtained.

Provenance and Peer Review

This case report was peer reviewed.

References

- [1] E. Karaman, N. Cim, Z. Akdemir, E. Elci, H. Akdeniz, Giant vulvar epidermoid cyst in an adolescent girl, *Case Rep. Obstet. Gynecol.* (2015) <https://doi.org/10.1155/2015/942190> (942190).
- [2] R. Kessous, B. Aricha-Tamir, B. Sheizaf, N. Shteiner, J. Moran-Gilad, A.Y. Weintraub, Clinical and microbiological characteristics of bartholin gland abscesses, *Obstet. Gynecol.* 122 (4) (2013) 794–799, <https://doi.org/10.1097/AOG.0b013e3182a5f0de>.
- [3] A.R. Kallam, V. Kanumury, N.N. Bhimavarapu, B. Soorada, A report of two cases of "giant bartholin gland cysts" successfully treated by excision with review of literature, *J. Clin. Diagn. Res.* 11 (6) (2017) PD11–PD13, <https://doi.org/10.7860/JCDR/2017/26802.10088>.
- [4] K.S. Eilber, S. Raz, Benign cystic lesions of the vagina: a literature review, *J. Urol.* 170 (3) (2003) 717–722, <https://doi.org/10.1097/01.ju.0000062543.99821.a2>.
- [5] J.A. Horne, L.L. Merjianian, A.C. Balica, An unusually large ciliated cyst of the vulva in an adolescent patient, *Am. J. Obstet. Gynecol.* (2018) 2017–2018, <https://doi.org/10.1016/j.ajog.2017.12.215>.
- [6] M.E. Wechter, J.M. Wu, D. Marzano, H. Haefner, Management of bartholin duct cysts and abscesses, *Obstet. Gynecol. Surv.* 64 (6) (2009) 395–404, <https://doi.org/10.1097/OGX.0b013e31819f9c76>.
- [7] W.C. Yang, W.C. Huang, J.M. Yang, F.K. Lee, Successful management of a giant primary epidermoid cyst arising in the labia majora, *Taiwan J. Obstet. Gynecol.* 51 (1) (2012) 112–114, <https://doi.org/10.1016/j.tjog.2012.01.023>.
- [8] H. Krissi, A. Shmuely, A. Aviram, A. From, R. Edward, Y. Peled, Acute Bartholin's abscess: microbial spectrum, patient characteristics, clinical manifestation, and surgical outcomes, *Eur. J. Clin. Microbiol. Infect. Dis.* 35 (3) (2016) 443–446, <https://doi.org/10.1007/s10096-015-2557-9>.