Bartholin’s, vulval and perineal abscesses

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Perineal infections are a common presenting complaint in women attending acutely to a gynaecology department. Specifically, Bartholin’s abscesses can occur in approximately 2\% of women. Conservative versus surgical approaches to manage these infections aims to reduce the need for hospital admission. We summarise the literature on the diagnosis and management of Bartholin’s and other types of perineal infections and abscesses specific to gynaecology.

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Bartholin’s abscess

The Bartholin’s glands (or greater vestibular glands) are two glands located slightly below and to the left and right of the entrance to the vagina (Fig. 1). They were first described in 1677 by the Danish anatomist, Casper Bartholin. Each gland is approximately 1 cm in diameter with a narrow 2.5 cm duct to the surface. The glands produce small amounts of mucous and their function was thought to be to provide lubrication during sexual intercourse and maintain the normally moist surface of the vulva.\textsuperscript{1} However, removal of the gland does not seem to compromise the vestibular epithelium or sexual function.\textsuperscript{2} The Bartholin’s glands are prone to obstruction at their orifice into the vestibule, commonly associated with friction from intercourse causing oedema.\textsuperscript{3} This can result in cyst and/or abscess formation, which occurs in approximately 2\% of women.\textsuperscript{2,4} Bartholin’s abscesses are commoner in single women and those of lower socio-economic backgrounds.\textsuperscript{5}

Symptoms and aetiology

Bartholin’s cysts are associated with accumulation of sterile, mucoid fluid, while an abscess is associated with an acute inflammatory reaction within the stroma in the duct and contains purulent
In the majority of cases (around 80%) the causative organisms are mixed vaginal flora (Bacteroides, Escherichia coli, Staphylococcus Aureus)\(^6\); however, Neisseria gonorrhoea and rarely Chlamydia can also be responsible for causing infection.\(^7\) Therefore, a full sexual screen should be recommended in these women.\(^5,7\) Women with Bartholin’s cysts may be asymptomatic and such lesions can go unnoticed. Symptoms at presentation of Bartholin’s abscess include pain, redness and may be associated with the presence of discharging pus. Women can also present with dyspareunia.\(^3\) Examination reveals a unilateral, tender, inflamed posterior labial mass. The abscess occurs in the lower third of the introitus, between the vestibule and the labia majora, but may expand extensively anteriorly\(^3,8\) and can become as large as 8 cm in diameter.\(^2\)

**Management**

The management of Bartholin’s abscesses is generally surgical in the UK and Europe, involving incision, drainage and marsupialisation. You will recall that an animal with a pouch, such as a kangaroo, is a marsupial. Marsupialisation creates a surgical pouch and is associated with a 5–15% recurrence rate.\(^9\) Marsupialisation was first described by Jacobson in 1950; a small incision is made over the medial aspect of the abscess to minimise scarring and to allow drainage of gland secretions into the vagina. The incision should be distal to the hymeneal ring. The abscess is then drained. Recurrent or chronic abscesses may need loculations broken down, and large abscess cavities may require temporary packing with ribbon gauze for haemostasis. Suturing of the cyst capsule edges to the external incision edges prevents closure of the incision and reformation of the abscess, and to maintain duct patency (Fig. 2). Over time, the newly created tract shrinks and re-epithelialises. The procedure is normally conducted under general anaesthetic; however this can be done under local anaesthetic or with a pudendal nerve block.\(^10\) The most common postoperative complications include pain, haematoma formation, prolonged healing, scarring and dyspareunia.

Conservative management of Bartholin’s abscess reduce the need for a general anaesthetic and therefore hospital admission and include usage of the Word catheter, insertion of Jacobi ring, carbon dioxide (CO\(_2\)) laser vapourisation, silver nitrate and alcohol sclerotherapy.\(^11–18\) The Word catheter is a short rubber tube measuring around 6 cm, the tip of which has a small balloon, which holds 3 ml of saline (Fig. 3). This was described by Buford Word in 1964.\(^11\) A 5 mm incision is made within the introitus, external to the hymenal ring in the area of the duct orifice, the abscess is drained and a catheter inserted under local anaesthetic infiltration. The balloon is inflated with 2–3 ml of saline and the free end can be tucked into the vagina for comfort.\(^13\) It is left in place for 4–6 weeks whilst under follow-up. It is a simple, safe and effective outpatient procedure, which is well tolerated, and an alternative to marsupialisation. Reported problems with the procedure include pain post-insertion, the catheter falling out before follow-up and recurrence.\(^13\) In 1698, Word described only two cases of recurrence out of 68 up to 5 years\(^11\) and, more recently, Haider found one case of recurrence in 35 women (3%) in a non-randomised prospective study comparing the Word catheter to marsupialisation.
The Jacobi ring is a rubber ring catheter made from a 7-cm length of an 8-French T-tube threaded with a 20-cm length of 2/0 silk suture. The catheter enters the abscess through two separate incisions to form a closed rubber ring, and the suture ends are tied. In a randomised controlled trial, the Word catheter was compared to the Jacobi ring. No difference in recurrence of Bartholin’s abscess was found; however, the authors postulated there may be better patient satisfaction with the Jacobi ring.

CO₂ laser vaporisation has been described in several case series. It involves incision of the vaginal mucosa, drainage and laser vaporisation of the inner cyst wall. A less expensive alternative is

![Fig. 2 Marsupialisation of Bartholin’s abscess: The cyst capsule edges sutured to the external incision site.]

![Fig. 3 Word catheter.]

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the use of silver nitrate sticks; however, this has been found to be associated with postoperative pain secondary to chemical burns, oedema formation, ecchymosis and scar formation.\textsuperscript{18}

Antibiotics should be advocated only in women with cellulitis, otherwise they have no place in the treatment of Bartholin’s abscess.\textsuperscript{19} Incision and drainage, although simple and effective in the short term, are associated with a high recurrence rate and are not recommended.\textsuperscript{3}

Excision of the gland at the time of abscess drainage is technically difficult and not recommended. Unless marsupialisation and conservative attempts have failed in women with recurrences\textsuperscript{1}, elective excision can be performed in the absence of infection.\textsuperscript{20} It can be associated with vaginal dryness and dyspareunia and is generally reserved as a last resort.

\section*{Vulval abscess}

Abscesses occurring between urethra and the fourchette may be of uncertain origin. However, a surgical and histological study has shown that the majority of these do in fact represent anterior extensions of Bartholin’s cysts or abscesses.\textsuperscript{8} Sebaceous cysts are common in the labia majora and tend to be superficial. If infected it is recommended that sebaceous cysts should be incised and drained as for any abscess. Folliculitis is commonly found around the mons and vulva, usually associated with \textit{Staphylococcus aureus} infection. However, pustules are more common than abscesses and usually only antibiotics are needed with occasional incision of an enlarged pustule under a local anaesthetic.

Urethral diverticulae are rare but if present are found in the anterior midline of the vagina over the ventral portion of the mid-urethra, approximately 2–3 cm from the introitus. The history of dysuria, post-void dribbling and dyspareunia aid the diagnosis. Urethral diverticulae need careful investigation and specialist repair, but the presence of an abscess is an indication for incision and drainage, prior to definitive surgery.\textsuperscript{21}

Enlargements of Gartner’s duct cysts and Skene’s gland cysts, located on the lateral and anterior walls of the vulva, respectively, can also present with abscess in the form of a peri-urethral swelling. When severe, if adjacent to the urethral orifice, the abscess can cause urethral obstruction and urinary retention.\textsuperscript{2}

Hidradenitis suppurativa may involve apocrine glands anywhere within the milk-line running from the labia majora to the axilla, with a predilection for genital skin. It is found more commonly in darker-pigmented individuals, begins after menarche, and improves after menopause. Mild cases may present as recurrent isolated nodules, while severe instances of the disease with chronic inflammation may lead to scarring, functional impairment and, rarely, squamous cell carcinoma.\textsuperscript{22,23} Early surgical intervention reduces the risk of abscess, sinus tract infection, fistulae and scarring.\textsuperscript{24} Pilonidal sinuses, although more common in men and traditionally originating from the natal cleft\textsuperscript{25}, have been reported as unusual causes of vulval infection and abscess formation.\textsuperscript{26,27}

Perianal infections can also extend to the perineal area of women, the more common of which are ano-rectal abscesses.\textsuperscript{28} These are superficial collections of purulent material located beneath the skin of the anal canal and do not transverse the external sphincter. Other ano-rectal abscesses include ischiorectal, intersphincteric and supralevator and as fistula formation can occur in 25–50\% of cases definitive treatment is timely surgical incision and drainage to prevent further complications.\textsuperscript{28}

In presence of doubt, it is important to confer with general surgical colleagues with the aim of appropriately managing perineal abscesses if the origin of infection is indistinct.

\section*{Carcinoma}

Four in a series of 17 women diagnosed with vulval malignancies had an initial misdiagnosis of Bartholin’s cyst or abscess. Therefore, careful examination should be performed with consideration of alternative diagnoses if the appearance is atypical.\textsuperscript{29} Biopsy or referral to a gynaecological oncologist should be carried out if the abscess shows suspicious features or fails to heal. Carcinoma of the Bartholin’s gland accounts for only 1\% of female genital malignancies, with a peak incidence in women between 40 and 70 years of age.\textsuperscript{30} Because the gland shrinks in postmenopausal women, any enlargement of the gland in these women that appears to be irregular, solid or fixed to the underlying structures should be investigated with excisional biopsy.\textsuperscript{2}
Summary

Perineal infections are a common presenting complaint in women attending acutely to a gynaecology department. The mainstay of treatment of Bartholin’s abscesses is incision and drainage; however, newer conservative methods are replacing the need for hospital admission and surgery, with similar long-term outcome and patient satisfaction. Carcinoma should be considered if the appearance of any vulval lesion is atypical; under these circumstances, biopsy and histological analysis are mandatory. If the origin of a labial or perineal infection or abscess is indistinct, an opinion from surgical colleagues should be sought in order to provide the optimal method of treatment.

References