CASE REPORT

Endometriosis presenting as a vaginal mass

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Accepted 11 January 2018

SUMMARY

A 43-year-old woman with an anterior vaginal wall mass was referred to gynaecology outpatient for diagnosis and management. Clinical assessment was indicative of a urethral diverticulum, however MRI and ultrasound imaging suggested a Gartner's duct cyst. Following excision of the lesion, histology revealed evidence of an endometriotic cyst. The patient had no other symptoms of endometriosis and remained asymptomatic 3 months following excision. This case highlights the widespread locations in which endometrial tissue can be found, and therefore the range of symptomatology. This in turn lends itself to diagnostic difficulty without histological confirmation.

BACKGROUND

Endometriosis occurs when ectopic deposits of endometrial glands and stroma are found outside the uterine cavity. These deposits can occur throughout the body but more typically within the pelvis including ovaries, pouch of Douglas, broad ligaments, round and uterosacral ligaments, uterus, fallopian tubes and bowel. These account for >96% of endometriosis cases. Less common sites include abdominal wall, omentum, perineum, genitourinary sites (ureters, bladder and urethra), cervix and as demonstrated in this case study, vaginal sites which accounted for 0.02% of cases.^{1 2}

CASE PRESENTATION

A 43-year-old woman, gravida 2, parity 2 presented to the gynaecology clinic with a 6-month history of a vaginal lump. She experienced mild discomfort with walking and expressed no urinary symptoms including dysuria, haematuria, poor stream, hesitancy or post void leakage.

Her obstetric background included two normal vaginal deliveries and regular menstrual cycles with no symptoms of dysmenorrhoea, dyspareunia or menorrhagia. Several years prior she had undergone a laparoscopic bilateral salpingectomy for contraception. Her medical history included hypertension and gastro-oesophageal reflux controlled with low-dose hydrochlorothiazide and esomeprazole, respectively. She had no history of smoking or alcohol consumption and a body mass index of 21.

On physical examination there was a 2 cm × 2 cm anterior vaginal wall cyst directly below the urethral orifice. The mass was minimally tender with the overlying skin intact. No fluid was able to be expressed from either the mass or urethra. Despite lack of urinary symptoms, leading clinical diagnosis was an urethral diverticulum.

INVESTIGATIONS

An ultrasound was conducted prior to the first consultation which reported two lesions in the superior aspect of the vagina. This was suggestive of Gartner's duct cysts with the larger cyst measuring 10 mm × 9 mm. The ultrasound was unable to exclude an urethral diverticulum. Due to the ambiguity of the diagnosis and the inability of the ultrasound to rule out urethral diverticulum, further imaging was ordered. The MRI reported cystic foci appearing to be contained to the anterior vaginal wall with no communication with the urethra. This was consistent with Gartner's duct cysts rather than urethral diverticula or Skene's gland cysts. The larger lesion measuring 22 mm × 14 mm was well defined with a clear capsule and favoured to be haemorrhagic with T1 hyperintense material consistent with local trauma (figure 1).

A clinical review was performed approximately 2 months following initial presentation at which time the mass had increased in size to 3 cm × 2 cm. It was now causing mass effect symptoms of discomfort with walking, dyspareunia and urinary frequency.

DIFFERENTIAL DIAGNOSIS

The differential diagnosis includes Gartner's duct cysts, urethral diverticulum and Skene's gland cysts however Gartner's duct cysts was favoured. When presented with a vaginal mass, differential diagnosis should also include inclusion cysts, endometriosis, leiomyomas, fibroepithelial polyp, haemangioma, condyloma, urethral caruncle, cystocele, Bartholin's cyst and malignancy.

Figure 1 MRI of an endometriotic cyst within the anterior vaginal wall.

To cite: Nelson P. *BMJ Case Rep* Published Online First: [please include Day Month Year]. doi:10.1136/bcr-2017-222431

TREATMENT

The patient underwent surgery for removal of Gartner's duct cysts. Intraoperatively there was a 3 cm swelling approximately 1 cm below urethral orifice. A 2 cm vertical incision overlying the cyst was made. Chocolate-coloured, heterogeneous fluid was expressed and removed. An attempt was made to remove the entire cyst wall but was abandoned as the wall tracked directly towards the urethra. The space was closed with 2-0 Vicryl Rapide purse string stitch then a continuous stitch to the incision. A cystoscopy was performed which confirmed a normal urethra with no diverticula or perforation.

OUTCOME AND FOLLOW-UP

The material expressed from the cyst and a portion of the cyst wall was sent for histological evaluation which revealed fragments of the cyst wall lined by acutely inflamed columnar epithelium and containing stromal cells and haemosiderin-laden macrophages consistent with an endometriotic cyst.

On review 3 months postoperatively, there was no recurrence of the cyst. There was complete resolution of prior symptoms of discomfort, dyspareunia and urinary frequency. Further questioning of the patient revealed no additional symptoms of endometriosis and there was no evidence of endometriosis on review of the operation notes from her laparoscopic salpingectomy.

DISCUSSION

Although extensive, the differential diagnosis list for that of a vaginal mass is one that must be considered at the initial encounter. While a targeted history, examination and investigations are ideal to focus in on differentials, histology is required for definitive diagnosis for the majority. Many symptoms overlap with other differentials, however post void leakage and milking of urine from the urethra are more typical of a urethral diverticulum. A Gartner's duct cyst represents mesonephric remnants and complicates diagnostic differentiation by location of the mass as it can be found in the anterolateral vaginal wall at varying depths, as with endometriosis, whereas urethral diverticulum is more proximal and a Skene's gland cyst is more distal.³

Endometriosis occurs when endometrial tissue is found outside the uterine cavity. The disease can have a range of symptomatology from being asymptomatic to severely disabling pelvic pain. Other symptoms include dyspareunia, dysmenorrhoea and infertility. These aforementioned symptoms can significantly impact on a woman's health-related quality of life.⁴ Other less common symptoms include urinary frequency and urgency, frank haematuria, diarrhoea, constipation, dyschezia, abdominal wall mass or, as in this case study, vaginal mass. Patients with endometriosis are also more likely to report menorrhagia, dysuria, vaginal discharge, post coital bleeding, back ache and depression.⁵

The broad symptomatology can be related to the varied locations throughout the body where endometrial tissue can deposit. The most common sites for endometriosis to be found were within the pelvis including the ovaries, pouch of Douglas, vesicouterine pouch, broad ligaments, uterosacral ligaments, uterus, fallopian tubes, sigmoid colon, appendix and round ligaments which account for >96% of cases. Less common sites included abdominal wall, omentum, perineum, genitourinary sites (ureters, bladder and urethra), cervix and, as in this case, vaginal sites which accounted for 0.02% of cases.^{1,2}

Investigations of endometrial mass include ultrasound, MRI, contrast radiology (double balloon positive pressure urethrography or voiding cystourethrogram), cystoscopy and biopsy.

Ultrasound provides a reasonably accessible, relatively non-invasive and safe imaging modality. An endometrial cyst will vary in appearance from well-defined hypoechoic masses to a complex cystic structure.⁶ Ovarian endometriomas have a more typical homogeneous ground glass echoes. Urethral diverticulum will appear as an anechoic or hypoechoic lesion with enhanced through-transmission. MRI appears to be superior to the other methods of imaging but may not be readily accessible.³ More precise anatomical location and detail can be seen with a urethral diverticulum in T1 images appearing as of decreased intensity and T2 hyperintense, whereas lesions containing blood such as an endometriotic cyst or Skene's duct cyst with haemorrhage will have T1 images with increased intensity.³

While symptoms of endometriosis can be non-specific and overlapping and imaging modalities still present with disadvantages, diagnostic ambiguity persists. Tissue histology remains essential to make a formal diagnosis. Research has been carried out investigating biomarkers in diagnosing endometriosis, in particular CA 125. While there is some diagnostic use as a 'rule in' test, its sensitivity remains poor and performs poorly as a 'rule out' test with almost half of patients with endometriosis having a negative test.⁷ A validated assessment tool exists based purely off examination and ultrasound findings, however, this only lends itself to ovarian endometriosis.⁸ Definitive diagnosis remains with histological evidence of a lesion biopsied during surgery, most typically laparoscopy.⁹

Learning points

- The differential diagnosis of vaginal mass is very broad.
- Consider the diagnosis of an endometriotic cyst in patients presenting with a vaginal mass.

Contributors PN has been the sole contributor to the conception of the case report, writing and reviewing the manuscript, and is accountable for the accuracy and integrity of the manuscript.

Funding This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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