

An unusual case of paravaginal sebaceous cyst posing diagnostic dilemma

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ABSTRACT

The prevalence of vaginal cysts is uncertain since many go unreported but it is estimated that 1 out of 200 women have a vaginal cyst. We report a case of a 23-year-old female with secondary infertility with an incidental asymptomatic vaginal cyst, which was originally misdiagnosed as an endometriotic cyst. We performed the surgical treatment with negative hysterolaparoscopic findings, only to identify a paravaginal sebaceous cyst on vaginal exploration. Pathology results confirmed that the cyst wall was lined by stratified squamous keratinizing epithelium with a lumen containing lamellated keratin. The features were suggestive of epithelial inclusion cyst.

Key words: Epidermal inclusion cyst, Sebaceous cyst, Surgical excision

Vaginal cysts are rare cysts that are most commonly located in the anterior vaginal wall. They are usually small but may attain size up to several cm in diameter. Cysts of embryonic origin can arise from mesonephric, paramesonephric, and urogenital sinus epithelium [1]. Vaginal cysts are classified according to their histology, and lining epithelium into Mullerian cyst, Gartner's duct cyst, Epidermal Inclusion cyst, Bartholin cyst, Endometriotic cyst, and unclassified variety. A pathological review of 43 vaginal cysts during a 10-year period by Pradhan and Tobon shows the incidence of cyst types in decreasing order to be as follows: Mullerian cysts 44%, epidermal inclusion cysts 23%, Gartner's duct cysts 11%, Bartholin's gland cysts 7%, and endometriotic type 7% [2]. Sebaceous cysts are commonly encountered in surgical practice. Although they can occur anywhere except palms and soles, the common sites are usually the scalp, ears, back, face, and upper arms. Usually, these are seen in hairier areas. Vulval or vaginal sebaceous cysts are known to occur due to obstruction of pilosebaceous ducts and glands secondary to trauma such as episiotomy, perineal tear, or female genital mutilation. They are firm, mobile swellings, mostly asymptomatic but if infected, needs complete excision of the cyst along with the wall.

CASE REPORT

A 23-years-old female reported to the outpatient department for the evaluation of secondary infertility. The patient had no complaints during her hospital visit. Her previous menstrual

cycles were regular with no menstrual complaints. She was married for 2 years with a history of 2 miscarriages at 1.5 and 1 year back and dilation and evacuation were done at both times. She had no significant past medical or surgical illness.


On examination, she was moderately built and nourished with normal body mass index and vital parameters. Systemic examination showed no abnormal findings. On per vaginal examination, a mass was felt through the right fornix of 5 × 6 cm which was mobile and soft to firm in consistency. The uterus was felt separately from the mass of normal size, anteverted.

Her blood investigations were within the normal range (complete blood count, renal and liver functions tests, and Ca 125 - 4.7 U/mL). Electrocardiogram and X-ray findings were normal. Ultrasound showed a normal-sized uterus, the right ovary was not separately seen and shows a cystic lesion of 78 × 88 mm and the contents were echogenic. The features were suggestive of the right ovarian endometriotic cyst. Since clinical findings differed from radiological findings, transvaginal sonography was done which also reported a right adnexal endometriotic cyst of similar size, with the right ovary seen adjacent to the cyst.

The patient was planned for surgical management. Pre-operative investigations were normal. Anesthetic clearance was obtained for surgery. Diagnostic hysteroscopy followed by laparoscopy and proceed was planned. Hysteroscopy showed a normal endometrial canal with bilateral ostia patent. Laparoscopy revealed normal size uterus with both tubes and ovaries of normal size and appearance with no adnexal mass (Fig. 1). Chromopertubation revealed dye spill on both sides. We planned to proceed with vaginal exploration. An incision was made in the right lateral vaginal wall and a paravaginal cyst in the right

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Access this article online	
Received- 30 June 2022 Initial Review- 16 July 2022 Accepted- 23 August 2022	Quick Response code 
DOI: 10.32677/ijcr.v8i9.3548	

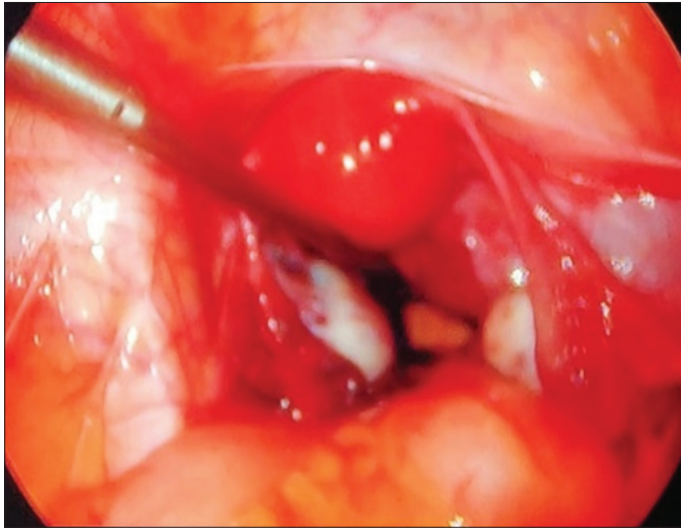


Figure 1: Laparoscopy showed normal uterus and ovaries with spillage of dye on both sides

lateral vaginal wall in relation to the middle third of the vagina, of 6×6 cm was noted with cyst content being oily, thick paste-like yellowish white, cheesy, and pultaceous sebum like material (Fig. 2). The cyst was dissected along with the cyst wall and the cavity was obliterated with multiple sutures. The cyst and contents were sent for histopathological examination and were reported as cyst wall lined by stratified squamous keratinizing epithelium with a lumen containing lamellated keratin. The features were suggestive of an epithelial inclusion cyst.

DISCUSSION

Cystic lesions of the vagina are a common occurrence in women in their third and fourth decades and represent a spectrum of diseases from embryological derivatives to preneoplastic Lesions. Vaginal cysts are predominantly seen in women of reproductive age and also in children and postmenopausal women. The prevalence of vaginal cysts is unclear but it is estimated to be $<1\%$ [3].

During the 8th week of embryologic development, the paired Müllerian (paramesonephric) ducts fuse distally and develop into the uterus, cervix, and upper vagina, which are lined by a pseudostratified columnar (glandular) epithelium. Wolffian (mesonephric) ducts normally regress in the female, and their remnants include the Gartner duct, epoophoron, and paroophoron.

Beginning at week 12 of intrauterine development, a squamous epithelial plate derived from the urogenital sinus begins to grow upward and replace the original pseudostratified columnar epithelium with squamous mucosa [4]. The pathogenesis of these cysts follows the same general principles of epidermal inclusion cyst formation in other sites of the body. Vulvar, vaginal, or clitoral trauma causes the epithelium to invaginate or implant into underlying tissue layers. Such trauma represents a broad spectrum including blunt trauma to deliberate trauma in the form of female genital mutilation [5]. Epithelial desquamation, secretions, and other debris then accumulate in a closed space, gradually increasing in size to form a cystic mass [6].

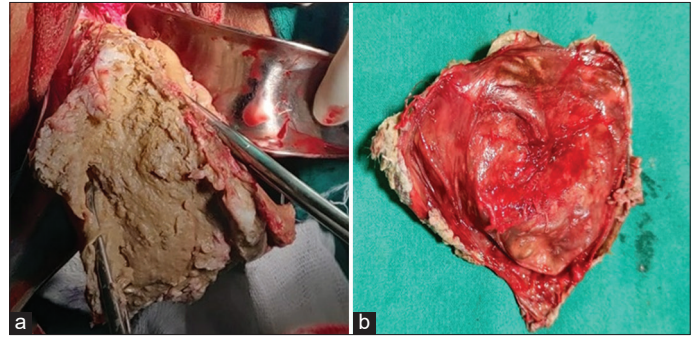


Figure 2: (a) Cheesy pultaceous and sebum like material from the cyst; (b) cyst wall with contents

The cysts of the vagina and vulva are usually asymptomatic and their presence is usually noted as an incidental finding on physical examination. The common presenting symptoms are the dyspareunia, infertility, or dystocia in patients whom cysts are discovered because of symptomatology, mild discomfort, and patient detection of a mass, or urinary symptoms such as incontinence or obstructive voiding symptoms [7].

During the physical examination, the lesion should be assessed for location, mobility, tenderness, definition (smooth versus irregular), and consistency (cystic versus solid). The presence of malignancy must always be considered. Pelvic organ prolapse, such as cystocele or enterocele, can mimic a vaginal cyst and should be ruled out [8]. Vaginal cysts are distinguished from urethrocele, cystocele, urethral diverticulum, and other cysts by their position; by the fact that they do not disappear with pressure or with change in posture; and by demonstrating with a sound or other means that they do not communicate with the bladder or urethra [7]. Cystocele is excluded by catheterization. Endometriotic cysts are usually associated with pain. Bartholin's cyst is located on the posterolateral vaginal wall. Gartner cyst and müllerian cyst are both usually located on the anterior or anterolateral aspect of the vaginal mucosa and the diagnosis is made by histopathological examination. Inclusion cysts of the vagina are small cysts found at the lower end of the vagina on the posterior surface, arising from inclusion beneath the surface of tags of mucosa resulting from perineal lacerations or from imperfect approximation in the course of surgical repair of the perineum. Histopathology of the lining epithelium of the cyst wall will differentiate the inclusion cyst from the Gartner cyst. In a review of 64 cases of vaginal cysts, Deppisch reported that 34 were inclusion cysts [9]. Another rare differential diagnosis is specific obstructed Müllerian duct anomaly (usually uterus didelphys with obstructed hemivagina) which is not a true cystic lesion and usually contains echogenic contents (obstructed menstrual debris), and the patients with these lesions commonly have cyclic symptoms (primary dysmenorrhea). In contrast, patients with Gartner duct cysts are usually asymptomatic. Gartner cyst is differentiated from urethrocele in patients with ipsilateral renal dysgenesis. The cyst is retrovesical and bulges into the bladder wall. The cyst does not communicate with the bladder, bladder neck, or urethra and does not obviously change in shape and size when intravesical pressure increases with bladder filling and voiding [6].

Pelvic imaging by means of ultrasound, voiding cystourethrogram, computed tomography, or magnetic resonance imaging (MRI) may be required to characterize the lesion further. Although each of these modalities has been useful in the diagnosis of vaginal cysts, pelvic MRI is the preferred modality for diagnosing both cystic lesions and a variety of other genitourinary abnormalities, including pelvic organ prolapse, urethral diverticula, ovarian abnormalities, and uterine pathology [8]. Vaginal cysts are often asymptomatic and discovered as incidental findings on imaging. The site of the cyst in relation to (at or inferior to) the pubic symphysis is key for diagnosis and distinguishing them from common mimics, which tend to be more superior. They are usually well-defined lesions, isointense to fluid on MRI unless they contain proteinaceous fluid when they will demonstrate high T1 and intermediate T2 signal intensity. They can become infected with associated inflammation within the adjacent fat [10].

Asymptomatic cysts discovered incidentally do not require treatment. Otherwise, they are excised. If, however, the cyst is large and near the ureter or the bladder it is safer to remove its top and to marsupialize its base to the vaginal wall; the lining epithelium then quickly assumes the characteristics of the vagina [7].

Vulval or vaginal swellings pose a dilemma in their diagnosis particularly when they are large in size. Sebaceous cysts of the vulval region have been reported, however, such a large paravaginal sebaceous cyst has never been reported so far. Epidermal inclusion cysts secondary to buried epithelial fragments following episiotomy or other surgical procedures are the most common non-embryological type of vaginal cysts [11]. Very rarely dermoid cyst can also present as a vaginal cyst. Only 2 known cases of dermoid cysts involving the vagina have been reported. In both cases, the cyst originated in the paravaginal space and diagnosis was delayed [12,13]. In our case, the cyst was an incidental finding on bimanual examination and though our patient presented with no symptoms, we could not attribute her secondary infertility to our findings. Paravaginal space being a rare location for such a cyst to occur also the fact that not many such cases have been reported, it was not thought of as an initial diagnosis. Sebaceous cysts usually occur in hairier areas and have pre-existing risk factors such as episiotomy and genital trauma. But the striking feature in our case is that the cyst has developed

de novo with no prior risk factor and in an unusual location, very different from its usual presentation causing a conundrum.

CONCLUSION

This case inspires us to think out of the box and widen our perception or clinical acumen when we come across such cases in our clinical practice, including the possibility that a rare occurrence like this can unfold in the most mysterious and unexpected ways.

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Funding: None; Conflicts of Interest: None Stated.

How to cite this article: Sunanda N, Mol CJS. An unusual case of paravaginal sebaceous cyst posing diagnostic dilemma. *Indian J Case Reports*. 2022;8(9):282-284.