

Complete excision of a Skene gland cyst mimicking cystocele

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Abstract

Skene gland abnormalities include skene gland cysts and abscess. These can be differentiated from urethral diverticulum based on clinical findings. The exact incidence of Skene gland abnormalities is unknown as they are relatively rare. They are usually seen in middle-aged female patients but have recently been reported in newborn girls. We present a video case of a large, adult-onset Skene gland cyst, which was evaluated based on clinical findings, radiological aspects and histopathological findings. The differential diagnosis was carried out step-by-step in order to avoid sequelae and complete excision was performed in order to achieve optimal results, both for long-term functional and anatomical outcomes.

Keywords: Cystocele, complete excision, differential diagnosis, Skene gland cyst

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Introduction

Skene glands, also known as the paraurethral glands, are located inferolaterally on either side of the female urethra and are considered the female homolog of the male prostate, originating from the urogenital sinus (1). Skene gland cysts or abscesses have been reported, mostly in prepubertal girls and middle-aged women, but neonatal and congenital manifestations have been reported occasionally (2,3). Skene gland abnormalities are infrequent and the incidence is unknown. Adult-onset Skene gland abscesses/cysts are rare but need to be differentiated from a urethral diverticulum, Mullerian cysts, inclusion cysts, and pelvic organ prolapse (4). A comprehensive urogynecological evaluation is necessary to reach the final diagnosis. Conservative therapy should be the first line treatment but surgical options are available if treatment fails (5-7). Although different surgical interventions have equal success rates, the most effective management is currently unknown. This is a video article (Video 1) of a large, adult-onset Skene gland cyst accompanied by voiding symptoms mimicking cystocele where the differential diagnosis was generated step-by-step and complete excision was performed.

Case study

A 38 years old female, gravida 2 para 2, with no significant past medical history was admitted to our obstetric emergency outpatient clinic with a 30 mm bulge of a submucosal mass originating from the left side of the external urethral meatus, expressing pus and with the appearance of a cystocele (Figure 1). She had a 1-year history of vaginal discomfort accompanied by obstructive voiding symptoms, recurrent urinary tract infections (UTIs) and dyspareunia without resolution after multiple courses of antibiotics and reported feeling a bulge. On physical examination, initial impression was of an approximately 30 mm bulge with the appearance of a grade 2 cystocele. However, closer inspection with speculum examination revealed that the bulge was closely associated with the vicinity of the external urethral meatus in the periurethral area. Pre-operative urogynecological examination of the patient demonstrated that the mass caused the external urethral meatus to deviate to the right side. By manual compression of the cystic mass, pus was seen to discharge from the cyst but not from the external urethral meatus. Perineal ultrasound showed that the mass had no connection with the urethra, despite causing compression of the urethral canal to the right side (Figure 2).



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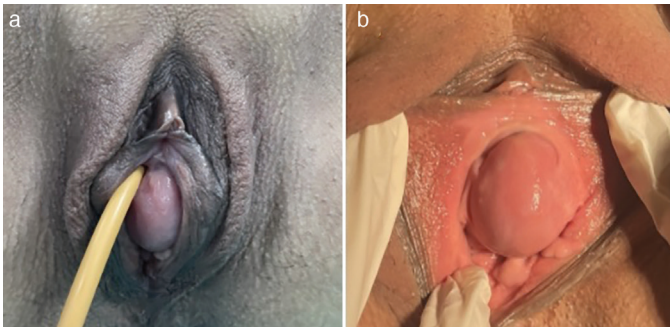


Figure 1. (a) Pre-operative urogynecological examination of the patient illustrating the 30 mm, palpable, round-shaped mass, mimicking a cystocele, which deviates the external urethral meatus to the left side. No pus discharge occurred from the urethral meatus on manual compression of the cystic mass. (b) Physical examination of the patient demonstrating the cystic mass covering the external urethral meatus and causing voiding dysfunction, intermittent urination, dyspareunia, and pain

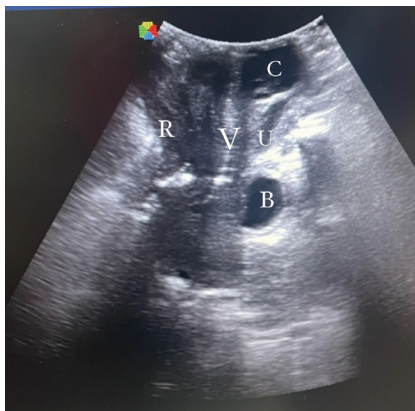


Figure 2. Perineal ultrasonography of the patient illustrating the round-shaped, superficial, cystic structure located inferior to the symphysis pubis. Translabial soft tissue rendered grayscale image demonstrates a mid-sagittal view of the cystic mass, which has no communication with the distal urethra. The mass clearly distorts the position of the urethral meatus

B: Bladder, C: Cyst, R: Rectum, U: Urethra, V: Vagina

Differential diagnoses included urethral diverticulum and occult fistula so contrast magnetic resonance imaging (MRI) and cystogram were performed preoperatively. Intravenous (i.v.) contrast enhanced MRI at the sagittal plane showed that without any diffusion restriction a 3 cm oval periurethral fluid collection was located below the level of the pubic symphysis, consistent with a Skene gland abscess (Figure 3). In addition, the cystogram was performed to eliminate urethral diverticulum and the findings supported the Skene gland diagnosis when no connection of the urethra with cyst wall was found. Skene gland abscess/cyst was considered as

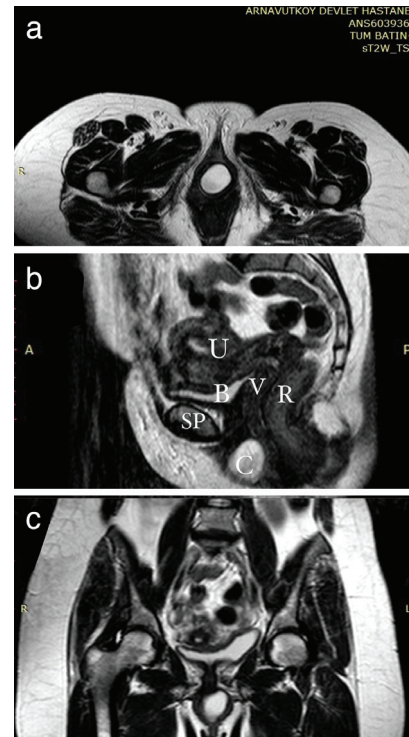


Figure 3. (a) Axial sT2W-Turbo spin echo contrast enhanced magnetic resonance imaging (MRI) showing a 30x27x30 mm cystic mass in the anterior introitus containing T2 hyper-intensity without any connection with the urethra. (b) Sagittal sT2W-Turbo spin echo contrast enhanced MRI showed high-intensity on St2w1 (low-intensity on sT1W1) without any diffusion restriction. A 30 mm oval mass is located inferior to the symphysis pubis and lateral to the external urethral meatus (B: Bladder, C: Cystic mass, R: Rectum, U: Uterus, V: Vagina). (c) Frontal sT2W-Turbo spin echo contrast enhanced MRI demonstrating a well-contoured, cystic mass, located slightly to the left side in the periurethral region

the definitive diagnosis and complete cyst excision planned for the surgical procedure.

The patient underwent cystourethroscopy preoperatively to investigate communication with the urethral lumen. A 19 Fr rigid cystoscope was inserted into the bladder. Upon exiting there was no communication of the abscess with the urethra. Then, a urethral Foley catheter was inserted before the initial surgical incision. An incision was made over the cyst, using traction and countertraction. A fine Medicon scissors was used to mobilize the vaginal epithelium of the underlying cyst. The dissection area was adequately visualized due to intimate involvement between cyst wall and urethra. The abscess was traced on all sides and dissected from the periurethral connective tissue. After complete excision the abscess was drained and the contents sent for culture while the tissue specimen was sent for histopathological assessment. Paraurethral tissues were

approximated with interrupted 4-0 vicryl sutures in order to maintain hemostasis. Extra tissues of the cystic wall were excised and the incision was closed with running-fashion 3-0 vicryl sutures. Histopathological examination of the cystic lesion indicated a benign cyst wall lined with transitional or stratified squamous epithelium.

The patient was admitted to the hospital overnight with a Foley catheter and vaginal packing. i.v. ampicillin treatment continued during hospitalization and one week after surgery. Vaginal packing was removed on postoperative day 1. The patient was discharged on postoperative day 1 with the Foley catheter to a leg bag. Urinary catheterization was left in place for 72 hours after the surgery. The patient was discharged with no complaints, and no complications such as repetition, hematoma, surgical site infection, dyspareunia, or scar formation occurred during the follow-up period. The follow-up period was 24 months including outpatient clinic visits on the first and sixth months and after one and two years. The incisions healed well, the intermittent voiding dysfunction was resolved and no recurrence was reported.

Discussion

Skene gland cystic lesions are typically asymptomatic and are occasionally discovered incidentally during pelvic examinations and in routine urological practice. Clinicians should be suspicious when patients present with recurrent UTIs, chronic urethral pain, and dyspareunia, especially when investigations do not identify any other source (6,8). While some patients may exhibit a visible palpable cyst causing dysuria, pain, and voiding dysfunction, a diagnosis can often be made through physical examination. In contrast to the literature, the presented patient had a 3 cm cystic mass distorting the urethral meatus, resulting in intermittent urination, dysuria, and painful intercourse. Initially, the cystic mass resembled a cystocele upon visual inspection. However, a simple physical examination and speculum examination revealed that this cystic mass originated from the inferolateral aspect of the external urethral meatus. In most cases, a combination of physical examination and history taking is sufficient for diagnosis, although advanced imaging techniques, such as MRI and cystourethroscopy, can be used for differential diagnosis. In contrast to earlier reports, we opted for perineal ultrasonography as a preliminary imaging study. Perineal ultrasonography readily confirmed that the cystic mass had no connection with the distal urethra. Clinicians, particularly gynecologists, may use perineal ultrasonography as a non-invasive screening tool.

During the process of differential diagnosis, clinicians need to rule out malignancy, as there have been a few reported cases of Skene gland adenocarcinoma (9). To distinguish this cystic mass from other periurethral pathologies, the patient's medical

history and a thorough physical examination are usually sufficient. One notable characteristic of Skene gland cyst that usually distinguishes it from other pathologies is its potential to displace the position of the external urethral meatus and cause obstructive voiding symptoms (10). Another distinguishing feature during physical examination, which helps differentiate urethral diverticulum or malignancy from Skene gland cyst, is the absence of urinary or purulent drainage through the urethra when pressure is applied to the cystic mass (9,10). Only a direct pus discharge from the cyst will be observed when the Skene gland cyst is squeezed (6).

Several different approaches have been described for Skene gland cyst surgery, such as marsupialization, partial excision or complete excision (5-7). Shah et al. (6) reported 85.3% success rate in resolution of symptoms after complete excision. Foster et al. (7) reported 10 women having periurethral cystic mass with a 3.5 year mean follow-up period with no recurrence and no perioperative complications after complete excision technique. These authors suggested that the marsupialization technique resulted in a high rate of recurrence and re-operations due to remnant cystic tissue. Köse et al. (8) reported 100% success rate after nine partial excisions and one complete excision procedure. Sharifiaghdas et al. (10) conducted a marsupialization procedure in 85 patients and monitored them for an average of 5.5 years. They reported 83 patients (97.6%) cured, while two patients experienced recurrence of cysts after two and four years. The second surgical marsupialization was successful and uneventful.

Due to the large size of a periurethral cystic mass in the presented case, which caused intermittent urination (obstructive symptoms) and painful sexual intercourse, a comprehensive differential diagnosis was undertaken to determine the appropriate treatment for the patient. All available diagnostic methods were used to assess this large cystic lesion. Taking into consideration the patient's sexual activity and the size of the cystic mass, we opted for a total surgical excision as the treatment approach. Furthermore, she presented with a recurring cystic mass and an absence of resolution despite medical intervention. Although we performed complete surgical excision, it is important to acknowledge that this approach is not without potential complications, notably the risk of urethral injury or weakening of urethral muscles.

Conclusion

To the best of our understanding, this report video presents a unique case in which a Skene gland cyst mimicked a cystocele. The purpose of the video was to guide the viewer through the differential diagnosis process. Skene gland cysts are not commonly encountered in daily practice, so it is important to evaluate them carefully to prevent complications and ensure

positive outcomes. Most of these patients are referred to gynecologists and complain of recurrent UTI with or without vaginal mass. If there is an apparent mass, as in this case, the diagnosis can be made clearly. However, most of these cases are misdiagnosed by physicians due to a lack of knowledge or the complexity of the cases. Gynecologists may have limited knowledge about Skene gland abnormalities, so we hope that this video will increase awareness among our colleagues.

Video 1.



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