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Case Report

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Acute Urinary Retention Secondary to Skene's Gland Cyst: A Case Report

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Abstract

Background: Adult-onset Skene`s gland cysts are rare. They can be either asymptomatic or present with symptoms such as pain, dyspareunia, dysuria, urethral discharge, and urinary incontinence. Literature describing urinary retention secondary to these cysts is rare especially in the absence of infection or abscess formation.

Objective: To describes a rare a case of Skene's duct cyst causing acute urinary retention which was managed surgically.

Case history: A previously healthy 31-year-old woman presented to casualty with gradual onset of suprapubic area pain, associated with a sudden onset of inability to void. Examination revealed a full bladder and an ovoid, fluctuant, tender swelling located just inferior to pubic symphysis and completely displacing and stretching the external urethral meatus to the opposite side. Urethral catheter was inserted and 600 mls of clear urine was drained. MRI scan confirmed the presence of a well-defined unilocular cyst protruding through the perineum below the level of the symphysis pubis, intimately related to the lower part of the vagina. Intra-operative examination conformed a paraurethral cyst which was eventually excised surgically. Patient had uneventful recovery and voided freely after 5 days when the catheter was removed. Histopathology report conformed diagnosis of paraurethral cyst.

Conclusion: Skene's gland cysts are rare event; however, they can present with acute urinary retention due to mass effect. Uro - genital evaluation is essential in reaching the diagnosis. Surgical excision is successful.

Keywords: Acute urinary retention; Physical examination; Skene's gland cyst; Surgical excision

Introduction

Skene`s gland was first described by Alexander Johnston Chalmers Skene in 1880 [1]. Also known as the "female prostate", these are bilateral paraurethral glands that are believed to be prostatic homologues derived from the urogenital sinus positioned close to the posterior lateral distal urethra having their own ducts which empty into the vaginal vestibule adjacent to the urethral meatus [2]. They are around 6 to 30 in number in which the largest two of these are the paraurethral glands of Skene [3,4]. From an embryological point of view, they are derived from the urogenital sinus and form as an outpouching of the urethra during the third gestational month [5]. Histologically, Wernert et al. described them as a group of glands arranged in long ductal structures situated in the caudal two thirds of the urethra "mainly in the dorsal and lateral mucosal stroma but extending in some cases to the smooth musculature of the septum urethrovaginale [6]. They may have a role in sexual arousal and lubrication during sexual intercourse [7]. Skene's gland cysts are occasionally reported as congenital abnormalities in newborns [8], however adult-onset cysts are rare and infection with subsequent obstruction has been thought to be one of the etiologies [9]. The distinguishing features of paraurethral cysts are the displacement of urethral meatus through mass effect and a cyst containing milky fluid [10]. Thus, we report a rare case of Skene's duct cyst causing acute urinary retention which was managed surgically.

Case Report

A previously healthy 31-year-old woman presented to casualty with gradual onset of suprapubic area pain, associated with a sudden onset of inability to void, which was her first episode lasting for 6 hours. She described two weeks history of vague lower urinary tract symptoms mainly failure to empty in nature. She also revealed the presence of vaginal swelling lasting for few weeks, which she ignored since it was not causing her any bothersome symptoms and thought it was temporarily. Her past medical and surgical history was unremarkable. She had 3 uncomplicated normal full term vaginal deliveries. On examination, her vitals were stable.

Her abdominal examination showed suprapubic fullness up to the umbilicus, tender on palpation and dull on percussion. Examination of the external genitalia revealed an ovoid, fluctuant, tender swelling located just inferior to pubic symphysis and completely displacing and stretching the external urethral meatus to the opposite side. Compression of the swelling did not result in fluid extravasation through the urethra. Vaginal patency was also verified. Insertion of a 14 Fr. two-ways urethral catheter was carried out with minimal difficulty and drained 600 cc of clear urine. All routine laboratory investigations were within normal limits. Ultrasound of the abdomen and pelvis was also unremarkable. We proceeded with MRI scan of the abdomen and pelvis, which showed normal kidneys, ureters, and urinary bladder. It also showed a well-defined unilocular cyst protruding through the perineum below the level of the symphysis pubis, intimately related to the lower part of the vagina. The cyst measured 2.1x2.7x3.3 cm in maximum transverse and craniocaudal dimension extending to the right labia majora with fluid filled level on diffusion weighted sequences with partial restriction denoting blood content or high protein (Figure 1), mostly representing a paraurethral gland duct cyst. Our patient was diagnosed clinically to have a Skene`s gland duct cyst that was large enough to compress the urethra to an extent to cause urinary retention. Examination under anesthesia was performed. A paraurethral cystic swelling was identified (Figure 2). Patient underwent cysto-urethroscopy followed by cyst excision. Patient had uneventful recovery. Urethral catheter was removed after 5 days and she voided freely. Histopathological examination showed the presence of benign cystic lesion lined by transitional and squamous epithelium with focal surface ulceration; (Figure 3) thereby confirming the diagnosis of paraurethral cyst.

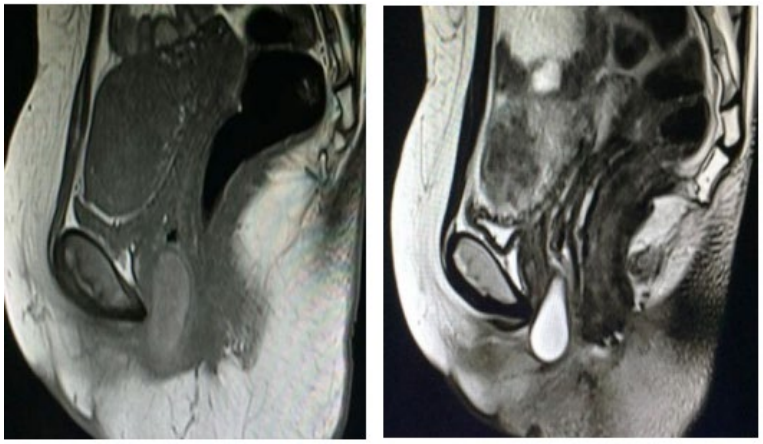

Figure 1: MRI images showing a simple 2.1x2.7x3.3cm lower vaginal cyst with high protein/hemorrhagic content mostly a paraurethral gland duct cyst.

Figure 2: Intraoperative examination showing a cyst displaying the urethra upward and laterally.

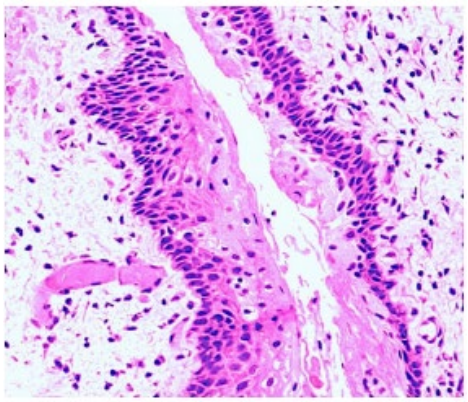

Figure 3: Histopathology image of the cystic lesion lined by transitional and stratified squamous epithelium.

Discussion

Anterior vagina wall masses are frequently encountered in gynecological and urological practice. The differential diagnosis of anterior vagina wall masses includes paraurethral Skene's duct cysts, including Skene's gland cyst, abscess, or infection, bartholin gland cyst or infection, gartner duct cyst or infection, urethral diverticulum, urethrocele, cystocele, ectopic ureterocele, urethral prolapse or malignancy. Periurethral cystic lesions are rare and need to be differentiated from urethral diverticulum [11]. Physical examination, MRI and cystourethroscopy are important tools to help in differentiating between these entities. Ozel et al. retrospectively reviewed 91 women who underwent surgical excision of a vulvar or vaginal mass in which 20 (22.0%) were periurethral in nature [12]. The most common presenting symptoms were pain, dyspareunia, dysuria, urethral discharge, and urinary incontinence. The literature is scarce in describing similar cases of Skene's gland cyst causing acute urinary retention. Stovall et al. described a case with acute urinary retention secondary to an infected paraurethral cyst [13]. Liubarskiĭ et al. reported urethrovaginal cyst abscess causing acute urination arrest [14]. In our case, the cyst was not infected but indeed led to urinary retention due to compression by the mass. Cross et al. reported a proportion of 2.9% of asymptomatic paraurethral cystic structures cases lying lateral to the urethra by endovaginal and perineal sonography of 140 asymptomatic women [15].

There is no consensus on the management of paraurethral cysts. In neonates, conservative treatment or needle aspiration is an appropriate option [16,17]. Nevertheless, if the cyst recurs or fails to resolve within a few months, surgical excision is recommended [18]. In adults, various methods of management have been described, including waiting for spontaneous regression, needle aspiration, marsupialization and complete cyst excision [19,20]. Observation is mainly recommended for small Skene's duct cysts, while excision is advocated for larger, symptomatic cysts. It has been advocated that marsupialization is not necessary, and the duct itself does not need to be preserved [21]. In case of acute infection or abscess formation, incision and drainage are preferred in this setting. In our case, we managed the cyst successfully with complete surgical excision. The patient voided freely, symptoms completely resolved, and there were no complications.

Conclusion

Skene's gland cysts are rare event. They can present with acute urinary retention due to mass effect. A comprehensive uro-genital evaluation is essential in reaching the diagnosis. Surgical excision is successful.

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