Paraurethral Cyst in Adult Women: Experience with 85 Cases

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Purpose: To present the clinical experience in the management of Skene’s duct cysts (paraurethral cysts) in women.

Materials and Methods: A retrospective chart review of patients who have been undergone surgical treatment for paraurethral cyst between 2002 and 2012 was performed. A total of 85 women were diagnosed with paraurethral cyst over a 10-year period. The paraurethral cysts were detected at vaginal examination. Evaluations consisted of urine analysis and culture and urinary tract ultrasound. The first 20 cases underwent cystourethroscopy as well. All patients underwent surgical incision, drainage and marsupialization of the cyst. They were followed up for evidence of any complications and recurrence.

Results: The mean follow up time was 5.5 years. Totally, 83 patients (97.6%) were cured. There were two cases of recurrence which were treated with second surgical attempt.

Conclusion: Most paraurethral cysts in women may be diagnosed by history and physical examination alone. Simple incision and marsupialization of the female paraurethral cyst was effective in more than 97% of our patients, without recurrence.

Keywords: genital diseases; female; cysts; diagnosis; surgery; treatment outcome; urethral diseases.

INTRODUCTION

Skene’s glands, or paraurethral glands, are bilateral, prostate homologues which are, located at the bottom of the distal urethra.\(^\text{1,2}\) Their role is to secrete a mucoed material, which helps to lubricate the urethral meatus.\(^\text{1,2}\) Obstruction of the ducts leads to the formation of cyst.\(^\text{1,2}\) A paraurethral cyst presents as a small, cystic mass, just lateral or inferolateral to the urethral meatus. Although the etiology of ductal obstruction is unknown in neonates in adults, paraurethral cysts may be caused by infection and inflammation.\(^\text{1,4}\) Disorders of the Skene’s glands are rare during the prepubertal period. When a cyst or abscess occurs, women in the third or fourth decade of their life are most affected.\(^\text{5}\) As Skene’s ducts are embryologically derived from the urogenital sinus, these cysts are lined by stratified squamous epithelium.\(^\text{1,2}\) Presenting symptoms include a palpable or visible mass, pain, dyspareunia, a distorted voiding stream and vaginal discharge. Paraurethral cysts may be totally asymptomatic and are usually discovered during routine pelvic examination.\(^\text{1,2}\) The management of paraurethral cysts is controversial.\(^\text{1,2}\) In this article, we report our clinical experience with the diagnosis and management of paraurethral cysts.

MATERIALS AND METHODS

A retrospective chart review of patients who have been undergone surgical treatment of paraurethral cyst in between 2002 and 2012 was performed. During a 10-year period, more than 100 cases of paraurethral cysts have been presented to our clinic, some of which were referred by gynecologists or other urologists. The medical records of all patients were reviewed. In most cases, diagnosis was based on the patient’s history and physical examination alone. Simple incision and marsupialization of the female paraurethral cyst was effective in more than 97% of our patients, without recurrence.

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RESULTS

Only 85 out of 100 patients, who had marsupialization of paraurethral cyst, were eligible to enroll in this study. Mean age was 33.2 years (20-77 years). Of study subjects 76 were multiparous and nine were nulliparous. The size of paraurethral cysts ranged from 0.5 to 4.5 cm. The most common symptom was the sensation of a mass [63 (74%)]. Other symptoms were irritative urinary symptoms in 42 (49%), dyspareunia in 24 (28%) and obstructive voiding symptoms in 11 patients (13%). The mean operation time was 10 min (range, 6-15 min). The operation was uneventful, with no postoperative complications. The patients were followed up for an average of 5.5 years (6 months to 9 years).

A total of 83 patients (97.6%) were cured, while remaining two developed recurrence of cysts after 2 and 4 years. The second attempt of surgical marsupialization was successful and uneventful as well.

In all the specimens pathological examination revealed benign cyst walls, lined with transitional or stratified squamous epithelium (Figure 5). All cultures of the drained mucous secretions were sterile.

DISCUSSION

Benign cystic lesions of the vagina are frequently encountered in gynecological and urological practice. True cystic lesions of the vagina originate from vaginal tissues, but lesions arising from the urethra and surrounding tissues may present as cystic lesions in the vagina as well.\(^1\)

The differential diagnosis of vaginal wall masses are; cysts with embryonic origin (Mullerian cysts, Gartner’s duct cysts, Bartholin’s gland cysts, vaginal adenosis, cysts of canal of Nuck), cysts with urethral origin (urethral caruncle, urethral diverticulum), epidermal inclusion cysts, endometriosis, ectopic ureterocele and pelvic organ prolapse. Skene’s gland cysts are very rare, the lesion typically arising secondary to the obstruction of the duct. The cysts usually present as mass lesions with associated pain, dyspareunia, dysuria and distorted voiding stream.\(^3\)

Blaivas and colleagues reported a diagnosis of paraurethral masses in 4% of their patient sample population, and most masses were urethral diverticula (84%). Paraurethral cysts were less commonly diagnosed, in 7% of patients.\(^10\)

Cross and colleagues examined 140 asymptomatic wom-
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The most important differential diagnosis of paraurethral cysts is the urethral diverticulum (UD). Most urethral diverticula are located ventrally over the middle and proximal portions of the urethra, corresponding to the area of the anterior vaginal wall 1 to 3 cm inside the introitus. Patients with UD most commonly have anterior vaginal wall tenderness, with or without a concomitant palpable suburethral mass. Pressure on the mass may demonstrate expressible purulent or bloody discharge from the UD or meatus, and firmness of the area may indicate a diverticular stone or neoplasm. Skene’s duct cysts are adjacent to the urethra and inferior or lateral to the urethral meatus. Differentiation from UD can often be made during physical examination, because these lesions are located relatively distally on the urethra, often distorting the urethral meatus as compared with UD, which most commonly occur over the mid and proximal urethra.

After such large number of cases reported in our center, we now believe that the preliminary diagnosis of paraurethral cysts can be easily made by physical examination in most cases. Nevertheless, cystourethroscopy still remains necessary to diagnosis. Also, our findings have no impact on the treatment planning. There was no need to perform a complete urological imaging palette (intravenous urography, voiding cystourethrogram, and magnetic resonance imaging), and perhaps these evaluations should be reserved for more complicated cysts, or cysts located at the proximal or mid part of the urethra.

According to the literature, there is no consensus on the treatment of paraurethral cysts. Conservative treatment or needle aspiration is an appropriate option in the neonates, while surgical excision is an option if the cyst recurs or fails to resolve within a few months. In adults, several methods of management have been recommended, including waiting for spontaneous rupture, needle aspiration, marsupialization and complete excision of the cyst. We reported the complete excision of the paraurethral cyst in four patients. Two out of the four cases had urethral injury, which was surgically repaired and the Foley catheter remained in place for 1 week to preserve the urethra. Lucioni and colleagues reported complete periurethral cyst excision in six patients, yielding an average recurrence free outcome with follow-up duration of 29 months. They also left in place the Foley catheter for 24-48 hours due to close dissection around the urethra. Urinary incontinence, urethro-vaginal fistula and urethral stricture represent the other complications associated with the complete excision of paraurethral cysts.

We treated all the patients by simple marsupialization of the cysts. All symptoms were completely resolved after surgery and there was no complication such as hematoma, pain, infection, scar formation and dyspareunia. In our first study, we reported simple marsupialization of paraurethral cysts as a safe and effective procedure. In the present study, we confirm the effectiveness of this procedure on a larger population and with longer follow-up.

CONCLUSION

According to our knowledge, this is the largest case series with the largest follow-up ever published concerning female paraurethral cysts. We demonstrated that paraurethral cysts are benign lesions with excellent response to simple marsupialization procedure.

CONFLICT OF INTEREST

None declared.

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