



Oncology

Adult-onset Skene's gland cyst following a history of multiple gynecological treatment interventions

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ABSTRACT

Skene's gland cysts are rare and the cause of adult-onset is still unclear. We report the case of a 34-year-old woman developing a Skene's gland cyst following a history of various gynecological treatment interventions. She finally underwent surgical excision of the cyst and no recurrence has been observed 1 year after the surgery.

Introduction

Periurethral cysts, such as Skene's gland cysts, are rare conditions that require differentiation from urethral diverticulum.¹ Skene's glands are paraurethral glands that arise from the urogenital sinus, and located downward and laterally on both sides of the urethra. Skene's glands are generally considered as the female homologue of the male prostate.² Skene's gland cysts are occasionally reported as congenital abnormalities in newborns,³ but they are rarely reported in adulthood and the cause of their onset is still unclear.

Case presentation

A 34-year-old woman was referred to our hospital for evaluation and treatment of the periurethral cyst. There was a 20mm round-shaped submucosal mass around the urethra (Fig. 1) but was no continuity with the urethra when the tumor was pressed while observing under a urethroscope. MRI showed a low-intensity on T1WI and high-intensity on T2WI (Fig. 2) without any diffusion restriction on DWI and contrast effect on DCE, which indicated the content was serous fluid and had no evidence of infection. The urinalysis was also normal. Finally, the cystic mass was diagnosed as a Skene's gland cyst.

During the years prior to visiting our hospital, the patient had a history of multiple gynecological interventions, including: fertility treatments, right fallopian tube resection due to ectopic pregnancy, laparoscopic hemostasis due to ovarian bleeding, surgery for myoma uteri and left fallopian tube resection. After such treatments, she became aware of the discomfort around the urethra and dysuria for the first time,

and the symptoms gradually worsened. Although detailed hormonal test results are unknown, the symptoms clearly appeared after the gynecological interventions, and it is speculated that some hormonal changes could be associated with the onset.

As a treatment for the Skene's gland cyst, first, fine needle aspiration of the content fluid was performed under local anesthesia. About 2 mL of white milky fluid was aspirated from the cyst (Fig. 3), and the tumor shrank once. The bacterial culture tests of the fluid were all negative. However, within a few weeks after the puncture, the tumor grew again and the symptoms also recurred. Thus, we decided to perform surgical excision of the cyst. A vaginal incision over the bulging cyst was performed and the dissection was carefully carried between the vaginal wall and the cyst wall. In order to maintain a proper dissection plane, we tried to keep the cyst filled. Eventually the cyst was opened, but the cyst wall was almost completely removed. The urethra was not opened during the procedure. The pathological diagnosis was a benign cystic lesion, and no malignant findings were found in the stratified squamous epithelium and the columnar or cubic epithelium. The postoperative course was good, and no recurrence has been observed 1 year after the surgery.

Discussion

Periurethral cystic lesions are rare and need to be differentiated from urethral diverticulum.¹ To exclude urethral diverticulum, continuity with the urethra needs to be denied. For that purpose, in addition to urethroscopic observation, MRI has been recognized as useful in recent years.²

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Fig. 1. A bulging round mass below the external urethral meatus.

A Skene's gland cyst is one of the periurethral cysts and can typically present as a painful, erythematous, fluctuant mass inferolateral to the urethra. Accompanying symptoms such as dysuria, dyspareunia, urinary tract infections, and obstructive or voiding dysfunction may also occur.²

Skene's gland cysts may be found in newborns as a congenital anomaly, in which case cystic degeneration of embryonic remnants of the paraurethral glands has been postulated as one of the causes.³ By contrast, in adult-onset cases, it is unclear why cysts increase in adulthood. To date, it has been speculated that some obstruction due to infection may be the main cause.² However, in this case, there were no signs of infection in the cyst and no history of urinary tract infection as well.

Skene's gland is thought to be the female homologue of the male prostate.¹ In men, sex hormones are deeply involved in various pathological conditions such as prostate cancer and benign prostatic



Fig. 3. White milky fluid aspirated from the cyst.

hyperplasia. So far, there are no reports on the direct relationship between Skene's gland cysts and sex hormones, but most recently, a study focused on the similarity between Skene's adenocarcinoma, a very rare malignant tumor derived from Skene's gland, and prostate cancer has been reported.⁴ The study also mentions the possibility of hormonal therapy for Skene's adenocarcinoma. In our case, the patients had a

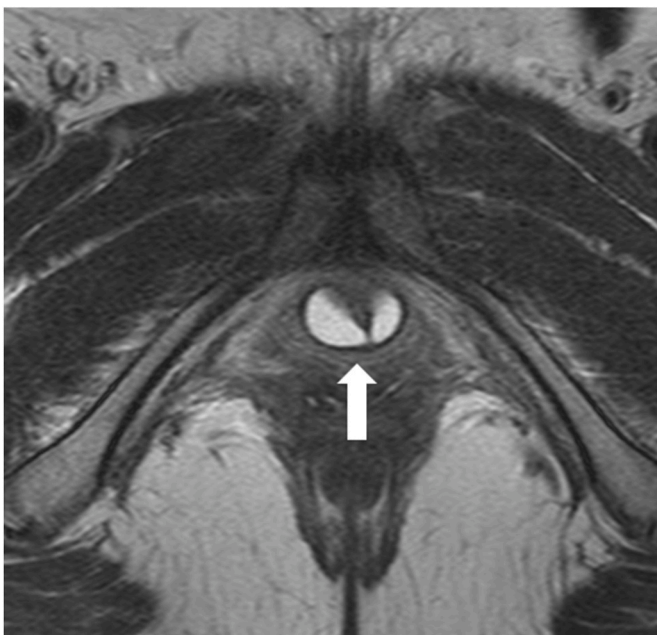


Fig. 2. (A) Axial and (B) sagittal MRI findings (T2WI) of the Skene's gland cyst.

history of multiple gynecological treatment interventions that would affect the sex hormone environment prior to developing the Skene's gland cyst. Taken together, there may have been some causal link between the development of Skene's gland cyst and the history of gynecological treatments.

There is no clear consensus on the standard management of Skene's gland cysts. However, there are a few case series reporting on the outcomes of surgical management, including needle aspiration, marsupialization, partial excision and total excision.^{2,5} Overall, all surgical treatment options appear to show good outcomes.

This study has some limitations. The results are derived from only one case and do not have detailed hormonal test results. The possibility of mechanical irritation or subclinical infection during the gynecological treatments cannot be completely ruled out as a cause of the onset.

Conclusion

Adult-onset Skene's gland cysts are rare and infection has been thought to be one of the causes, but there were no obvious signs of infection in this case. She developed a Skene's gland cyst following a history of various gynecological treatment interventions and finally underwent surgical resection of the cyst.

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Declaration of competing interest

None declared.

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