

Endourology

Giant vaginal stone as a complication of long-term urethrovaginal fistula: A case report



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ABSTRACT

Case presentation: A case of a 57 years old woman came with the chief complaint of urinary incontinence since 20 years ago. After labor, she complained of urinary incontinence and left untreated. Physical examination and urethrocystoscopy revealed vaginal stone sized 90 × 70 mm and urethrovaginal fistula. We performed hysterectomy and vaginal stone removal, continued with fistula closure and vaginal repair. Up to 2 months follow up, no sign of urinary leakage and incontinence was found.

Conclusion: Vaginal stone is a rare Case that might be present in a case of long term urethrovaginal fistula with neglected contraceptive device.

Introduction

Calculi occurring in the vagina are uncommon. A urethrovaginal fistula associated with a vaginal stone is a rare medical entity.¹ Primary vaginal stone resulted from urine leakage into the vagina without an obvious core.² Vaginal stones involve pathologic calcification. The formation of vaginal stones is mainly due to stasis and urine infection^{3,4} Secondary vaginal stones are often attributed to the erosion of surgical meshes or other foreign bodies left in the vagina, with inorganic salts in the urine gradually depositing around the foreign bodies over time.

The most common causes of these abnormalities are gynecologic and obstetric procedures, such as hysterectomy, cesarean section, or complicated delivery.⁵ Primary vaginal stones are occasionally seen in gynecological practice and can be mistaken as large bladder stones on plain radiograph.²

Vaginal stones may be solitary or numerous masses. In all cases, the associated cause should be managed concomitantly such as urethral or vesicovaginal fistula. The associated etiology should be treated concomitantly in order to prevent recurrence.^{3,5}

In this report, we present the Case of a patient with a large vaginal stone which was caused by a long-term urethrovaginal fistula in a woman with a history of cesarean delivery.

Case Presentation

A 57-year-old woman with the chief complaint of urinary incontinence since 20 years ago had been suffering urethrovaginal fistula. She had a history of cesarean birth 20 years ago due to prolonged labor. One month after cesarean birth, she felt urine leakage from her vagina during voiding but due to remote place and low socio-economy status, the complain left untreated. In the outpatient setting, we performed a vaginal speculum examination and found a large brownish stone at the vagina (Fig. 1).

Ultrasonography examination showed a hyperechoic lesion with an acoustic shadow below the bladder. Urethrocystography showed opacity outside the bladder cavity, suggesting that the stone was outside the bladder (Fig. 2).

We decided to perform a diagnostic urethrocystoscopy that revealed vaginal stone sized 90 × 70 mm with an embedded contraceptive device through the anterior of vagina and urethrovaginal fistula around 1 cm from bladder neck with a diameter 1 cm, followed by bilateral hysterosalphingo-oophorectomy and transabdominal vaginal stone removal due to vaginal atrophy, continued with fistula closure and vaginal repair with fibrin glue (Fig. 3). During postoperative follow-ups, there was no sign of dysuria, nor urine leakage found. Up to 2 months follow-up, we found no sign of urinary leakage and incontinence.

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Fig. 1. Vaginal speculum Examination reveals a large vaginal stone.

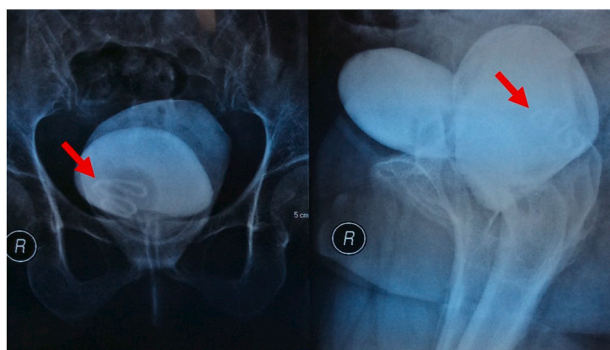


Fig. 2. Cystography examination reveals opacity outside bladder cavity.

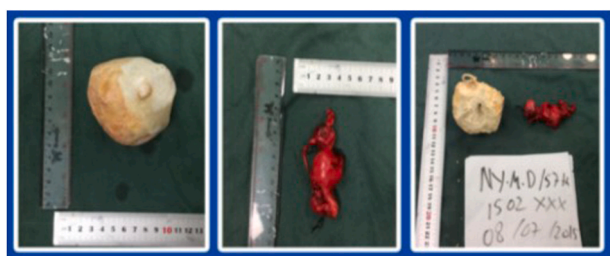


Fig. 3. Post operative finding.

Discussion

Vaginal stones are a pathologic calcification disease. Primary vaginal stone formed due to urine stasis in the vaginal cavity without any foreign body core. The urine constituent undergoes crystallization and stone formed in the vaginal cavity. Primary vaginal stone takes form in either solitary stone or multiple stones. Secondary vaginal stone formed due to urine constituent crystallization around a foreign body core. The secondary stone is usually shaped like a large, solitary stone with the

foreign body core such as non-absorbable sutures or migrating intra-uterine devices. Rarely, the vaginal stone is caused by a migrating bladder stone through a lacerated vesicovaginal septum. Long-term urine stagnation in the vagina and repeated infection, when combined with a vaginal opening covered by the hymen, resulted in the accumulation of uterine and vaginal secretions, with the calcium salts in the urine easily depositing and forming primary vaginal stones.

The formation of vaginal stones is a slow process, and most cases are only discovered when the vaginal stones are large enough to cause obvious clinical symptoms. All urogenital stones, including vaginal stones, can cause urinary tract irritation symptoms, such as frequent urination and urination urgency. In this Case, the patient had a history of cesarean delivery 20 years ago. Since then, she complained about urine leakage from her vaginal introitus that neglected until now.

The diagnosis of vaginal stones may be difficult because the formation of stone is slow and usually does not cause any symptoms.¹ In this Case, plain radiograph of the pelvis reveals a large opacity inside the pelvic cavity, but it could not exclude the possibility of large bladder stone. Therefore we conducted an ultrasonography examination and retrograde urethrocytography to ensure the location of the stone, despite stone findings on vaginal speculum examination. Ultrasonography could help to exclude the possibility of bladder stone, and thorough expertise of urethrocytography conclude the diagnosis of vaginal stone in this patient.

We performed a diagnostic urethrocytography, and corresponding with the patient complaint of urinary incontinence, we found a urethrovaginal fistula around 1 cm from the bladder neck with a diameter of 1 cm. The fistula is the source of urinary leakage and stone formation in the patient's vagina. Due to vaginal atrophy, we decided to perform vaginal stone extraction transabdominally, followed by hysterectomy.

For patients with a urethrovaginal or vesicovaginal fistula, due to severe edema of the tissues around the stone, it is not advisable to perform fistula repair while removing the stone. The fistula should be repaired 3–6 months after stone removal when the edema around the fistula has subsided. In this patient, we decided to remove the stone transabdominally with the consideration of vaginal atrophy, and prepare an anticipation if hysterectomy is needed, and to repair the urethrovaginal fistula at once. This patient developed a urethrovaginal fistula, and a fistula should be actively repaired 3–6 months after the removal of the stone to facilitate the recovery of bladder function and achieve autonomous urination. Patients should pay attention to personal hygiene and personal care and avoid urine stagnation in the vagina to prevent infections.

Conclusion

Vaginal stones is a rare condition that is commonly caused by long term complication of vesicovaginal fistula, which can be caused by various etiology, one of them is cesarean section complication. A radiological examination could support the diagnosis of vaginal stones besides history taking and physical examination, including plain pelvic radiography, ultrasonography, and retrograde urethrocytography. This Case report aims to remind medical practitioners that although vaginal stones are rare, we must pay attention to this disease, especially in patients with urethrovaginal or vesicovaginal fistulas.

Source of support

None.

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