Seminal vesicle calculus after transurethral resection of ejaculatory duct

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We report a case of symptomatic seminal vesicle calculus following transurethral resection of ejaculatory duct. A 37-year-old male, who had previously undergone transurethral resection of ejaculatory duct, presented with perineal discomfort and graveluria. Computed

Introduction

Seminal vesicle stones are a rare condition. They are associated with hemospermia, subfertility, perineal or genital pain and at times painful ejaculation.^{1,2} The usual causes include obstructive or infective pathologies.³⁻⁸ We report a case of seminal vesicle stone occurring as a long-term complication of transurethral resection of ejaculatory duct.

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Address correspondence to Dr. H. Y. Tiong, Department of Urology, National University Hospital of Singapore, 5 Lower Kent Ridge Road, Singapore 119074 Singapore tomography revealed a calculus situated within a dilated left seminal vesicle. The patient was treated with cystoscopy and litholapaxy of the seminal vesicle calculus. Although rare, our case demonstrates that seminal vesicle calculi formation can occur following treatment of ejaculatory duct obstruction, possibly secondary to urinary reflux and stasis.

Key Words: seminal vesicle, calculus, transurethral resection of ejaculatory duct

Case report

A 37-year-old male presented with suprapubic discomfort of 5 months duration. This was associated with graveluria on two separate occasions. He denied any symptoms of pyrexia, frequency, gross hematuria, flank pain, dysuria or hematospermia. His past urological history included transurethral resection of ejaculatory duct 9 years ago for ejaculatory duct obstruction. He was otherwise fit and well. Physical examination was largely unremarkable. Digital rectal examination revealed a non-tender and benign-feeling prostate with no other masses. Urine analysis showed microscopic hematuria, with leucocytes and nitrites being negative. Urine culture did not grow any bacteria. Plain abdominal x-ray showed a radioopaque mass 1.5 cm by 1.5 cm just right of the midline within the pelvis,



Figure 1. Plain radiograph showing radioopaque density within the pelvis.

Figure 1. A subsequent computed tomography (CT) scan of the pelvis revealed this to be a seminal vesicle calculus within a dilated left seminal vesicle, Figure 2. The patient was offered endoscopic stone extraction based on his symptoms and CT findings.



Figure 2. Computed tomogram showing left seminal vesicle calculus with distended left seminal vesicle.



Figure 3. Intraoperative photograph of seminal vesicle calculus within the utricular opening.

The patient was placed in lithotomy position under general anesthesia. Cystoscopy was performed and bilateral ejaculatory duct orifices with enlarged utricle opening were identified. A large, smooth and yellow stone was clearly visible within the opening, Figure 3. The opening was sufficiently large for the passage of cystoscopy. Hence, litholapaxy of the seminal vesicle calculus was performed in situ with the endoscopic lithotrite. The stone fragments were evacuated using the Toomey syringe. The bladder was subsequently drained and the patient was discharged the next day with complete resolution of his suprapubic discomfort. Stone analysis revealed a composition of calcium, phosphate and oxalate. The patient is well at last follow-up 1-year post surgery with no recurrence of stone or symptoms. He also reports an increase in his ejaculatory volume.

Discussion

The first description of seminal vesicle calculus was in 1928.⁶ The exact incidence is currently unknown, as few cases have been reported. Symptoms are variable and can range from asymptomatic to perineal to testicular pain, hemospermia, painful ejaculation and low volume ejaculates.¹⁻⁸ The usual diagnosis of seminal vesicle calculi is generally suspected based on clinical history, digital rectal examination and imaging. Digital rectal examination may reveal a crunching sensation if situated medially; laterally situated stones may be undetectable on digital rectal examination.³ Plain radiographs may be suggestive if bean shaped radiodensities are seen laterally, casting the shape of the seminal vesicle lacune.⁴ Confirmation of seminal vesicle calculi can be made by transrectal ultrasound scan, computer tomography or magnetic resonance with endorectal surface coil.

Seminal vesiculitis secondary to stasis or diabetes are the commonly reported etiological factors. In addition, seminal vesicle calcification or calculi may also be associated with infective processes (chronic prostatitis, genitourinary tuberculosis, schistosomiasis) or malignancy of the prostate or seminal vesicles.⁴ Anatomical anomalies (seminal vesicle cysts or hypoplasia) may be another predisposition factor.⁴

To our best knowledge, this is only the second reported case of seminal vesicle calculus occurring after transurethral resection of the ejaculatory duct. Cuda et al recently reported a patient with multiple seminal vesicle stones treated with balloon dilatation of the ejaculatory ducts and laser lithotripsy via a ureteroscope.⁹ It is likely that urinary reflux secondary to transurethral resection of ejaculatory duct led to relative urinary stasis within the ducts, resulting in stone formation. This is supported by the results of the calculus analysis, which revealed components of calcium, magnesium and phosphate - common constituents of urinary calculi. Since 1972 transurethral resection of the ejaculatory duct has become the standard treatment for subfertility secondary to ejaculatory duct obstruction. Current known complications include rectal injury, external sphincter injury, bladder neck injury with resulting retrograde ejaculation and urinary reflux into the ejaculatory ducts.² Hence, seminal vesicle calculus may be an additional possible complication post transurethral resection of ejaculatory duct and should be suspected in patients with the above mentioned symptoms, even years after the procedure.

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