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Male Urethral Diverticulum After Placement of an Artificial Urinary Sphincter

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ABSTRACT

Urethral diverticula are sac-like dilatations of the urethra that communicate with the true urethral lumen. Because the condition is rare in men, no consensus exists regarding the management of male diverticula. Excision with primary repair of the urethra, urethroplasty (both one- and two-stage), and even endoscopic techniques have been used. We report a case of an acquired urethral diverticulum in a male following placement of an artificial urinary sphincter (AUS). Urethral diverticula arising after placement of an AUS have been described in the literature, but those cases occurred after erosion of the AUS. To our knowledge, our case is the first reported in a patient with a functioning AUS.

INTRODUCTION

Urethral diverticula are sac-like dilatations of the urethra that communicate with the true urethral lumen. More common in females, they rarely occur in males. In men, these diverticula are classified as congenital or acquired, with acquired accounting for the majority of cases (67%-90%).[1-3] The exact mechanism by which diverticula form in men is still not proven. However, risk factors for acquired urethral diverticula are urethral infection, obstruction, and trauma (including iatrogenic trauma).[3] Excision with primary repair of the urethra, urethroplasty (both one- and two-stage), and endoscopic techniques are all used to treat male diverticula, but because of the condition's rarity no concensus on management exists.[1,4] We report a case of an acquired urethral diverticulum in a male following placement of an artificial urinary sphincter (AUS). Urethral diverticula arising after placement of an AUS have been described in the literature[5,6]; however, the cases described occurred after erosion of the AUS. To our knowledge, this case is the first reported in a patient with a functioning AUS.

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CASE REPORT

An 83-year-old male presented to the clinic with recurrent urinary tract infections (UTIs). In September 2007, he underwent placement of an AUS to correct incontinence following transurethral resection of the prostate. Since then, the patient did well with the exception of recurrent UTIs characterized by dysuria.

A work-up showed that his upper tracts were normal. However, cystoscopy demonstrated a pinhole opening in the posterior urethra consistent with urethral diverticulum. A retrograde urethrogram confirmed the diverticulum (Figure 1). The patient elected to have it repaired.

A number of options for surgical correction of male urethral diverticula have been described,[1,4] and we chose to excise the diverticulum with primary repair of the urethra. The patient was placed in the lithotomy position, a 16 F Foley catheter was inserted, and a vertical incision was made in the perineum.

The diverticulum was palpated and sharply mobilized from the surrounding tissues (Figure 2) with care taken not to injure the urethra or puncture the diverticulum. During the dissection, the diverticulum was noted in close proximity to the cuff of the AUS. Therefore, we removed the cuff to prevent infection but left the reservoir in place.

After removing the AUS cuff, we sharply mobilized the remainder of the diverticulum circumferentially and excised it at the junction with the urethra (Figure 3). The resulting urethrotomy was then closed primarily with 4-0 chromic sutures (Figure 4). To aid in

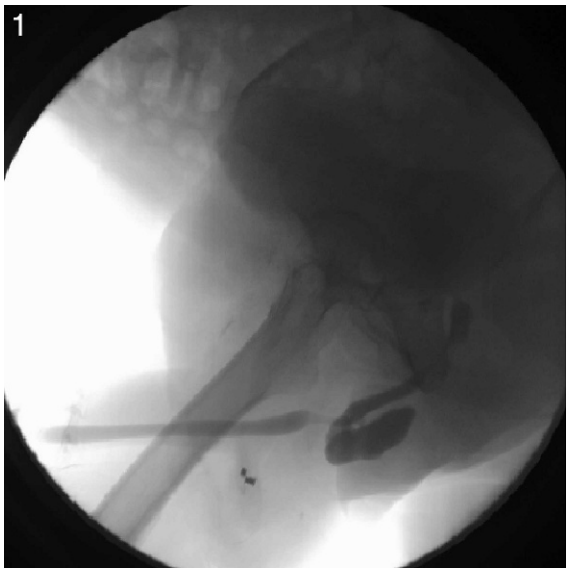

Figure 1. Retrograde urethrogram demonstrating urethral diverticulum.

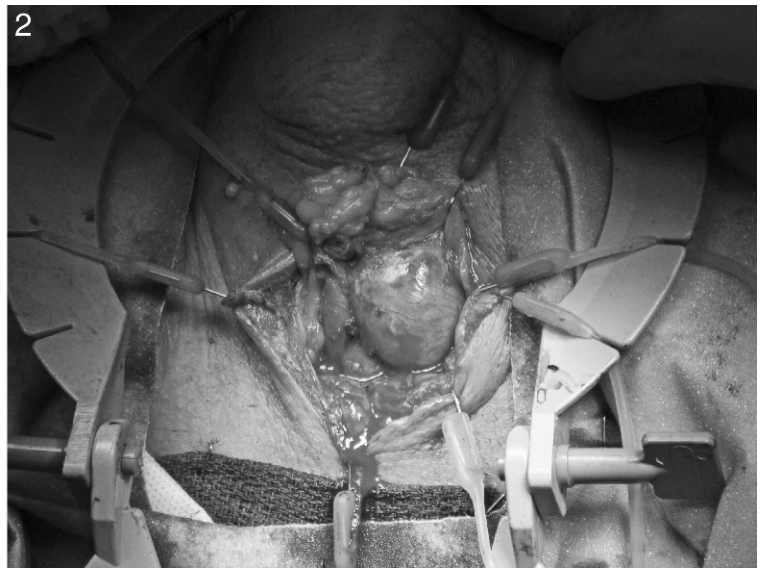

Figure 2. Diverticulum dissected free from surrounding tissue.

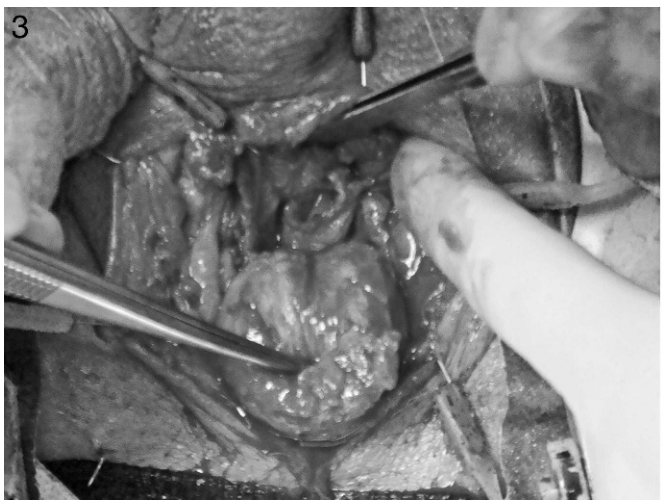

Figure 3. Diverticulum excised.

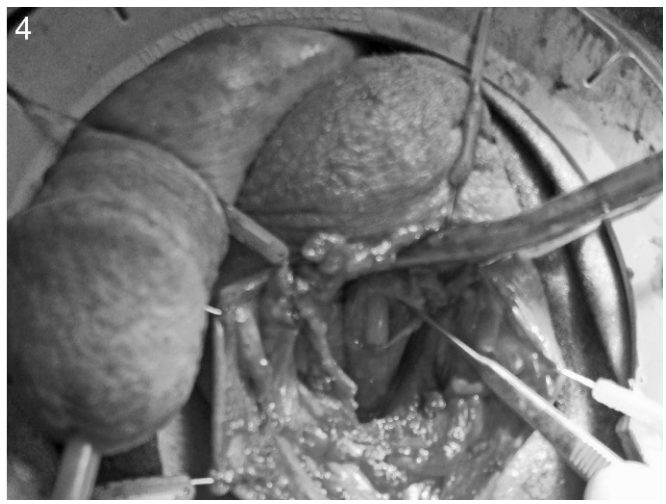

Figure 4. Urethrotomy.

Figure 5. Diverticulum.

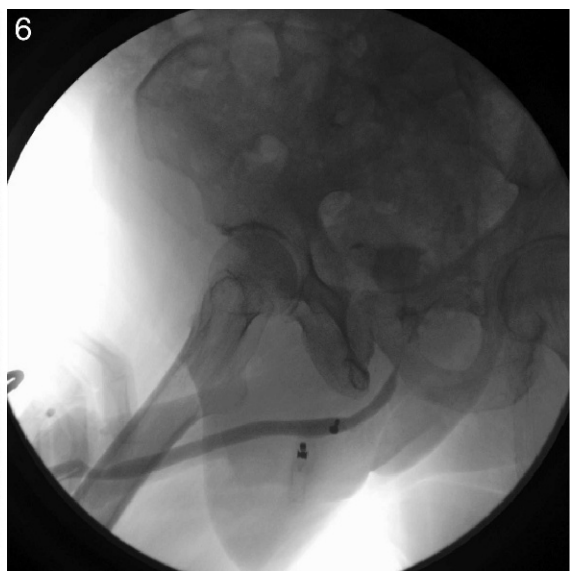

Figure 6. Postoperative retrograde urethrogram.

preventing fistula formation, the bulbospongiosus was closed on top of the repair as was the dartos.

DISCUSSION

Symptomatic male urethral diverticula are rare, and because of their rarity no consensus exists on how they should be managed. We report our technique of primary excision of the diverticulum (Figure 5) and repair of the urethra. Our patient has had no postoperative UTIs and has been voiding well, although he is now incontinent. A retrograde urethrogram 4 weeks after the surgery demonstrated no diverticulum (Figure 6). However, longer follow-up is needed to determine if our result is durable. His incontinence will be managed by transurethral collagen injections.

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This article meets the Accreditation Council for Graduate Medical Education and the American Board of Medical Specialties Maintenance of Certification competencies for Patient Care and Medical Knowledge.