

Acquired Giant Urethral Diverticulum Following Hypospadias Repair: A Case Report

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Abstract: Urethral diverticulum may be defined as a localized sac-like out-pouching of the urethral mucosa. It may occur at any location along the urethra in both male and female. Male urethral diverticulum is usually rare finding, and may be either congenital or acquired. The common causes of male acquired diverticula are strictures, abscess, trauma or post-hypospadias repair. Patients usually present with obstructive voiding symptoms and soft swelling related to urethra. In case of giant diverticulum, excision and urethroplasty is treatment of choice.

Keywords: Hypospadias, Flap Urethroplasty, Giant Urethral diverticulum

INTRODUCTION

Urethral diverticulum is a localized pouchlike dilatation extending from and contiguous with the urethra [1]. It may be anterior or posterior and can be classified as either congenital or acquired. Male urethral diverticulum is rare, and always located in the penile urethra. The most common causes of male acquired diverticula are strictures, abscess, trauma or post-hypospadias repair. The most common complications after urethroplasty in hypospadias repair are fistulae and stenosis. Urethral diverticulum can occur in patients who have undergone hypospadias surgery, particularly those who had an onlay island flap repair, and bladder catheterization [2]. Aneurysmal dilatation of the neourethra is an uncommon complication, but not a negligible one [3]. The patients usually present with dysuria, postvoid dribbling with difficult voiding. The diverticulum can be confirmed by urethrography.

CASE REPORT

An 18 year old male presented with the complaint of difficulty in passing urine, characterized by straining, poor stream and terminal dribbling for two years duration and a 4 cm mass on the ventral aspect of distal part of penis (fig 1). The patient had noticed the mass 2 years previously, and it had continued to grow since then. He had undergone two stage hypospadias repair-first stage as chordee correction at the age of 14 years and second stage as preputial flap urethroplasty at the age of 15 years. He had suprapubic cystostomy done two months back as he developed acute urinary retention at that time. On physical examination, there was a soft cystic mass on the ventral aspect of the distal part of penis.



Fig 1: showing outpouching urethral diverticulum (arrow)



Fig 2: RGCU showing outpouched penile urethra

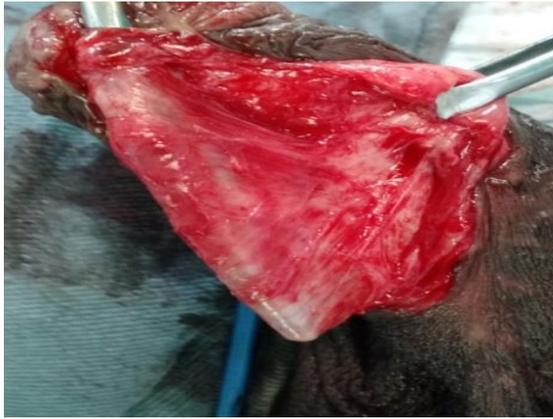


Fig 3: per-operative giant urethral diverticulum, with dilator in situ

A Retrograde Urethro Cystogram was done (RUCG). On Retrograde Urethro- Cystogram(RUCG), a huge urethral out pouching was seen in the most distal part of anterior urethra with pool of contrast medium within it, suggestive of a giant diverticulum (fig 2). Rest of the urethra appears normal. At operation the diverticulum was dissected, including its entire neck, until the urethra was completely exposed (fig 3). The urethral defect was closed using 4-0 polydioxanone, and the penile dartos was interposed to avoid fistulas.

DISCUSSION

Urethral diverticulum is rare entity. It was first described by Hey in a female patient in 1805 [4]. Urethral diverticula are either congenital or acquired, and are rarely seen in men. In male congenital diverticula are mostly found in the anterior urethra and could be clinically evident for the first time in adulthood [5]. The suspected mechanisms for acquired diverticula in males are related to obstruction and increased urethral pressure [6]. Urethral diverticula can cause urinary obstruction, urinary stasis, and sometimes calculosis [7]. The common causes of acquired diverticula in male include urethral trauma, abscess or post-hypospadias repair [8, 9]. The rate of urethral diverticulum following hypospadias repair is 0.5% [10]. In the present study, the patient had undergone hypospadias repair in two stage-first stage as chordee correction 3 years back and second stage as preputial flap urethroplasty 2 years back. Flap urethroplasty can give rise to complications like stricture, troublesome post-void dribbling and diverticulum formation [11]. Urethral diverticulum is a known complication of hypospadias repair and urethroplasty. It is more frequent in two-stage urethroplasty rather than one-stage technique.

The recommended treatment is excision of the diverticulum and repair of the urethra when it is large [12]. Plication of diverticulum is another method of treating moderate size diverticulum without opening it. However small urethral diverticulum may be managed

conservatively. In the present case the diverticulum was completely excised and urethral defect was closed.

CONCLUSION

Prevention is always better than treating the complications. Although several new techniques of hypospadias repair are available, complications like diverticulum is still encountered, particularly after two stage operation using flap urethroplasty. Retrograde urethrography is required as a gold standard method for diagnosing the diverticulum. The treatment modalities include non-operative and surgical options. Patients without urethral obstruction who can manually decompress the diverticulum without subsequent urinary tract infections can successfully undergo conservative treatment with close follow-up. Open diverticulectomy and urethroplasty is the recommended approach for large diverticulum.

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