



## Congenital Bladder Diverticulum Presenting in an Adult: A Rare Case Report

*Nipun Kumar Awasthi, Hemant Kumar Goel, Vinod Priyadarshi, Praveen Kumar Pandey, Dilip Kumar Pal*

*Submitted October 16, 2012 - Accepted for Publication December 16, 2012*

### ABSTRACT

Congenital bladder diverticulum is usually found in childhood, and its presentation in adults is very rare. We present a case of large congenital bladder diverticulum in a 60-year-old male, with a successful outcome after a diverticulectomy.

### INTRODUCTION

Bladder diverticulum represents a herniation of the bladder urothelium through the muscularis propria of the bladder wall. Congenital diverticula usually present during childhood, with a peak occurrence in patients less than 10 years old [1]. These are mainly solitary, often in association with vesicoureteral reflux [1]. The primary cause in those without coexisting lower urinary tract obstruction appears to be a congenital weakness at the level of the ureterovesical junction and not bladder outlet obstruction [2].

### CASE REPORT

A 60-year-old male presented with a decreased flow of urine for the last 1 year. This symptom became aggravated during that 1 year. There was no history of any other storage or voiding lower urinary tract symptoms.

On physical examination, the patient's abdomen was found to be soft and non-tender. There were no appreciable masses. The external genitalia were normal. All blood laboratory values were found to be within normal limits. The patient's urinalysis was within normal limits. Ultrasonography revealed a large diverticulum in the right posterolateral wall, showing few echogenic calculi within the diverticulum. The kidneys were normal in shape, size, and position. Corticomedullary differentiation was normal, and both the ureters were normal.

Urodynamic studies showed normal findings.

The voiding cystourethrogram (VCUG) showed a large diverticulum with multiple calculi, without any evidence of any vesicoureteric reflux (VUR) (Figure 1, Figure 2). Diverticulectomy was done by a combined intra- and extravesical approach, and a single large diverticulum was found in the posterior wall with a wide mouth. Nine calculi, the largest measuring 1.5 cm, were retrieved from within the diverticulum. Postoperatively, a suprapubic catheter was maintained for 3 weeks; then a voiding cystourethrogram was done and showed no evidence of diverticulum, but there was grade II vesicoureteric reflux (Figure 3). The patient was placed on chemoprophylaxis, and after 6 months the vesicoureteric reflux subsided spontaneously.

### DISCUSSION

Congenital bladder diverticula in an adult are a rare pathology. They usually present during childhood, but in this case presentation, at 60 years of age was unusual. The incidence in children is 1.7% [1], and no congenital diverticulum has been reported till now in adult patients.

They are usually asymptomatic and detected during investigations of lower urinary symptoms (i.e., recurrent urinary infections, hematuria, or bladder emptying disorders). They can be further complicated with vesicoureteral reflux, lithiasis, tumors, ureteral obstructions, and, more rarely, with

**KEYWORDS:** Congenital diverticulum, adult

**CORRESPONDENCE:** Dr. Nipun Kumar Awasthi, Department of Urology, Institute of Post Graduate Medical Education & Research, House no 135, Gayatri Nagar, Bareilly, Uttar Pradesh, India 243002 (drnipunawasthi@gmail.com)

**CITATION:** *UroToday Int J.* 2013 February;6(1):art 9. <http://dx.doi.org/10.3834/uij.1944-5784.2013.02.09>

Figure 1. Preoperatively ascending urethrogram (ASU).



Figure 2. Preoperative voiding cystourethrogram.



Figure 3. Postoperative voiding cystourethrogram.



acute urine retention and acute abdomen due to rupture [3]. Rarely, a congenital bladder diverticulum occurs in adults and may be the cause of outflow obstruction. Diagnosis is made through ultrasound imaging, but they are better visualized through urethrocytography [2]. A urodynamic study was done to rule out bladder outlet obstruction, impaired compliance, and neurogenic voiding dysfunction [3].

No further therapy is required in incidentally found congenital or acquired bladder diverticula unless they present persistent symptoms of recurrent infections, obstruction, stones, malignancy, or other complicating factors such as ipsilateral vesicoureteral reflux [2]. An open diverticulectomy with a combined intra- and extravascular approach was carried out in this patient. Vesicoureteric reflux can be seen temporarily due to muscle weakness and weakness of the ureteric orifice but resolves spontaneously, as it was in this case. The patient voided successfully after catheter removal. After 6 months of

follow-up, the patient has been doing well with satisfactory voiding.

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