

Laparoscopic Diverticulocystoplasty for Low Compliance Bladder in a Child

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ABSTRACT

Low compliance bladder with a posterior urethral valve is a common association. Augmentation cystoplasty is one of the management options. We present the case report of a 4-y-old boy who presented with low compliance bladder, bladder diverticulum, right obstructive megaureter, and left grade IV reflux, 6 mo following PUV fulguration. He was managed by laparoscopic diverticulocystoplasty with right ureteric reimplantation and left detrusorrhaphy. The patient showed subjective and urodynamic improvement at 12 mo follow-up. The use of diverticulum for augmentation is advantageous, as it abides by the principle of bladder augmentation with urothelium. This is the first case report of successful use of diverticulum for laparoscopic bladder augmentation in a child.

Key Words: Low compliance bladder, Pediatric, Posterior urethral valve, Laparoscopy, Diverticulocystoplasty, Diverticulum.

INTRODUCTION

Varying degrees of bladder dysfunction and upper tract changes accompany posterior urethral valves. Detrusor overactivity, low compliance, and low capacity bladder can cause deterioration of the existing renal dysfunction and morphology. Loss of bladder compliance can be seen even following valve management in many patients.¹ Up to 50% of patients can have vesicoureteric reflux,² and a majority have dilated ureters due to the poorly compliant bladder or increased urinary output. Primary and secondary diverticula may be associated with a posterior urethral valve. Use of diverticula for augmentation of low compliance bladder has been described in adults.³

This article highlights the technique of laparoscopic diverticulocystoplasty in a child with a low compliance bladder, right obstructive megaureter, and left ureteric reflux secondary to PUV. Laparoscopic diverticulocystoplasty is a feasible, successful procedure and has all the advantages of laparoscopy. It may be a preferable option because urothelium is used.

CASE REPORT

A 4-y-old boy presented with a history of poor urinary stream and straining to void for 6 mo. He had a documented UTI 2 wk prior to presentation. He was afebrile, and a clinical examination was unremarkable at the time of the initial visit. Urine culture was sterile, and his blood urea and serum creatinine were normal (30mg/dL and 0.7mg/dL, respectively). Ultrasonogram revealed bilateral hydronephrosis with ureters dilated up to the bladder. The bladder was thick walled (5mm), and there was a diverticulum on the right posterolateral wall of the bladder. Contrast CT urogram (**Figure 1**) confirmed the presence of a diverticulum arising from the right posterolateral wall of the bladder associated with bilateral hydronephrosis. The right ureter was dilated till its lower end and was curving around the diverticulum and entering its neck. MCU showed left-sided grade IV vesico-ureteric reflux with dilated posterior urethra and a posterior urethral valve. Cystoscopy and antegrade fulguration of the posterior urethral valve was done. Anticholinergics were

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