

## Case Report

# A Novel Technique of Cystolithotripsy for Large Vesical Calculus in Children

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### ABSTRACT

**Large bladder calculi in children have always been a challenge for the minimally invasive surgeon. We describe a novel technique in which a suprapubic laparoscopic grasper is used to stabilize and remove large fragments of the stone, disintegrated transurethrally. This procedure minimizes injury to the delicate urethra and bladder mucosa.**

### INTRODUCTION

**T**RADITIONALLY, BLADDER CALCULI WERE REMOVED through an open suprapubic incision. The recent innovations of shock wave lithotripsy and endourologic intracorporeal lithotripsy have changed the management of bladder calculi to a noninvasive or minimally invasive approach.<sup>1,2</sup>

Urethral instrumentation in children may injure the delicate urethra. Several authors have described a percutaneous suprapubic approach in which after dilation of the initial puncture tract they used an Amplatz sheath and a nephroscope to break and remove calculi in the bladder.<sup>3,4</sup>

Laparoscopic instruments can be used as an advantageous adjunct in the suprapubic removal of bladder stones. We describe a novel technique of removing large bladder calculi in children. To our knowledge, this is the first time a vesical stone 6 cm in size has been successfully managed with cystoscopic lithotripsy facilitated by a suprapubic laparoscopic trocar.

### CASE REPORT

A 9-year-old boy presented with lower urinary tract symptoms and hematuria. Investigations revealed a large vesical calculus measuring 6 × 4 × 2.5 cm (Fig. 1). Initial cystoscopy confirmed the size and contour of the calculus. Attempts to break the stone with a pneumatic lithotripter (Swiss LithoClast<sup>®</sup>; EMS USA, Dallas, Texas) were futile; the stone just wobbled and rolled away from the impact of the energy. An