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

TRADITIONALLY, 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.\textsuperscript{1,2}

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.\textsuperscript{3,4}

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 $6 \times 4 \times 2.5$ cm (Fig. 1). Initial cystoscopy confirmed the size and contour of the calculus. Attempts to break the stone with a pneumatic lithotripter (Swiss LithoClast\textsuperscript{6}; EMS USA, Dallas, Texas) were futile; the stone just wobbled and rolled away from the impact of the energy. An

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