

URETHRAL STONE ASSOCIATED WITH POSTERIOR URETHRAL VALVE -A RARE FINDING

By

OSUIGWE AN¹, EBENEKE J² AND OKAFOR C³.

¹Paediatric Surgery Unit, Department Of Surgery , College of Health Sciences, Nnamdi Azikiwe University, Nnewi campus.

²Department of Paediatrics, College of Health Sciences, Nnamdi Azikiwe University Nnewi campus

³Radiology Department, Nnamdi Azikiwe University Teaching Hospital, Nnewi

SUMMARY

A 1yr 5 month old male was referred to our unit with the complaint of acute urinary retention for 3 days. The diagnosis by the referring paediatrician was posterior urethral valve (PUV).

Examination revealed a hard mass in the posterior urethra. Intravenous urography with micturating cystourethrogram confirmed PUV.

Urethral catheterization failed and a suprapubic cystostomy was made to drain urine and establish continuous drainage.

Two days later the hard mass initially felt in the posterior urethra appeared in the urethral meatus and was extracted under sedation. It turned out to be a urethral stone measuring about 4mm in its widest diameter.

Impacted urethral stone co-existing with PUV is rare. A high index of suspicion as well as advanced imaging techniques are needed to make the diagnosis.

Key Words: Urethral stone, posterior urethral valve

INTRODUCTION:

Urinary stone in the paediatric age group is not a common phenomenon¹ often when it occurs, a cause is easily identified: either there is an abnormal tract², a diet/metabolic disorder³, an infection⁴ or there is a foreign body within the tract⁵. For an obstructive uropathy to be caused by an impacted urethral stone co-existing with a posterior urethral valve (PUV) is rare.

Here we present a case of a urethral stone co-existing with a posterior urethral valve.

CASE REPORT

Master A, a 1yr 5 month old boy was referred to our unit by a consultant paediatrician as a case of acute urinary retention which had been on for 3 days. The paediatrician thought that the underlying pathology was a posterior urethral valve.

The parents gave a history of straining, poor stream and dribbling of urine which was on for more than 8 months before the acute retention 3 days prior to, and necessitating, the paediatric consultation. They also gave a history of intermittent fever of about six months duration.

Examination of the patient showed a boy of the stated age who was in fairly good health. He was in acute pain due to an easily identified distended bladder. Rectal examination revealed a tiny hard mass at the prostatic region. A diagnosis of urinary retention due to bladder neck stenosis, posterior urethral valve, and rhabdomyosarcoma of the prostate and urethral stone in that order were entertained.

Urethral catheterization with size 6 and 8 Foley catheter all failed and a suprapubic cystostomy was done to decompress the bladder and establish free urinary drainage. Serum electrolytes, blood urea and creatinine were

Correspondence Author:

Dr. A.N Osuigwe, Paediatric surgery unit, Department of Surgery
Nnamdi Azikiwe University Teaching Hospital

P.M. B. 5025, Nnewi, Anambra State

E-mail: dranosuigwe@yahoo.com

Accepted for Publication: 17th July 2003

done. These were followed by an intravenous urography (IVU) with micturating cystourethrogram.

The I.V.U. showed obstruction at the prostatic urethra with dilatation of the upper part of the tract. The micturating cystourethrogram confirmed the presence of a posterior urethral valve. The urinary and blood chemistry were all normal.

Later, the mass felt per rectum became palpable at the bulbous urethra. Attempt to milk it further down failed.

Because the unit had no facilities for cystoscopy and transurethral procedures, a perineal approach to the mass was planned but before the operation and two days after the initial presentation, the mass appeared at the urethral meatus and was extracted under sedation. It turned out to be a urinary stone measuring about 4mm in its widest diameter.

DISCUSSION

The commonest cause of obstructive uropathy in the paediatric age group is posterior urethral valve. The age of our patient and the symptomatology fits the diagnosis of posterior urethral valve. Reports of paediatric urolithiasis are found in the literature^{7,8,9} but associated impacted urethral stone co-existing with PUV is rare¹⁰. This may be due to spontaneous passage. Most of the reports are from the areas where stone formation is endemic, awareness is high and facilities for investigation⁵ and treatment^{3,4} are well perfected.

Urethral stone co-existing with PUV is rare worldwide and in our environment. Consequently there is low level of awareness. Our center does not have facilities for minimal invasive procedures hence an open perineal operation with its attendant risks was planned for this patient. Most of the reports cited above are from centres with full fledged paediatric urology departments with well developed and equipped endo-urology units. There is need for such manpower and infrastructural development in this part of the world.

An important lesson from this report is that in the absence of advanced gadgets for investigation, the greatest asset the clinician has is his clinical acumen. In rare clinical entities such as this a high index of suspicion is required to make a diagnosis.

REFERENCE

1. Minevich E. Paediatric urolithiasis. *Paediatr. Clin. North Am.* Dec 2001; 8(6): 1571-85
2. Slavkovio A, Vlakovie M, Radovanovic M et al. ESWL in the treatment of stone in a child with horseshoe kidney. *Int. Urol. Nephrol* 2001; 32 (3): 327-9
3. Cillo AC, Cattini H, Boim MA et al. Evaluation of Lithogenic elements in urine of healthy newborns. *Paediatr. Nephrol.* Dec. 2001; 16(12): 1080-3
4. Perez B, Marcos R, Calpan D et al. Metabolic risk factors for stone formation in patients with cystic fibrosis. *J. Urol* Feb. 2002; 167(2pt1): 480-4.
5. Rub R, Madeb R, Morgenstern S et al. Development of large bladder calculus on sutures used for pubic bone closure following extrophy repair. *World J. Urol.* Aug 2001; 19 (4): 261 – 2.
6. Roth KS, Carter WH Jr. and Chan JC. Obstructive Nephropathy in children: long term progression after relief of posterior urethral valve. *Paediatric.* 2001; 107 (5): 1004-10.
7. Zargooshi J. Open stone surgery in children, is it justified in the era of minimally invasive therapies? *BJU Int.* Dec 2001; 88 (9): 928 – 32.
8. Ather MH, Paryani J, Memon A et al. A 10 year experience of managing ureteric calculi: changing trends towards endourological intervention - is there a role for open surgery? *BJU. Int.* 2001; 88(3): 173-7

9. Miyake O, Kakimoto K, Tsujihata M et al. A strong inhibition of crystal cell attachment by paediatric urinary macromolecules: a close relationship with high urinary citrate secretion. *Urology* 2001; 58(3): 493-7.
10. Sarkissian A, Babloyan A, Arikants N et al. Paediatric Urolithiasis in Armenia: a study of 198 patients observed from 1991-1999. *Paediatric Nephrol* 2001; 16(9): 728-32