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Case Reports of a Rare Entity: Congenital Posterior Urethral Polyp with Posterior Urethral Valve

Aboli Hukeri[1*], Abhaya Gupta[2], Paras Kothari[3], Vishesh Dikshit[4], Geeta Kekre[5]

1-5Lokmanya Tilak Municipal General Hospital, Sion, India

***Corresponding author:** Aboli Hukeri
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Abstract **Case Report**

Posterior urethral valve is the commonest cause of bladder outlet obstruction in neonates while posterior urethral polyp is rare one. We report a series of 2 cases with solitary posterior urethral polyp with type I posterior urethral valve in neonates. Posterior urethral valve fulguration with transurethral resection of polyp was performed in both cases. In both cases, histopathological examination revealed congenital posterior urethral benign polyp.
Keywords: posterior urethral polyp, posterior urethral valve, congenital bladder outlet obstruction, case report

INTRODUCTION

Congenital urethral polyps are the most commonest cause benign mesoderm tumors of urinary tract [1]. They occur more frequently in males, in posterior urethra; and very rarely in females [1]. Such polyps can cause variety of symptoms in pediatric age group, usually in first decade of life, or can be asymptomatic [2-4]. These are rarely associated with other congenital urinary tract anomalies. Ultrasound and voiding cysto-urethrography aid the diagnosis while cysto-urethroscopy confirms it [4-6]. Transurethral endoscopic or transvesical resection is the treatment of choice and prognosis is excellent [11]. We report 2 cases of posterior urethral polyp with posterior urethral valve in neonates.

CASE REPORT

Till date, only one case of posterior urethral valve (PUV) with posterior urethral polyp (PUP) in a neonate [7] has been reported which is also from the same institute and hence the series of such rare association (baby A and B) is reported.

Baby-A, a 22 days old, 2.3-kg, male neonate was referred to our tertiary care centre with urinary retention due to suspected congenital bladder outlet obstruction. He was antenatally diagnosed with bilateral hydronephrosis and hydroureter. He was born full term and had no respiratory distress after birth. On examination, the baby was euthermic, hypertensive and was having a palpable urinary bladder. Complete blood counts were normal while blood gas analysis was slightly deranged. Renal function tests were deranged (blood urea nitrogen 32 mg/dL and serum creatinine 2.2 mg/dL). Urine routine microscopy was normal, and urine culture showed no growth. Abdominal ultrasound showed bilateral moderate hydronephrosis, hydroureter, and distended trabeculated bladder with thickened wall. Voiding cysto-urethrogram (VCUG) revealed right-sided grade V vesicoureteric reflux, trabeculated bladder wall (Fig. 1-A). The patient was catheterized and was started on injectable antibiotic. Gradually, renal functions improved (blood urea nitrogen 18 mg/dL and serum creatinine 1.1 mg/dL). Subsequently, patient was posted for cystourethroscopy electively which revealed normal anterior urethra, type I PUV, single pedunculated polyp between bladder neck and verumontanum (on right side of midline), severely trabeculated bladder, and bilateral ureteric orifices could not be visualized (Fig. 2-A). Base of polyp was coagulated with bugbee electrode, excised and delivered per-urethrally. PUV was fulgurated at 12, 5 and 7-o'clock positions and patient was catheterized. Postoperative course was uneventful. Per-urethral catheter was removed on postoperative day 3 and the baby was discharged. Check cystoscopy and fulguration of PUV was performed after 4 weeks. DTPA and DMSA renal scans at 2 months of age revealed nonfunctioning right kidney and scarred left kidney. Follow-up abdominal ultrasound has not shown decrease in hydronephrosis and hydroureter of left side with decreased parenchymal thickness for which left loop ureterostomy was done at age of 3 months.

In second case [7]; baby-B, a 7-day-old, 2.8-kg, male neonate, antenatally diagnosed case of bilateral hydronephrosis and hydroureter was referred to us with urinary retention. He was born full term and had no respiratory distress after birth. On examination, the baby was afebrile, normotensive and was having palpable urinary bladder. Hematological investigations and blood gas analysis were normal. Renal functions obtained on day 7 of life were deranged (blood urea nitrogen 36 mg/dL and serum creatinine 3.2 mg/dL). Urine routine microscopy was normal and urine culture showed no growth. Abdominal ultrasound showed findings same as baby-A. VCUG revealed right-sided grade V vesicoureteric reflux, trabeculated bladder wall, and dilated posterior urethra (Fig. 1-B). The patient was catheterized and was started on injectable antibiotic. Gradually, renal functions improved (blood urea nitrogen 18 mg/dL and serum creatinine 0.9 mg/dL). Subsequently, patient was posted for cystourethroscopy electively which revealed normal anterior urethra, type I PUV, single pedunculated polyp between bladder neck and verumontanum in the midline, severely trabeculated bladder and bilateral ureteric orifices could not be visualized (Fig. 2-B). Base of polyp was coagulated with bugbee electrode, excised and delivered per-urethrally. PUV was fulgurated at 12-o'clock position and patient was catheterized. Postoperative course was uneventful. Per-urethral catheter was removed on postoperative day 2 and the baby was discharged. Check cystoscopy and fulguration of PUV was performed after 4 weeks. Baby was asymptomatic at monthly follow-up, and serial abdominal ultrasound showed decrease in bilateral hydronephrosis and hydroureter with increased renal parenchymal thickness. DTPA and DMSA scans at age of 3 months revealed normal bilateral renal functions.

Histopathology of polyp in both patients confirmed transitional epithelium over a fibrous core suggestive of fibro-epithelial polyp.

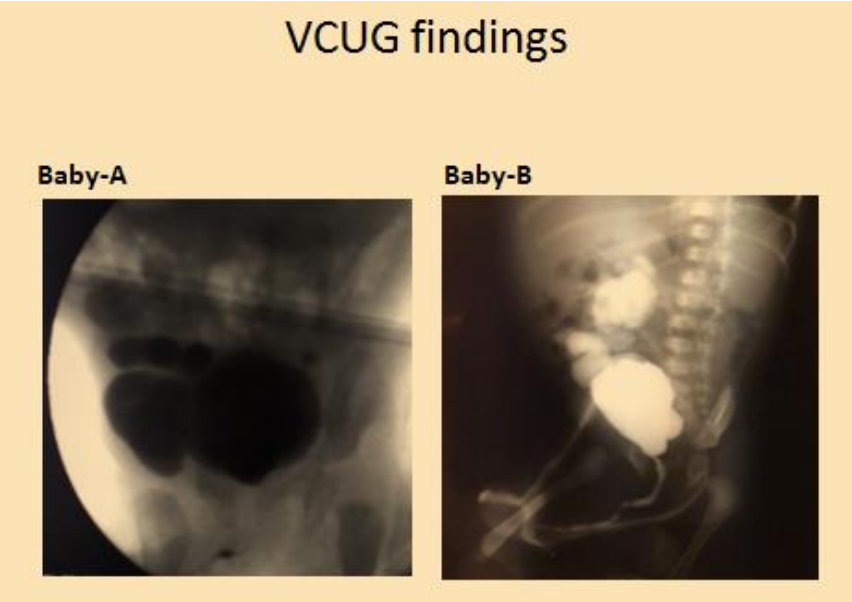

Fig-1

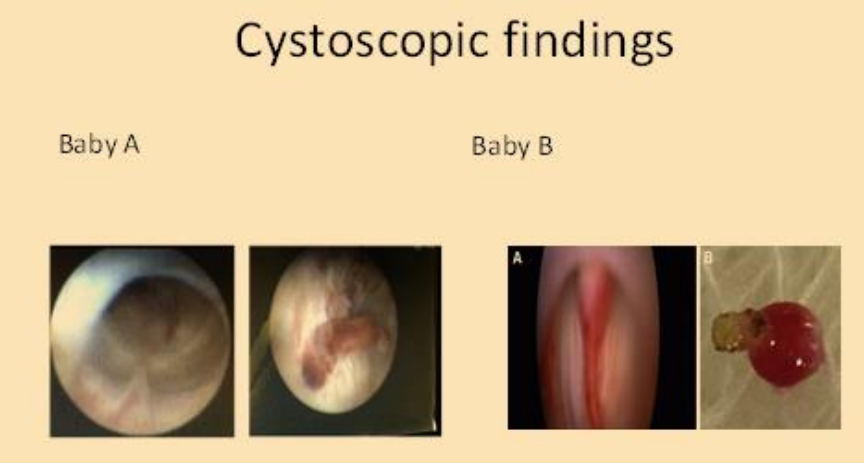

Fig-2

DISCUSSION

Thompson reported the first case of congenital posterior urethral polyp (PUP)[8]. Congenital urethral polyps are rare with only sporadic reports of a small series of cases [9] though they are the commonest benign mesodermal tumors of the urinary tract. These occur more frequently in posterior urethra as compared to anterior urethra; also in males as compared to females. Polyps in boys mostly arise proximal to the membranous urethra, and present usually as a solitary tumor, only rarely as multiple separate lesions and also called as prostatic urethral polyps (in boys), fibro-epithelial urethral polyps. Average age of presentation is 5.2 years [1].

Downs postulated PUP as a defective protrusion from posterior urethral wall [9] or they probably represent a developmental error in the invagination process of the submucosal, glandular portion of the inner zone of the prostate gland [10]. Other etiologic factors proposed are irritative, infectious, obstructive, and traumatic [9]. In early infancy, PUP usually causes urethral obstruction. However, in older boys, the main presenting features include of acute urinary retention or intermittent urinary obstruction, hematuria, UTI, VUR, and enuresis. A history with physical examination and uro-flowmetry patterns in toilet-trained children can suggest the diagnosis [1]. In infants, ultrasonography and voiding cysto-urethrography aid the diagnosis; may not always successfully. The final diagnosis must be confirmed by direct video cysto-urethroscopy with minimal irrigation flow. Transurethral resection of PUP (with electrode or LASER) is the treatment of choice [11]. However, open transvesical removal may be an acceptable alternative when the polyp length is more than 3cm, diameter is 1cm or more and polyp which is displaced into urinary bladder [1].

In our case, PUP was managed by transurethral resection with bugbee electrode along with PUV fulguration in same setting.

After extensive search in literature, we could find only one reported case of PUV with PUP in a neonate [7] from the same institute and hence the series of such rare association is reported.

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