

# Posterior Urethral Valve Presenting as Nocturnal Enuresis

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**Abstract:** *Background: unusual presentation of posterior urethral valve presenting as nocturnal enuresis in late adolescence. Case characteristic: 17 year male presenting as nocturnal enuresis. Observation: Micturating cystourethrogram and Retrograde urethrogram showing dilated and elongated prostatic urethra with filling defect at junction of prostatic and membranous urethra. Outcome: Patient recovering after surgical intervention on regular follow up to urologist. Message: PUV can be considered as differential diagnosis in adolescent boys presenting as unusual nocturnal enuresis.*

**Keywords:** Micturating cystourethrogram, retrograde urethrogram, posterior urethral valve

## 1. Introduction

Posterior urethral valves (PUV) are now most frequently suspected by antenatal ultrasound. Postnatally, PUV can have a broad spectrum of presentation ranging from a life threatening pulmonary hypoplasia due to oligohydroamnios, to milder obstruction with few pathological signs or symptoms that may escape early detection and manifest only in later childhood, adolescence or even adulthood [1-4]. Older patients usually present with lower urinary tract symptoms (LUTS), overflow incontinence, recurrent infections, or less commonly, ejaculatory dysfunction, gross haematuria and renal insufficiency [3,4]. We present the rare case of an adolescent who presented late with overflow nocturnal enuresis and mild increase in serum creatinine level.

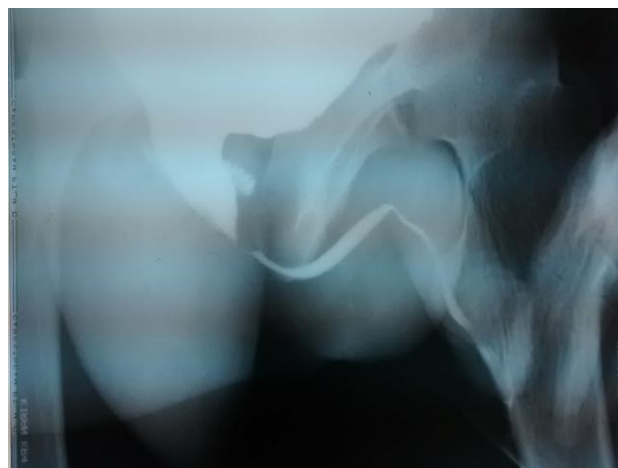
## 2. Case

17 year male adolescent presented in OPD with nocturnal enuresis for 2-3 days. Till the appearance of symptoms patient was totally asymptomatic. No history of urgency, increased frequency, dysuria, dribbling of urine, over flow incontinence, child thriving well and in good nutritional status. On examination fully conscious vitals stable blood pressure (112/68 ) between 50 to 90<sup>th</sup> percentile. General physical examination unremarkable. Per abdomen examination no organomegaly no tenderness urinary bladder not palpable other systemic examination were also normal. Initially clinical possibility of lower urinary tract infection kept with remote possibility of PUV. Investigations revealed : Hb 10.5, TLC 6900, PCV 33%, PLT 45000, Urea 28 mg/dl, S. creatinine 1.4 mg/dl, Na<sup>+</sup> 139.7, K<sup>+</sup> 4.7 meq/l, total protein 7.5gm/dl, albumin 4.4 gm/dl, TSB 0.54 mg/dl, direct fraction 0.1 mg/dl, ALP 121 IU, SGOT/SGPT 31/36 IU. Peripherical smear showed normocytic normochromic anemia. **USG abdomen showed bilateral gross hydrouretronephrosis with thinning of renal parenchyma with thickened and trabeculated urinary bladder. Micturating cystourethrogram suggestive of thickened trabeculated urinary bladder showing dilated and elongated prostatic urethra with lucent filling defect at junction of prostatic and membranous urethra**

**suggestive of posterior urethral valve leading to bladder neck obstruction.** Child started on prophylactic antibiotics and urologist opinion taken and subsequently after surgical intervention (optical internal urethrotomy) child is improving well and he is on regular follow up.



Pic of child presenting as Posterior urethral valve



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3. pic 2and 3 Micturating cystourethrogram suggestive of thickened trabeculated urinary bladder showing dilated and elongated prostatic urethra with lucent filling defect at junction of prostatic and membranous urethra suggestive of posterior urethral valve leading to bladder neck obstruction.

### 3. Discussion

Prior to the widespread use of antenatal ultrasound, late presentation of PUV was considered a good prognostic sign, suggestive of lesser degrees of obstruction [3]. Late presentations are rare nowadays, but scattered cases have been reported in the past two decades [1,3,4]. Late presenting PUV patients may display both bladder storage and emptying symptoms, incontinence, sexual dysfunction and recurrent urinary tract infections [1,3,4]. Mahony and Laferte [4] studied 26 cases of PUV in men over 21 years of age. The most common presentation was frequency and urgency, followed by obstructive voiding symptoms predominantly in men older than 40 years. Thirty-eight to 70% of neonatally diagnosed and treated PUV patients develop the “valve bladder syndrome,” which represents the spectrum of bladder dysfunction that manifests many years after definitive treatment of valves [6]. Ziylan et al. [5] compared the natural history of both early and late presenters, and showed that bladder dysfunction was present in 85% of the late presenters (mean age, 8.8 years); however, the same characteristics of dysfunction were also found in patients with early diagnosis (mean age, 17.7 months). This similar pattern of progressive bladder dysfunction may indicate a common pathophysiology for both early and late presenters. Indeed, some suggest that the outlet obstruction during intrauterine development causes permanent changes in detrusor structure, which may be responsible for the bladder deterioration observed in adolescence [5,7]. End-stage renal disease (ESRD) can occur in up to 43% of patients with PUV by age 30 [9]. A review by Bomalaski et al. [1] on 47 patients aged 5 to 35 years with delayed presentation of PUV revealed that, at diagnosis, renal insufficiency was present in 35% and ESRD in 10%.

In their series (mean follow-up, 32 months), Bomalaski et al. [1] found that incontinence, dysuria and weak urinary stream resolved in 18% and improved in 45%, while renal function worsened in 10%. In Schober’s review of 70 late presenting PUV patients (mean age, 7 years; range, 2 to 14 years), 68% had good or improved bladder emptying immediately after valve ablation; however, 63% had ongoing daytime urinary incontinence, nocturnal enuresis or urinary frequency at mean follow up of 25 months [3]. Also, we plan to follow the case for a late developing renal insufficiency. Our case highlights the late presentation of PUV with preserved renal functions. This unusual case underscores the spectrum of clinical findings associated with late presenting valves. PUV though not very common, but can be taken in to differential diagnosis of any child or adolescence presenting with urinary symptoms.

### References

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