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CASE REPORT

Adult Posterior Urethral Valve: a Case Report of the Oldest Known Patient

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Abstract: A posterior urethral valve (PUV) is a congenital obstructive defect of the male urethra, and sometimes maybe life threatening. The diagnosis of PUV is usually made early because of its symptoms and has rarely been diagnosed in adults for the first time in life. Here we report a rare case of an adult PUV in a 67 year-old man with 40 years history of urinary obstruction complaints with coincidence type 1 and 2 of PUV who underwent transurethral resection of the bladder neck and valve ablation. After 6 months follow-up, no evidence of urinary obstruction observed.

Keywords: Adult, PUV, Urethral obstruction

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1. Introduction

Posterior urethral valves (PUVs) are relatively common and found in most congenital urinary obstructions in male patients. (1) This obstructive membrane is not functional and is not an embryologic developmental stage of the urethra. It has a real mechanical obstructive role in obstructive symptoms. The incidence of PUV is 1 in 8,000 to 25,000 live births and 10% of urinary obstructions diagnosed in utero is because of PUV. (2) Young's classification used for PUV.

Type I: This is the most common type. There is a ridge lying on the floor of the urethra, continuous with the verumontanum, which takes an anterior course and then divides into two fork-like processes in the bulbomembranous junction. These processes continued as some thin membranous sheets. 95% of all posterior urethral obstructions consist of Young's type I valves.

Type II: valves are arising from the verumontanum and then extending along the posterior urethral wall, toward the bladder neck straightly.

Type III: valve just like a membrane lying transversely across the urethra with a perforation near the center. The membrane is distal to the verumontanum but sometimes elongated, like a windsock, and reaches the bulbous urethra. Only 5% of PUVs consist of Type III. (3)

Another subtype of PUV type III has been founded at different levels of the posterior urethra and is not related to the verumontanum. This obstructive valve attached to the entire circumference of the urethra, and there is a small opening in the center. Some incomplete varieties of this type described but the most common type is a crescent-like or semicircular fold that crossing the urethra, attaching either to the roof or floor of it. Initial Management of Posterior Urethral Valves consists of Bladder Drainage, Valve Ablation, and Management of Vesicoureteral Reflux.

2. Case Report

The patient is a 67 year-old man with symptoms of dribbling, weak stream voiding, intermittency, severe obstructive symptoms, and overflow incontinence, for the past 40 years. He underwent cystoscopy and dilatation of urethra in another medical center two times. He was then referred to this center. In rigid cystoscopy, we found a flap of urethra, parallel to sphincter as type 1 of PUV. (Figure 1) There were two bundles between verumontanum and bladder neck as PUV type 2. (Figure 2) There was a moderate trabeculation in bladder. No significant obstruction seen in prostatic urethra. The patient underwent a video endoscopic surgery, consist of PUV ablation with Bugbee electrode (Figure 3) and transurethral resection (TUR) of bladder neck (Figure 4). Pa-

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tient´s obstructive symptoms was completely improved. The patient followed for 6 months. There was not any post voiding residue after 1, 3 and 6 months follow-up. Normal voiding pattern and maximum flow rate of 16 ml/s and average flow rate 10 ml/s in uroflowmetry documented. There was no evidence of obstruction or recurrence in cystoscopy after 6 months of operation.

3. Discussion

PUVs are the most common causes of urinary obstructions in neonates but obstructions can overcome by detrusor contraction and maybe missed until adolescence (4, 5). In young patients, the most common complaint is poor urinary stream or difficulty with micturition in neonates, but azotemia is more common in older patients (6).

Late presentation of PUV is a rare condition and it estimated to occur in 10% of PUV cases (7). PUVs detected in infants are more severe than in adults. Common symptoms include irritation symptoms of the lower urinary tract, recurrent UTI, obstructive symptoms and rarely ejaculatory problems, gross hematuria, and renal failure (8, 9). Other rare situations are enuresis (10) and perineal pain with dilated Cowper´s glands (11). Fibrous bladder neck contracture occurred in 67% of adults and its incidence correlated with patients' age (8). Sometimes high prostatic pressure leads to sclerosing prostatitis and often leads to gradual fibrosis of the bladder neck. In patients with persistent obstruction after the resection, Bladder neck incision recommended (12). Also, in adult patients with severe stricture, bladder neck incision recommended. Culty et al reported PUV in a 40 y/o man with Down syndrome (13). Voiding cystourethrography (VCUG) is the definitive and gold standard imaging study for the diagnosis of PUV (3). In our case, we made the diagnosis and the treatment simultaneously during cystourethroscopy, thus we did not perform VCUG. Carlos Marcio Nobrega et al reported two cases of PUV in 11 and 40-year-old patients (14). Mete Kilciler et al reported PUV in a 35-year-old man (15). However, our case was the oldest patient diagnosed with PUV.

Although PUV is a common diagnosis in infancy and the first year of childhood, it must be considered in boys and men who have urinary complaints in order to treat this curable condition. Our patient has shown that even in the elderly with obstructive urinary symptoms, PUV is still a rare but probable diagnosis and should considered.

This study was confirmed by the ethical committee of Shahid Beheshti University of Medical Sciences. Informed consent was taken from the patient and patients' personal information will remain confidential.

4. Appendix

4.1. Acknowledgements

We thank the staff of Shohada-e-Tajrish hospital operation room who helped in data collection.

4.2. Author contribution

All the authors have the same contribution.

4.3. Funding/Support

None.

4.4. Conflict of interest

The authors declare that they have no conflict of interest.

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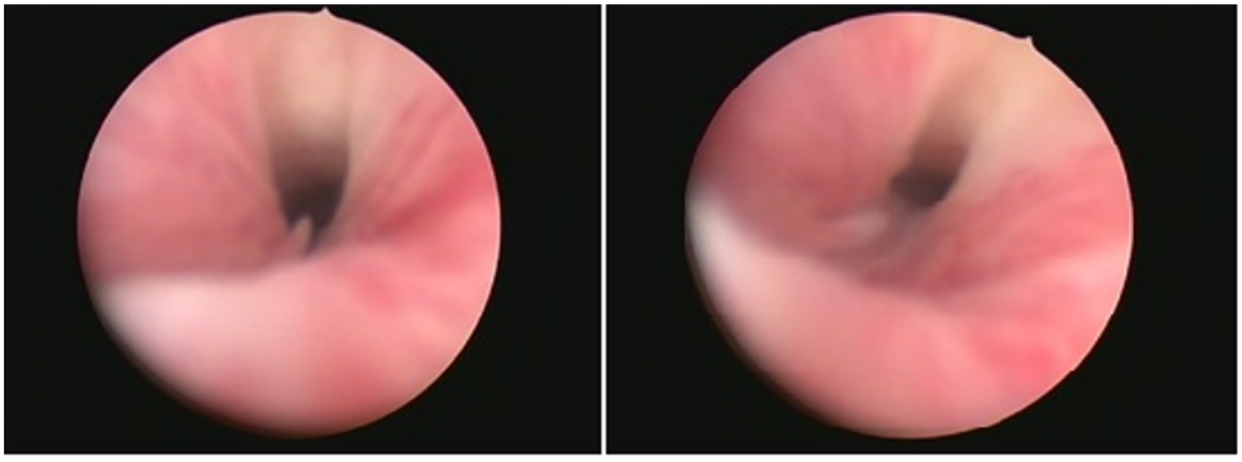

Figure 1: PUV Type I

Figure 2: PUV Type II.

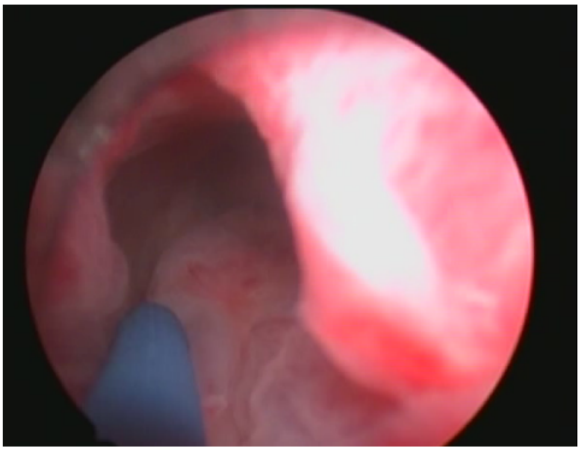

Figure 3: PUV ablation.

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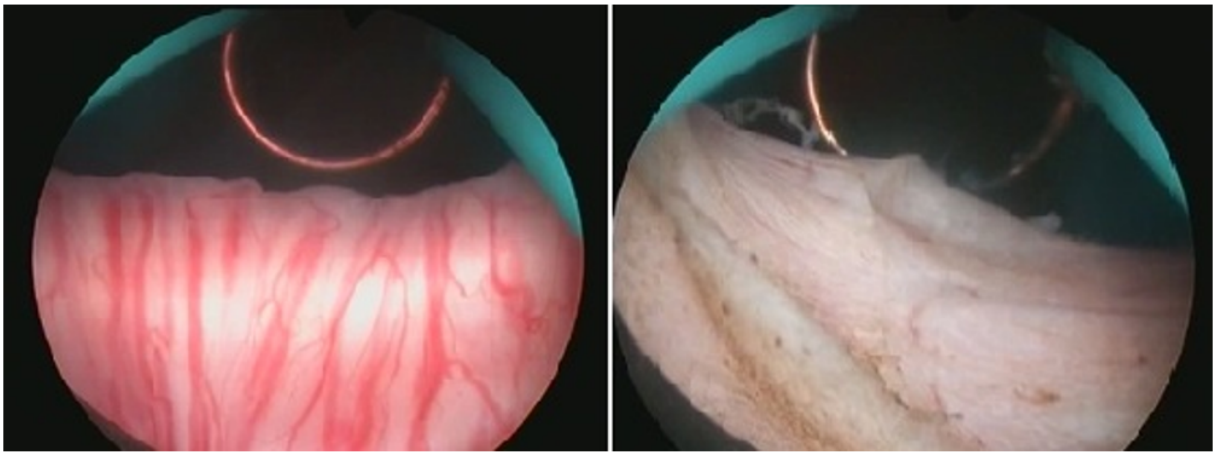

Figure 4: TUR of bladder neck.

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