Hameed and Anwaar
African Journal of Urology (2023) 29:58
https://doi.org/10.1186/s12301-023-00389-9

African Journal of Urology

CASE REPORTS Open Access

A case report of Cobb's collar with posterior urethral valves: a rare entity

Farooq Hameed[1] and Adeel Anwaar[2*]

Abstract

Background Posterior urethral valve (PUV) is a congenital disorder typically presenting in the neonatal period and is associated with the obstruction of the urinary tract. Cobb's collar is congenital narrowing of bulbar urethra in infants. It can lead to significant morbidity, which may include irreversible renal failure if left untreated.

Case presentation A 21-month-old child presented with acute retention of urine and distended lower abdomen. His baseline tests were normal. Ultrasound KUB showed grossly enlarged bladder with almost 1100-ml residual urine. Foley's catheterization attempted but failed. Urgent cystoscopy was planned where congenital anterior urethral stricture with posterior urethral valves was seen. DVIU done for urethral stricture followed by fulguration of posterior urethral valves. The patient was discharged from hospital the next day.

Conclusion A congenital narrowing of the bulbar urethra is uncommon. Though it is rare, it can occur concomitantly with PUV. If this double pathology is missed can result in serious consequences. Children with recurrent urinary tract infections should be ruled out for anterior urethral strictures.

Keywords Cobb's collar, Congenital urethral stricture, Urinary tract infections, Urethral orifice widening

1 Background

Congenital urethral stricture is a rare, life-threatening birth defect of the urinary tract that can occur in any stage of gestation. It is membranous narrowing of bulbar urethra, which can cause urinary tract infections, difficulty while urination, and hydronephrosis. In this case report, we describe a patient with Cobb's collar and posterior urethral valves who was successfully treated with endoscopic surgery.

This case highlights the importance of considering Cobb's collar in the differential diagnosis of children with urinary tract symptoms. Early diagnosis and treatment are essential to prevent complications such as renal failure. Cobb's collar association with posterior urethral valves is the 2nd case to be reported till now and 1st in Pakistan.

2 A case report presentation

This patient is a 21-month-old male who presented with retention of urine. He had a history of recurrent urinary tract infections since birth. Antenatal scans were not done. Physical examination revealed palpable, distended lower abdomen. Further investigation with ultrasound showed evidence of retention of urine (PMRV 1100 ml) (Fig. 1). Foley's catheterization attempted but could not be successful. Other investigations including MCUG and retrograde urethrogram were avoided to prevent further trauma to the patient, and cystoscopy was planned. All baseline investigations were normal including complete blood count, blood urea, serum creatinine, liver function tests, bleeding profile, urine complete examination, and urine for culture and sensitivity. On cystoscopy, narrowing of urethra (Fig. 2) in high bulbar region was noted followed by type 2 posterior urethral valves (Fig. 3) and wide open left ureteric orifice (Fig. 4). Urethral narrowing

*Correspondence:
Adeel Anwaar
adeelanwaar9@gmail.com
[1] Consultant Urologist Department of Urology Shalamar Hospital, Lahore, Pakistan
[2] Department of Urology Shalamar Hospital, Lahore 54000, Pakistan

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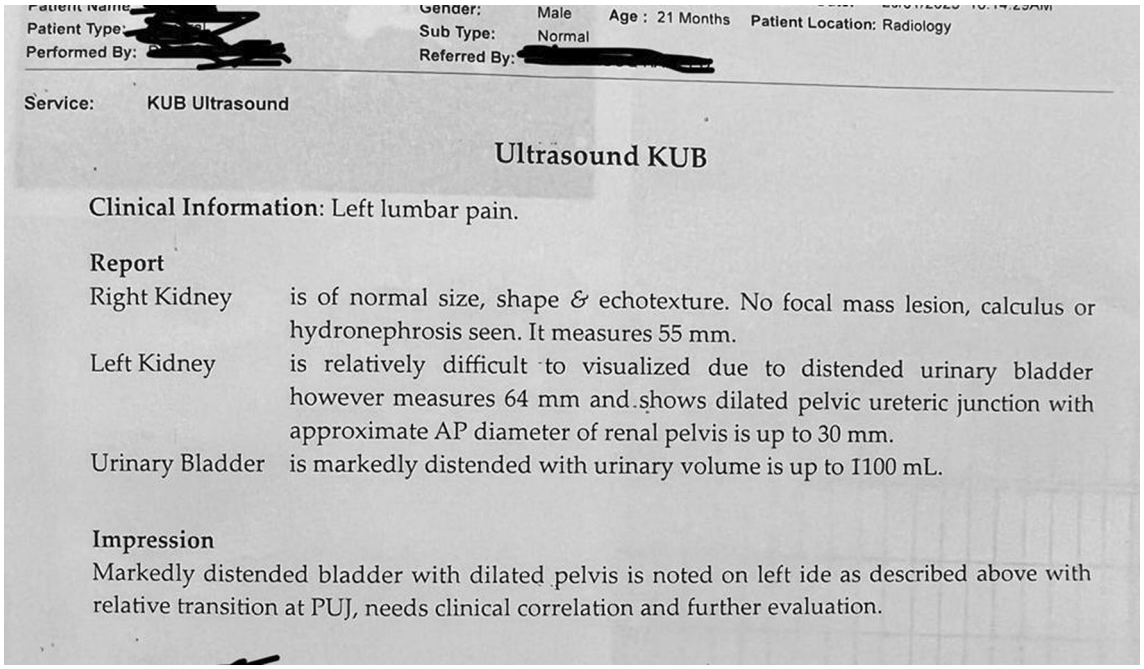

Patient Name: [redacted]
Patient Type: [redacted]
Performed By: [redacted]
Gender: Male Age : 21 Months Patient Location: Radiology
Sub Type: Normal
Referred By: [redacted]

Service: KUB Ultrasound

Ultrasound KUB

Clinical Information: Left lumbar pain.

Report

Right Kidney is of normal size, shape & echotexture. No focal mass lesion, calculus or hydronephrosis seen. It measures 55 mm.

Left Kidney is relatively difficult to visualized due to distended urinary bladder however measures 64 mm and shows dilated pelvic ureteric junction with approximate AP diameter of renal pelvis is up to 30 mm.

Urinary Bladder is markedly distended with urinary volume is up to 1100 mL.

Impression

Markedly distended bladder with dilated pelvis is noted on left ide as described above with relative transition at PUJ, needs clinical correlation and further evaluation.

Fig. 1 Ultrasound findings

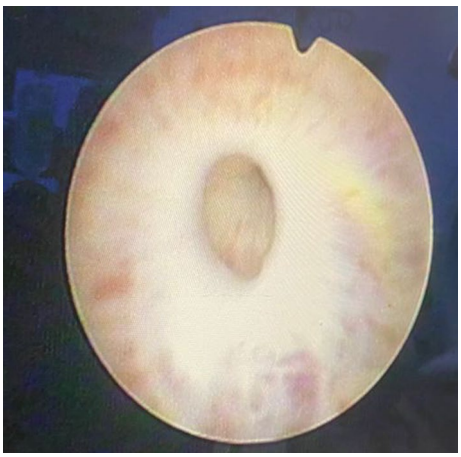

Fig. 2 Cobb's collar

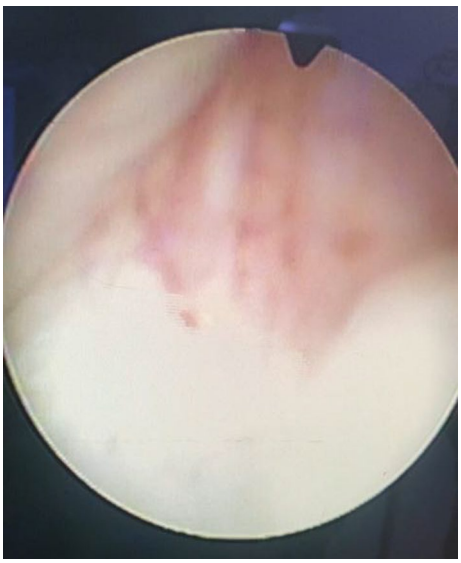

Fig. 3 PUVs type 2

was opened up with direct visual internal urethrotomy (DVIU) then passage of scope and PUVs were fulgurated successfully. The next day, the child was discharged from hospital. The patient had unevenful recovery on the following visit.

3 Discussion

A bulbar urethral narrowing was described for the first time by Cobb et al. (1968). They used retrograde urethrography, calibration bougienage, and cystourethroscopy to observe a bulbar abnormality in 26 boys [1]. The anterior urethra starts at the membranous region, encompasses the bulbar and penile urethras, and terminates at the fossa navicularis. The most common anterior urethral valves (AUV) are reported in the bulbar urethra (40%), penoscrotal (30%), penile (30%), and rare in fossa navicularis. The most common cause of bladder outlet obstruction (BOO) in boys and the most common cause of end-stage renal disease in children are PUV [2].

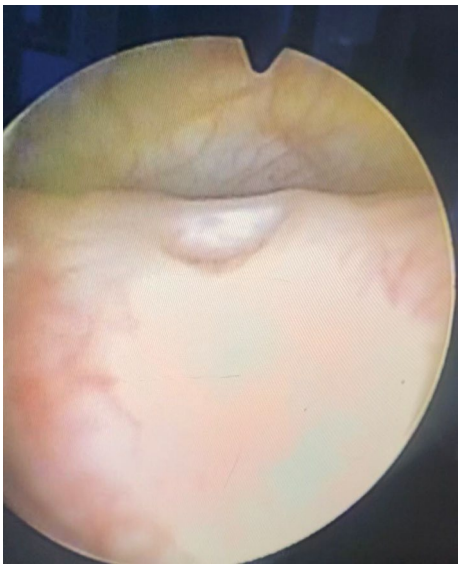

Fig. 4 Left ureteric orifice

There is only one report of chronic renal failure caused by the failure to recognize the CC during the fulguration of a PUV [3]. Bulbar urethral strictures were underestimated until the first half of the 1990s, when according to Dewan et al. [4] and Nonomura et al. [2], reviewing the bulbar urethral narrowing radiological and video recordings of cystoscopies. Both studies found that the majority of patients were under 1 year of age, and there was no history of vesicoureteral reflux (VUR), trauma, catheterization, or instrumentation to the urethra. The study by Banks et al. [5] examined 12 pediatric patients with an example of bulbar or posterior urethral stenosis. Six patients presented during the 1st year of life. The remaining five patients presented after the age of 11 and one at 3 years of age.

A delayed presentation may be the result of a congenital stricture trauma or asymptomatic inflammation of the urethra. It is possible for presentation to vary, many of these patients are treated with blind urethral catheterization. Hydronephrosis, wide open ureteric orifice, and chronic urinary retention as in our case, this may be a presenting feature for some patients [5, 6]. Over the past 50 years, various investigations have been considered to verify CC. Sugimoto et al. and Smith et al. found uroflowmetry to be ineffective in detecting CC and recommended MCUG test [7, 8]. We did not performed these tests considering less harm to patient as already catheterization was attempted but failed. Late-onset cases may need urethroplasty. Familial occurrence of Cobb's collar is thought to be rare, and only a few cases have been reported in the literature, indicating that this rare entity may have a familial basis [9, 10].

4 Conclusion

A congenital narrowing of the bulbar urethra is uncommon. Though it is rare, it can occur concomitantly with PUV. If this double pathology missed can result in serious consequences. Children with recurrent urinary tract infections must be evaluated for anterior urethral strictures including CC and PUVs.

Acknowledgements
None.

Author contributions
All authors helped with study design, data collection, and manuscript editing and review. AA drafted the manuscript and helped with data analysis and literature review.

Funding
The authors received no financial support for the research, authorship, or publication of this article.

Availability of data and materials
Data can be requested from corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
Ethical approval was taken for this study. Written informed consent was obtained for anonymized information published in this article.

Consent for publication
Consent for publication is taken from the patient.

Competing interests
The authors declare no potential conflicts of interest with respect to the research, authorship, or publication of this article.

Received: 14 February 2023 Accepted: 15 October 2023
Published online: 31 October 2023

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