Case report

A case report of urethral stricture of a 3 months old female child

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Abstract:

Background: Urethral stricture is a narrowing of the urethra which can either be congenital or acquired. In most cases, it is an acquired disorder. Congenital stricture is less common and even less commonly found in paediatric population.***Case presentation:*** A 4-Month-old baby attended outpatient department with complaint of high fever and excessive crying that was more pronounced before and during urination along with whitish discharge mixed with urine. Urine R/M/E detected plenty pus cell. Left ureter appears grossly dilated, tortuous in USG. Constriction is noted in the distal part of urethra with proximal dilatation with bilateral vesico-ureteric reflux. ***Conclusion:***As, no other cause i.e., iatrogenic, traumatic, inflammatory, post-infectious, was found out, there remain only one possibility for this baby having urethral stricture which is idiopathic or congenital cause.

Keywords: Urethral stricture; female; children; congenital stricture

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Background: Urethral stricture is a narrowing of the urethra which functionally has the effect of obstructing the lower urinary tract[1]. Urethral stricture can cause micturition disturbance which affects the daily life markedly. Stricture Along any part of ureter or urethra may precipitate urinary tract infection and subsequently renal damage. Common causes of urethral stricture[1,2]: 1) Iatrogenic (45%); which includes i) Transurethral prostate resection, ii) Radical prostatectomy, iii) Hypospadias correction, iv) Indwelling catheter and v) Cystoscopy; 2) Bacterial urethritis (20%); 3) Lichen sclerosus et atrophicus (5%) and 4) Idiopathic (30%). Urethral stricture is relatively common condition in male but the condition is found n lower prevalence in female. In female child this condition can be found rarely. Current literatures describe multiple cases of female urethral strictures however, most of the cases found were above 40 years of age. The aim of this article is to describe the history and management of stricture in a 4 months old female baby.

Case presentation: A 4-Month-old Bangladeshi female baby attended outpatient department of Dr. M R Khan Shishu (Children) Hospital & Institute of Child Health with complaint of high fever to this hospital. The mother gave the history of excessive crying which was more pronounced before and during urination. Mother also noticed whitish discharge mixed with urine. Patient was cardiopulmonary stable with respiration 42 beats/min and a pulse of 96 beats/min. The mother did not give any other medical history ofrelevance. She took no medications previously. Birth of the patient was through vaginal delivery. Any allergy was not known. A blood test revealed haemoglobin 7.7 g/dL, leukocytes: $9.7x10^3$/uL, thrombocytes: $660x10^3$/uL, erythrocytes: $3.19x10^6$/uL, Peripheral Blood Film shows severe microcytic hypochromic anaemia with thrombocytosis, Stool R/M/E detected no abnormality. Urine R/M/E detected plenty pus cell with normalpH. Patient was treated with IV ceftriaxone with dose appropriate for her age for 7 days for suspicion of Urinary tract infectionand blood transfusion to correct the anaemia. However,

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after being released from here. She gotadmitted with similar complaint after a few days. She was investigated further with USG and MCU. Findings are listed below.

Radiology and Imaging: USG of KUB: The left kidney is enlarged in size due to presence of largely dilated pelvicalyceal system.Parenchyma appears much compressed, thin membrane like and featureless. The size of the left kidney is about 8.1x5.4 cm. Left ureter appears grossly dilated, tortuous and traced up to the bladder. There are debris seen within the dilated pelvicalyceal system and dilated ureter. Right kidney is of normal in size. The right renal parenchyma is of normal texture with well defined corticomedullary junction. The pelvicalyceal system of the right kidney is normal. Right ureter is not dilated. The urinary bladder is well filled. The bladder walls appear regular contour and has normal thickness, which is 4.0 mm (range is 3-5 mm).

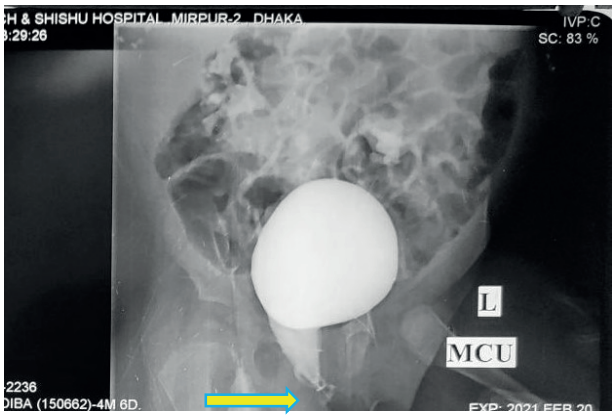

Image 1: Arrow showing distal constriction with proximal dilatation of female urethra

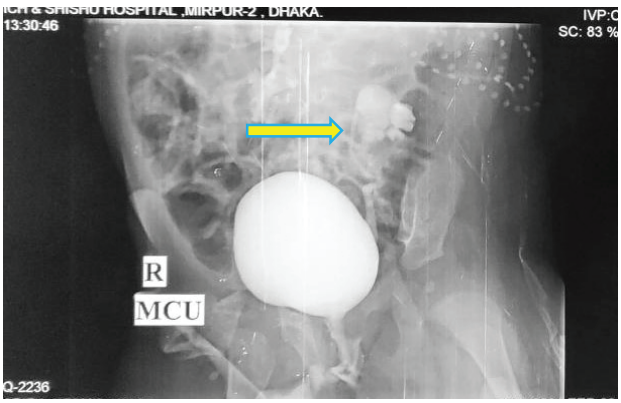

Image 2: Arrow showing vesico ureteric reflux

Micturating Cystourethrogram (MCU): No significantradio opaque shadow or any soft tissue abnormality is noted in control film. After Contrast, the urethra is seen to be uniform in outline. Constriction is noted in the distal part of urethra with proximal dilatation. The bladder is uniform in outline with no intra-vesical focal lesion.Bilateral vesico-ureteric reflux is seen (Left side Grade-V & Right-side Grade-IV). No significant PVR is seen. These findings point toward a diagnosis of urethral stricture. Hence, she was diagnosed as Distal urethral stricture

Discussion and Conclusion: Urethral stricture can either be congenital or acquired. The collaboration of Société InternationaleD'Urologie (SIU) and International Consultation on Urological Diseases (ICUD) recommend in 2014 that stricture aetiology should be stratified into iatrogenic (e.g., hypospadias-associated, post-catheterization, etc.), traumatic, inflammatory (e.g., lichen sclerosus-associated), post-infectious, and congenital[2]. In most cases, it is an acquired disorder whose aetiology may be iatrogenic or traumatic and less commonly infectious and inflammatory. Congenital stricture is less common. Some congenital stricture can present at late age. Thus, urethral stricture is less commonly found in paediatric population. However, patient discussion presented with symptom at 4 months of age. The symptoms were similar to urinary tract infection[3]. The parents deny any history similar to the presenting symptom occurring before. Also, they deny any history of relevant trauma. which rule out the post infectious and traumatic cause. although, unnoticed trauma may occur. Iatrogenic cause was also ruled out because the child did not experience any catheterization or relevant procedure[4] before. No relevant physical illness rules out the inflammatory cause as well. As, no other cause was found out, there remain only one possibility for this baby having urethral stricture which is idiopathic or congenital cause. Although, exact location of the stricture cannot be identified, the nature of symptom and the cause of the stricture point toward a location of anterior urethral stricture[5]. The patient was sent to surgery department for further management.

Ethics approval and consent to participate: Ethical approval was obtained from the ethics approval committee of Dr. M R Khan Shishu Hospital and Institute of Child Health.

Consent for publication: Consent for publication was obtained from patient's parents.

Availability of data and materials: The data used

in the current study are not publicly available but are available from the corresponding author on reasonable request.

Conflict of interests: None

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Authors' contributions: Dr. Sultana Amena Ferdoucy interviewed and diagnosed the case as Clinical Radiologist; Dr. Erfan Ahmed interviewed the patient and was a major contributor in writing the manuscript. Dr. Md. Mamun ur Rashid referred the case to aforementioned institute. All authors read and approved the final manuscript.

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