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Vesicoureteric Reflux in an Extreme Preterm

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Keywords

Preterm; Neonate; Vesicoureteric reflux; Urinary tract infections; MCUG

Clinical Image

Preterm are highly susceptible to Urinary Tract Infections (UTI) due to multiple predisposing factors, with a high prevalence rate of 20% [1]. Significant gaps exist in the diagnostic imaging and management of neonatal UTI as there are no consensus guidelines. We report an extreme preterm (28 weeks + 1 day) male infant weighing 857 grams at birth with recurrent episodes of symptomatic febrile UTI during his NICU course. He had temperature instability, abdominal distension, and bilious aspirates during the fourth week of life. Laboratory evaluation confirmed UTI with elevated inflammatory markers, significant pus cells on urine examination and positive urine culture for *Klebsiella pneumoniae*. Infant received 14 days of Intravenous (IV) antibiotics (Meropenem). Ultrasonography of the renal system was normal. He had another clinical deterioration during the eighth week of life consistent with a multidrug resistant *Escherichia coli* UTI. Review imaging showed features of cystitis with a bladder diverticulum. Micturating Cystourethrography (MCUG) showed unilateral grade 3 Vesicoureteric Reflux (VUR) with significant post-void residue (Figure 1). He was discharged home on Continuous Antibiotic Prophylaxis (CAP) with oral cephalexin. Watchful surveillance for further episodes of UTI and need for Dimercaptosuccinic Acid (DMSA) scan on follow up was explained to the family.

Although the risk for congenital urologic abnormality is considered fairly low among neonates with a UTI, congenital reflux nephropathy can present with recurrent early neonatal UTI, even without antecedent antenatal or postnatal hydroureteronephrosis. Predisposing anomalies



Figure 1: Micturating Cystourethrogram (MCUG) in an extreme preterm neonate at near term gestation (@36 weeks of postmenstrual age).

1a: Shows grade-3 vesicoureteric reflux on the right side with contrast travelling retrograde up to the renal pelvis. The black solid arrows show the moderately dilated ureter and the pelvicalyceal system with mild blunting of the calyces.

1b: The solid red arrow shows the post void dilated bladder suggestive of significant residual volume.

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Copyright © 2024 Deepika R. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. require CAP to significantly reduce the risk of future infections [1]. The sensitivity of ultrasonography to detect VUR is variably low, especially for lower grade reflux [2,3]. Walawender et al. reported VUR on 41.7% of neonates with UTI and recommended MCUG for all neonates with UTI [3]. Given the potential for recurrent UTIs, it might be reasonable to perform ultrasonography and MCUG for all neonates, especially premature infants with a culture positive UTI.

References

1. Lai A, Rove KO, Amin S, Vricella GJ, Coplen DE. Diagnosis and

management of urinary tract infections in premature and term infants. NeoReviews. 2018;19(6):e337-48.

- Wallace SS, Zhang W, Mahmood NF, Williams JL, Cruz AT, Macias CG, et al. Renal ultrasound for infants younger than 2 months with a febrile urinary tract infection. Am J Roentgenol. 2015;205:894-8.
- Walawender L, Hains DS, Schwaderer AL. Diagnosis and imaging of neonatal UTIs. Pediatr Neonatol. 2020;61(2):195-200.