**NEPHROLOGY - II**

# ANTENATAL HYDRONEPHROSIS AND POSTNATAL FOLLOWUP

***Deepthi RV**
****Indira Agarwal**

**Abstract:** *Antenatal hydronephrosis is diagnosed based on the dilatation of renal collecting system and is reported in 1-5% of prenatal ultrasounds with a favourable outcome in majority of affected infants. There are well-structured, evidence-based schema for follow-up and management which helps to identify infants likely to have a significant postnatal pathology. Counselling of parents regarding follow up allays anxiety. All patients diagnosed with antenatal hydronephrosis should undergo postnatal ultrasound. The grading of severity of antenatal hydronephrosis is based on the renal pelvis anteroposterior diameter, Society for Fetal Urology grading and the urinary tract dilatation classification.*

**Keywords:** *Antenatal hydronephrosis, Renal pelvis anteroposterior diameter, Posterior urethral valve, Urinary tract dilatation.*

## Points to Remember

- ***ANH is transient and resolves in the majority of cases; however, all patients with ANH should undergo postnatal ultrasonography even if the third trimester scan is normal.***
- ***The presence of oligohydramnios and evidence of lower urinary tract abnormalities suggest significant pathology.***
- ***Infants with postnatal APRPD > 10 mm or UTD P 2-3 should be screened for upper and lower urinary tract obstruction and VUR.***
- ***Pelviureteric junction or vesicoureteric junction obstruction may need surgical intervention based on the evolution of clinical features and imaging.***
- ***Surgery in UPJ-O is considered in patients with impaired renal function (differential renal function < 3540%), impaired drainage (T½ > 20 min), a worsening renal function (≥5-10% decline) during follow-up renogram or development of symptoms like pain and vomiting or complicating UTI.***

## References

1. Nguyen HT, Herndon CA, Cooper C, Gatti J, Kirsch A, Kokorowski P, et al. The Society for Fetal Urology consensus statement on the evaluation and management of antenatal hydronephrosis. J Pediatr Urol. 2010; 6(3): 212-31.
2. Lee RS, Cendron M, Kinnamon DD, Nguyen HT. Antenatal hydronephrosis as a predictor of postnatal outcome: a meta-analysis. Pediatrics. 2006; 118(2):586-93.
3. Cappolichico JP, Braga LH, Konrad M. Szymanski. Canadian Urological Association/Pediatric Urologists of Canada guideline on the investigation and management of antenatally detected hydronephrosis. Canadian Urol. Assoc. J. 2018; 12(4):85-9.
4. Passerotti CC, Kalish LA, Chow J, Passerotti AM, Recabal P, Cendron M, et al. The predictive value of the first postnatal ultrasound in children with antenatal hydronephrosis. J Pediatr Urol . 2011; 7(2):128-36.

* Associate Professor
** Professor and Head,
Department of Pediatric Nephrology,
Christian Medical College, Vellore.
email : indiraagarwal@cmcvellore.ac.in

*Cite as: Deepthi RV, Indira Agarwal, Antenatal hydronephrosis, Indian J Pract Pediatr. 2024; 26(4):331-341.*

5. Chalmers DJ, Meyers ML, Brodie KE, Palmer C, Campbell JB. Inter-rater reliability of the APD, SFU and UTD grading systems in fetal sonography and MRI. J Pediatr Urol. 2016; 12(5):305-e1.
6. Herndon ACD, Cain MP. Prenatal diagnosis of urological disease. (2009) AUA Update Series Lesson 3; 28
7. Hodhod A, Capolicchio JP, Jednak R, El-Sherif E, El-Doray AE, El-Sherbiny M. Evaluation of urinary tract dilatation classification system for grading postnatal hydronephrosis. J Urol. 2016; 195(3):725-30.
8. Sinha A, Bagga A, Krishna A, Bajpai M, Srinivas M, Uppal R, et al. Revised guidelines on management of antenatal hydronephrosis. Indian J Nephrol. 2013; 23(2): 83-97.
9. Kim HJ, Jung HJ, Lee HY, Lee YS, Im YJ, Hong CH, et al. Diagnostic value of anteroposterior diameter of fetal renal pelvis during second and third trimesters in predicting postnatal surgery among Korean population: useful information for antenatal counseling. Urology. 2012; 79(5):1132-7.
10. Fernbach SK, Maizels M, Conway JJ. Ultrasound grading of hydronephrosis: introduction to the system used by the Society for Fetal Urology. Pediatr. Radiol.1993; 23: 478-80.
11. Timberlake MD, Herndon CA. Mild to moderate postnatal hydronephrosis-grading systems and management. Nat. Rev. Urol. 2013; 10(11):649-656
12. Nguyen HT, Benson CB, Bromley B, Campbell JB, Chow J, Coleman B, Cooper C, Crino J, Darge K, Herndon CA, Odibo AO. Multidisciplinary consensus on the classification of prenatal and postnatal urinary tract dilatation (UTD classification system). J. Pediatr. Urol. 2014; 10(6):982-98.
13. Spitzer A. The current approach to the assessment of fetal renal function: fact or fiction? Pediatr. Nephrol. 1996; 10:230-5.
14. El Sheemy MS. Postnatal management of children with antenatal hydronephrosis. Afr J Urol. 2020; 26: 86. https://doi.org/10.1186/s12301-020-00097-8.