World Academy of Science, Engineering and Technology
International Journal of Medical and Health Sciences
Vol:9, No:09, 2015

Etiology and Postnatal Management of Prenatal Hydronephrosis: A Study of Two Teaching Hospitals of Khyber Pakhtunkhwa

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Abstract : Background: Hydronephrosis is the most common abnormal finding in the urinary tract on prenatal screening with Ultrasonography. The prenatal hydronephrosis is a diagnostic dilemma in differentiating between obstructive variant versus physiologic hydronephrosis. The assessment and prompt diagnosis of prenatal hydronephrosis is important because of the fact that untreated obstructive hydronephrosis usually leads to recurrent UTI, Urosepsis, deterioration of renal functions, non-functioning kidneys, and even end-stage renal disease. Objectives: To determine the etiology and outcome of postnatal treatment of children with prenatal hydronephrosis in two teaching hospitals of Khyber Pakhtunkhwa (KPK) Methods: It is a multicentric descriptive study that was conducted in department of Paediatrics in Kuwait teaching hospital Peshawar and Department of Urology in Institute of Kidney Diseases Hayatabad Medical Complex Peshawar from January 2008 till December 2010. Total numbers of 64 neonates were included in the study with the mean follow-up of 14.5 months. All the diagnostic data in prenatal, postnatal data, and operative and non-operative data were collected on structured Proforma and was analyzed on SPSS version 17. Results: Out of 64 patients, 39 (60.9 %) were male while 25 were female. 52 patients had unilateral while 12 patients had bilateral hydronephrosis. Based upon prenatal USG in term of AP diameter, 37 (57 %) patients had mild hydronephrosis (5-10 mm AP diameter), 14 patients had moderate hydronephrosis (10-15 mm AP diameter) while 13 patients had gross hydronephrosis (More than 15mm). Regarding etiology, 44(76 %) patients were labeled as physiologic hydronephrosis, 11 patients (9.3%) with PUJ obstruction, 5 patients with Vesicoureteric reflux (VUR) and 4 patients with posterior urethral valves. Surgery was performed in total of 15 (23.4%) patients that included open Pyeloplasty in 11 patients, Vesicostomy followed by posterior valve fulguration in 4 patients. All the patients of VUR treated medically. The severity in the grade of prenatal hydronephrosis is significantly associated with the need for definitive urological surgery $p < 0.005$. Ancillary procedures like percutaneous nephrostomy (PCN) were inserted 7 patients. Conclusions: Prenatal hydronephrosis is a common ailment associated with significant morbidity. Physiological Hydronephrosis and VUR can be successfully treated with medical treatment. However obstructive PUJ obstructions and posterior urethral valves require surgical correction with a good success rate.

Keywords : prenatal hydronephrosis, Pelviureteric Junction (PUJ) Obstruction, vesicoureteric reflux, posterior urethral valve, renography
Conference Title : ICU 2015 : International Conference on Urology
Conference Location : London, United Kingdom
Conference Dates : September 25-26, 2015