Antenatally Detected Renal Anomalies

- 90% of mild Hydronephrosis resolves spontaneously.

- In male infants Posterior Urethral Valves should be considered when the renal pelvic dilatation is bilateral, bladder wall thickening, bilateral ureteric dilatation. PUVs account for 10% of prenatal urological anomalies. In severe cases there is oligohydramnios which may result in pulmonary hypoplasia.

- Pelviureteric Junction (PUJ) obstruction reduces urine flow from the renal pelvis to the ureter. Surgical management are renal function <40% expected, renal pelvic measurement >5cms, worsening Hydronephrosis, repeated UTIs.

- Antenatally detected renal anomalies affect 1:200 pregnancies. They are usually unilateral and transient. A renal anomaly is flagged when the antenatal scan shows a renal pelvic measurement>8mm at 20Wk scan. If there is persistent dilatation at 34 Wks do postnatal scan.

- Do renal ultrasound after Day 4 when infant well hydrated. Renal pelvic dilatation is classified: Mild 7-10mm, Moderate 10-15mm, Severe >15mm. Hydronephrosis is defined as renal pelvic dilatation >15mm.

- The renal pelvic dilatation becomes significantly more important in the following situations:
  1. With a dilated ureter
  2. With a thick walled bladder
  3. With a duplex or ureterocele
  4. If the renal pelvic dilatation is bilateral.

- The clinical assessment of the infant should include examination of the urethral orifice, noting the infant's urinary output, observation of the urine stream.

- Infants with mild Hydronephrosis should have a follow up renal scan at 6 and 12 months. If normal at 12 months the infant can be discharged.

- Cases of moderate/severe Hydronephrosis or those with additional complications should be referred to a nephrologist. Prophylactic Trimethoprim 2 mg/kg once daily is recommended for most cases except for Mild renal pelvic dilatation.

- The common investigations are Renal U/S, MCUG, Mag 3 Renogram. It is advisable to discuss the investigation plan with a Paediatric Nephrologist/Urologist.

- Fetal urine electrolytes Na<100, Cl<90 OSM<210 B2 Microglobulin<6 indicate good renal function.

- Multicystic Dysplastic kidney (MCDK) is an extreme form of dysplasia with an atretic ureter. In 50% of cases the kidney will involute either partially or completely. In a small number of cases hypertension may develop necessitating surgical removal.

- Autosomal Recessive Polycystic Kidney Disease (ARPKD) is a disorder with diffuse involvement of both kidneys. The kidneys are large & echogenic. Oligohydramnios induced pulmonary hypoplasia is a major concern. The treatment for severe cases is nephrectomy & renal transplant.
This care pathway has been produced by the National Paediatric and Neonatology Clinical Programme. It is aimed at medical, nursing and allied health and social care professionals working in Irish neonatal units.

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