Ask the Expert: Common Questions in Pediatric Nephrology

Some common congenital anomalies of the kidney and urinary tract (CAKUT):

- Functional single kidney (unilateral renal agenesis or multicystic dysplastic kidney):
  - Excellent prognosis if there is compensatory hypertrophy (kidney length > 2 SD above mean for age)
  - Followed throughout childhood and adolescence because of higher risk of progressive CKD and HTN
  - Obtain yearly dipstick. If positive for protein, obtain first morning urine protein:creatinine ratio
- Posterior urethral valves: should be seen by Urology and Nephrology. 30-40% will develop progressive CKD.
- Hydronephrosis: primarily managed by Ped Urology, who will refer to us if needed
  - Prenatally diagnosed unilateral hydronephrosis: can wait 2-4 weeks until repeat ultrasound
  - Prenatally diagnosed bilateral hydronephrosis, especially with ureteral dilation or bladder distention, or hydronephrosis in baby with single kidney: first ultrasound within 48 hours of birth
- Children with ectopic kidneys, small kidneys, kidney cysts, etc. should also be referred to Pediatric Nephrology for periodic monitoring of kidney health and possible genetic testing.

New diagnosis of nephrotic syndrome in children:

- Edema + heavy proteinuria (UPCR > 2 mg/mg) + hypoalbuminemia (serum albumin <3 g/dL)
- Children 1 – 12 years old, swollen but otherwise well without systemic symptoms, syndromic features, or family history: start prednisone/prednisolone 2 mg/kg/day (max 60 mg daily) and famotidine and refer

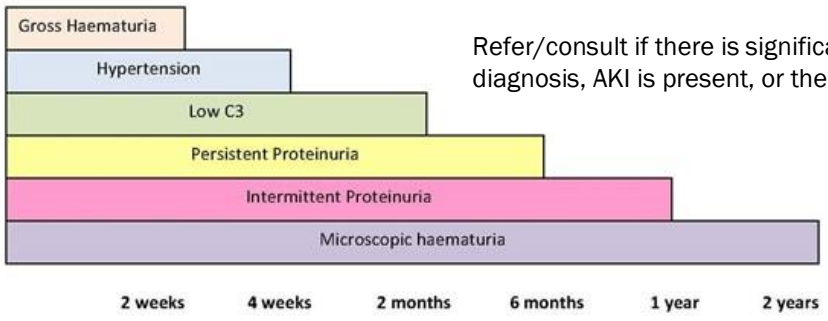
Mini glomerulonephritis (hematuria + hypertension) work-up:

- Urinalysis to look for protein and blood
- Urine protein to creatinine ratio (usually will be <2 mg/mg)
- Basic metabolic panel (Cr, K, BUN)
- Serum albumin
- C3 and C4
  - In post-infectious GN, C3 is low and C4 is normal
  - In lupus nephritis, C3 and C4 are low
- Consider anti-dsDNA, ANCA, or anti-GBM antibodies
- Measure blood pressure and examine for fluid overload

IgA vasculitis:

- Screening UA weekly x 1 month, every other week x 5 months, then monthly until 1 year from diagnosis
- Refer to nephrology if UPCR>1 at diagnosis, persistent lower grade proteinuria, hematuria not lessening as other symptoms resolve, AKI, or hypertension

Post infectious GN:



Source: Starship Hospital, NZ

Refer/consult if there is significant hypertension, low C3 persists 8-12 weeks after diagnosis, AKI is present, or there is significant/persistent proteinuria

If dipstick is positive for protein, collect first morning urine sample for UPCR whenever possible to distinguish transient (from fever, stress, etc.) vs orthostatic (benign) vs persistent proteinuria (requiring nephrology evaluation):
"Please obtain a urine specimen cup to collect the urine at home from first morning void within 5 minutes of waking up. Keep urine specimen cold and take it to the lab (surrounded by ice) within 1-2 hours."