

Nephritic and Nephrotic Syndromes

Introduction

- Nephritic and nephrotic syndromes represent distinct histological patterns of glomerular injury.
- **Nephritic syndrome** is defined by microscopic or gross hematuria (RBC casts); hypertension is often present; proteinuria may be absent, mild, or moderate (<3.5 g/day, generally <0.5 g/dL on UA).
- **Nephrotic syndrome** is characterized by proteinuria >3.5 g/day with absent haematuria/rbc casts and marked edema. Hypoalbuminemia, hyperlipidemia, hypercoagulability, and immune dysfunction are often present.
- **Note:** although random urine protein concentration does not correlate well with total daily protein excretion we will define nephrotic-range proteinuria as **≥0.5 g/dL** on UA, although a cut-off of 0.3 g/dL may be used if the patient has other signs of nephrotic syndrome.

Diagnostic Approach to Suspected Nephritic Syndrome

- All patients should have a consultant review
- The following tests should be performed:
 - Urinalysis
 - BP
 - Creatinine
 - ALT (obtain hepatitis B and hepatitis C antibody if ALT elevated or concerns)
 - CBC
- Consider ASO titer, ANA or rheumatoid, malaria or schistosomiasis

Treatment of Suspected Nephritic Syndrome

- Treat underlying diagnosis, if determined
- ACE or ARB: start enalapril 5-10 mg OD if SBP >100 mmHg; increase to maximum tolerated dose up to 40 mg/day
- Steroids are not beneficial unless Cr is elevated or significant proteinuria is present.
- If Cr >2 or urine protein ≥0.5, treat with prednisolone according to nephrotic syndrome protocol below
- Monitor Cr, urine protein, and urine RBC every 2-4 weeks. If no response is observed after 12 weeks, obtain renal ultrasound and refer for biopsy and formal renal opinion.

Diagnostic Approach to Suspected Nephrotic Syndrome

- All patients should have a consultant review.
- The following tests should be performed.
 - Urinalysis for protein level
 - Creatinine level
 - Serum albumin (often <3) and ALT (obtain hepatitis B and hepatitis C antibody if ALT elevated)
 - RBS or HbA1c
- Consider fasting lipid profile, HIV test, ANA, schistosomiasis

Treatment of Nephrotic Syndrome

- ACE or ARB: start enalapril 5-10 mg OD if SBP >100 mmHg; increase to maximum tolerated dose up to 40 mg/day
- Initiate furosemide as needed for peripheral edema
- Sodium restriction in diet
- Initial steroid treatment
 - Start prednisolone 1 mg/kg/day (maximum 60 mg/day) with omeprazole 20 mg OD for GI prophylaxis. Consider calcium/vitamin D and/or alendronate for bone protection.
- Follow up every 2-4 weeks.
 - If complete response is observed within 12 weeks (resolution of proteinuria and edema), continue initial dose of prednisolone for additional 2 weeks then taper dose by 20-30% every 2-3 weeks.
 - If partial response is observed, continue initial dose of prednisolone for up to 12 weeks, followed by taper over 6-9 months.
 - If no response is observed after 12 weeks, taper prednisone by 20-30% every 2-3 weeks, obtain renal ultrasound, and refer for biopsy and renal opinion