Case of Nephrotic Syndrome
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Objectives
– Provide pertinent case presentation to precede discussion of various medications and impact on kidneys
– Provide overview on the definition, differential diagnosis, work-up, and treatment of nephrotic syndrome

Chief Complaint
Abnormal UA on DOT physical

History of Present Illness
54 year old Caucasian gentleman presents with
– Abnormal UA on DOT physical
– 3+ protein on urine dipstick
– 24hr urine collection revealed 7.3g protein
Past Medical History
1. Hypertension
2. Hyperlipidemia
3. Benign prostatic hyperplasia
4. Chronic back pain
5. Tobacco abuse
6. Questionable history of hepatitis in 1970’s

Social History
—Married x 20 years
—Business owner repairing air conditioners
—Smokes 1 PPD x 20 years
—Drinks 2-3 beers on weekends
—Denies illicit drug use currently or in past

Family History
—Father, alive at 77, has membranous nephropathy and on dialysis
—Mother alive and well at 76
—Denies any other known medical problems in family, specifically kidney disease

Review of Systems
—Positives:
  • Chronic back pain
  • Nocturia
  • Frothy urine

—Negatives:
  • Fevers or chills
  • Rash
  • Chest pain
  • Shortness of breath
  • Weight changes or change in appetite
  • Gross hematuria or dysuria
Medications & Allergies

- Pravastatin 40mg daily
- Ibuprofen 1600mg (8 tablets) at a time 3 - 4 times per week for 3 years
- No known drug allergies

Physical Exam

- VS: 98.6; 80; 12; \textbf{160/90}; 100%RA
- Gen: A&OX3 in NAD, pleasant
- HEENT: MMM, no icterus, no mucositis
- Neck: Supple, no thyromegaly, no carotid bruits
- Chest: CTA bilaterally without wheezes or crackles
- Heart: RRR, normal S1&S2, no murmur
- Abd: normal bowel sounds, soft, nttp, no abdominal bruit
- Ext: 1+ pitting edema bilaterally in lower extremities. Dorsalis pedis and tibial pulses 2+
- Neuro: CN II-XII intact, strength 5/5 in upper and lower ext

Nephrotic Syndrome

- Proteinuria > 3.5 g/d
- Albumin < 3.5 mg/dL
- Edema
- Hyperlipidemia

Differential Diagnosis

- Primary Glomerular Diseases
  - Membranous nephropathy
  - Focal segmental glomerulosclerosis
  - Membranoproliferative glomerulonephritis
  - Minimal change disease
- Systemic diseases
  - Diabetes
  - Amyloidosis
  - SLE
  - Multiple Myeloma
### General Workup
- Urine sediment
- Measure proteinuria
- Rule out secondary causes
- Renal biopsy

### Our Lab Workup
- CBC
- Renal panel
- Lipid panel
- ANA with reflex
- Complement C3, C4
- ANCA
- HBV & HCV

### Imaging & Procedures
- Renal ultrasound
- Renal biopsy

### Lab Results
- BUN 16; Cr 0.8
- UA: 3+ protein; 7.3g in 24hr collection
- Albumin 2.6
- LDL 172, Chol 246
- ANA negative
- ANCA negative
- Complement levels normal
- HBV & HCV negative
Imaging & Biopsy Results

— Renal US
  • Normal size, shape and position
  • Essentially negative bilaterally
  • Mild enlargement of prostate gland due to BPH

— Renal biopsy
  • Membranous glomerulonephritis, stage 2 with focal sclerotic glomerular segments

Treatment

— Discontinued ibuprofen

— Started lisinopril 20mg daily

— Continued statin for hyperlipidemia

— Encouraged routine vaccinations

Follow Up

• 3 months
  — UA: 3+ protein; albumin 3; Cr 0.8

• 9 months
  — UA: 3+ protein; albumin 3.2; Cr 0.9

• 16 months
  — UA: no protein; Albumin 4.0; Cr 0.8

Summary

— Nephrotic syndrome 2/2 NSAID use

— Lisinopril was started after renal biopsy

— Monitor nutrition

— Monitor for thrombosis

— Monitor for infection

— Resolved slowly with cessation of insult
References