PROBLEM SET VI: CASE #16

A 49-year-old man Vietnamese man presents to you from his primary care physician because of fatigue and weight loss. He was well until 3-4 months ago, but has since lost 25 pounds due to anorexia. He noted no nausea, vomiting, abdominal/chest pain, cough, fever, or other symptoms. There is no pre-existing history of renal disease. He has been a long time smoker (50-pack years), and immigrated to the US two years ago.

He weighs 60 kg; BP is 162/94. Pulse 70, regular; afebrile

His HEENT, cardiac and lung exams are normal

His abdomen is thin and nontender, without organomegaly or mass

Stools are heme positive.

Extremities show 1-2+ pitting edema at the ankles

Urinalysis: >300 mg/dl proteinuria; micro shows no RBC, WBC or casts

CBC: Hct 32%, normocytic; WBC/platelets normal

BUN 18, Cr 1.0, Na 140, K 4.0, CI 108, HCO_3 24, Ca 8.2, PO_4 3.2

Albumin 2.9, Cholesterol 310

A 24-hour urine collection shows: 1550 mg creatinine, 4800 mg protein

1. Classify his renal disease based on the lab data

Nephrotic syndrome, glomerular disease, no renal failure

2. In any patient, list 4 extra-renal diseases that could be responsible for this patients type of renal disease, 3 intrinsic renal diseases, and 4 medications. What history/physical/lab findings would you use to differentiate these? What is most likely in THIS patient?

   - **Extrarenal: Diabetes, hepatitis B/C, lupus, lymphoma/colon Ca (with membranous GN), AIDS (with FSGS), malaria**

- **Intrinsic: Membranous GN, minimal change disease, focal segmental glomerulosclerosis, (idiopath. membranoproliferative GN not emphasized in this course)**
- **Medications: Nonsteroidal anti-inflammatories, gold, penicillamine, heroin**

- **History/physical for signs of drug use, neoplasm and infection: health maintenance screenings should be done, with colonoscopy in patients >50, rectal exams, breast exams, and mammography to screen for cancer; these are part of good outpatient general care AND are useful in screening for secondary causes of the nephrotic syndrome.**
- **Apppropriate serologies, guided by signs/symptoms and history**
- **Renal biopsy if no clear secondary etiology**

Given heme positive stools, weight loss, anorexia, suspect colon CA and membranous GN

3. Would you do a renal biopsy? Typical findings will be shown at the end of the session by a pathologist.

   Renal biopsy indicated in evaluation of nephrotic syndrome, unless diabetic or myeloma (with positive UPEP)

4. What further workup would be appropriate now?

   Evaluate for secondary causes of Membranous GN: esp. colonoscopy—then Hep B serology, ANA, RPR

5. What is the pathophysiology and differential diagnosis of the abnormal serum albumin and cholesterol?

   Low albumin is due to inadequate hepatic albumin synthesis in face of ongoing urinary loss, and is not improved by high protein diets.

   Hypoalbuminemia can also be caused by hepatic disease, intestinal malabsorption, chronic inflammation, and severe malnutrition.

   Hypercholesterolemia and hypertriglyceridemia are due to decreased clearance of chylomicrons and VLDL, and result in elevations in LDL, VLDL, and IDL, with unchanged or depressed HDL (the protective HDL2 subclass is particularly depressed), increasing the risk of atherosclerotic disease.

   Hyperlipidemia is also common in diabetes mellitus, inherited hyperlipidemic disorders, pancreatitis, and hypothyroidism.