**October 15, 2024, AHD Learning Objectives:**

**Glomerular disease: Part 1.**

1.  Define nephrotic syndrome and understand the pathophysiology of edema.

2.  List the causes of nephrotic syndrome and describe the clinical presentations and

 histopathology of these glomerular diseases.

3.  Choose first line treatments for reduction of proteinuria, including those based on

 specific pathologies.

**Glomerular disease: Part 2.**

1. Diagram the classic clinical presentations, laboratory findings, and associated systemic diseases (if any) of the following syndromes:

◦Immune-Complex GN

◦Anti-Glomerular Basement Membrane (GBM) Disease

◦Pauci-Immune Glomulonephritis (ANCA positive)

◦Hereditary nephritis

◦Lupus nephritis

1. Subcategorize which GNs present with hypocomplementemia and distinguish which complement (C3 versus C4) is low in each.
2. Describe the clinical presentation of rapidly progressive glomerulonephritis (RPGN)and formulate a differential diagnosis based on the clinical and pathological findings.

**Proteinuria:**

1. Describe the types of protein and amounts of protein that are found in urine normally and in pathologic states.
2. Understand how to identify protein in the urine via dip analysis, albumin/creatinine ratio, protein/creatinine ratio, and urine protein electrophoresis and immunofixation.
3. Categorize the different types of proteinuria by location and pathology.
4. Understand how the reduction of proteinuria can help to protect the kidneys from GFR decline.