

RENAL CURRICULUM

ASSESSMENT OF THE PATIENT WITH RENAL DISEASE

URINALYSIS

GFR ESTIMATES

VISUALIZING THE KIDNEY

PERCUTANEOUS RENAL BIOPSY

Residents will understand the use of various measurements of GFR and assessment of the urinary sediment. This is presented in lecture format during the talk on acute renal failure and discussed during the Nephrology rotation. A lecture discussing the imaging of the kidney is presented at noon conference by a Nephrologist and is supplemented by a noon conference given by our Nuclear Medicine specialist. The use of the renal biopsy is discussed on the nephrology rotation as it arises.

THE PATIENT WITH GLOMERULAR DISEASE

HEMATURIA AND PROTEINURIA

NEPHROTIC SYNDROME

MINIMAL CHANGE DISEASE / FSGS

MEMBRANOUS GN

MESANGIOCAPILLARY GN

RAPIDLY PROGRESSIVE GN

ANTI GBM DISEASE

ACUTE ENDOCAPILLARY GN - POST INFECTIOUS

Residents will understand the medical evaluation of hematuria and proteinuria. This is stressed as the patient sees outpatients on the Nephrology rotation. A noon conference is presented concerning the nephrotic syndrome and several morning reports are devoted to discussion as cases arise. Specific glomerular diseases and their classification are reviewed by a nephrologist at noon conference and their diagnosis and treatment are stressed during the nephrology rotation.

THE PATIENT WITH SYSTEMIC DISEASE AFFECTING THE KIDNEY

DIABETES MELLITUS

AMYLOIDOSIS

PLASMA CELL DYSCRASIAS

SARCOIDOSIS

VASCULITIS

SYSTEMIC LUPUS ERYTHEMATOSIS

SICKLE CELL DISEASE

SJOGREN SYNDROME

Residents will be aware of renal involvement in systemic illnesses. The renal presentation of systemic disease is taught specifically during didactic sessions at noon conference and during the renal rotation. Attention to Diabetes, Amyloid, Myeloma and SLE presenting as nephrotic syndrome is stressed on the nephrology rotation and during morning report as cases arise. Strong emphasis is given to renal involvement in SLE during the core lecture on lupus.

THE PATIENT WITH TUBULOINTERSTITIAL DISEASE

ACUTE TI NEPHRITIS

CHRONIC TI NEPHRITIS

NON-STEROIDAL INDUCED DISEASE

RENAL TUBULAR ACIDOSIS

URIC ACID NEPHROPATHY

LITHIUM INDUCED RENAL DISEASE

The residents will be aware of the common causes and presentation of tubulointerstitial disorders. Specific noon conferences are presented on TI Nephritis, Renal Tubular Acidosis, and Uric Acid Nephropathy. Special attention is paid to Lithium induced renal disease on the renal rotation as consults arise and at least one morning report is devoted to Lithium induced nephrogenic DI.

THE PATIENT WITH ELECTROLYTE OR ACID BASE DISORDERS

HYPO / HYPERNATREMIA

HYPO / HYPERKALEMIA

ACID BASE DISORDERS

The resident will be clinically facile with the diagnosis and treatment of disorders of altered tonicity. As common clinical conditions hyponatremia and hypernatremia are presented at morning report several times a year and during the Nephrology rotation diagnosis and treatment are stressed. A noon conference is dedicated to the approach to and diagnosis of acid base disorders.

THE PATIENT WITH ACUTE RENAL INSUFFICIENCY

INVESTIGATIVE APPROACH

PATHOPHYSIOLOGY OF ACUTE RENAL FAILURE

ISCHEMIC RENAL FAILURE

RENAL REPLACEMENT THERAPY

A logical approach to renal failure is presented early in the academic year at noon conference and reiterated regularly at morning report. Use of the urinalysis and imaging procedures of the urinary tract are stressed in the early diagnosis. During the Nephrology rotation the application of acute renal replacement therapies is addressed as cases present but include indications and complications of hemodialysis, peritoneal dialysis and continuous hemofiltration.

THE PATIENT WITH CHRONIC RENAL INSUFFICIENCY

INITIAL ASSESSMENT
APPROACH TO SLOWING PROGRESSION
DIVALENT IONS IN CHRONIC RENAL FAILURE
TREATMENT OF ANEMIA AND COAGULATION DISORDERS
INDICATIONS FOR INITIATION OF DIALYSIS

A noon conference pulling together physiology and clinical management is given. Stressed are the importance of blood pressure control, diet, early attention to hyperphosphatemia and Vit D replacement. The role of Erythropoetin in predialysis patients is also covered. During the renal rotation residents are exposed to patients with progressive loss of GFR and again treatment to slow the loss of renal function is emphasized.

THE DIALYSIS PATIENT
VASCULAR ACCESS
DIALYSIS PRESCRIPTION AND ADEQUACY
PERITONEAL DIALYSIS

A didactic presentation on vascular access and dialysis delivery is covered on the renal rotation intended to augment the noon conferences presented on hemo and peritoneal dialysis. Residents round regularly on our chronic hemodialysis population as well as participate in our dialysis patient care conference where they are exposed to the concepts of kinetic modeling and delivery of adequate dialysis. Similarly they participate in the care of our peritoneal dialysis population and regular PD clinic. With our population of PD patients increasing there is regular exposure for the renal as well as ward residents on the management of acute peritonitis and cyclic peritoneal dialysis.

THE TRANSPLANT PATIENT
OUTCOME OF RENAL TRANSPLANTATION
PRE TRANSPLANT EVALUATION
LONG TERM MANAGEMENT
INFECTIOUS COMPLICATIONS

"Renal Transplant for the Internist" a three day presentation covering Immunology, Immunosuppression and Infectious complications is the core of our didactic presentation. Weekly transplant clinic affords the resident the opportunity to be exposed to the care of the transplant patient in all stages of management from initial return 1 month post transplant to chronic care 15 years after transplant.

HYPERTENSION
ESSENTIAL HYPERTENSION
SECONDARY FORMS OF HYPERTENSION

RENAL VASCULAR DISEASE HYPERTENSIVE URGENCIES AND EMERGENCIES

Together with the Division of General Internal Medicine we stress a logical approach to the office management of hypertension beginning with lifestyle changes and progressing to the use of logical, cost effective pharmacologic antihypertensives. The 5th (1993) report of the Joint National Committee on evaluation and treatment of hypertension is required reading. Controversies in screening and management of atherosclerotic renal vascular disease are addressed in morning report and also during a noon conference of Nuclear Medicine in renal disease. Morning report and ICU rounds provide a good forum for case based discussion on management of hypertensive emergencies. A noon lecture is devoted to hypertensive urgencies.

NEPHROLITHIASIS MEDICAL MANAGEMENT

The resident should become familiar with the evaluation patients with recurrent stone formation as well as proven initial therapies. Noon conference on renal stone disease provides the basics. Together with their exposure to stone patients on the Endocrine rotation residents have the opportunity to participate in evaluation.

RESOURCES

The Nephrology Syllabus (WHMC)- Edited by Dr. Kaufhold when he was there is a solid place to begin reading.

MKSAP IX is valuable as a broad overview of topics.

UPTODATE - a very easy to use computer program on CD is available for use - It provides timely reviews stressing clinical features of nearly all facets of nephrology. Edited by Dr. Burton Rose, perhaps the premier educator in Nephrology at Brigham and Women's it is updated quarterly with current thought and references. Included is a Medline feature covering 16 core nephrology journals over the past ten years. We have an institutional copy of this program and it can be used on any computer with a CD ROM in the department.

Principles and Practice of Nephrology (Klahr)- a Resident and Fellow oriented text is available in the library and again provides information in bite size chapters stressing the clinical aspects of care.