**ACUTE KIDNEY INJURY:**

**Objectives:**

Upon completion of this lecture the students will be able to:

1. Describe the guidelines of the renal biopsy.
2. Recognize the types of acute kidney injury.
3. Recognize the clinical manifestations of acute kidney injury.
4. Describe the pathological findings in acute kidney injury.

**Outlines:**

1. Brief review of the normal anatomy and histology of the kidney and urinary tract.
2. Terminology.
3. Etiology.
4. Pathophysiology.
5. Clinical manifestations with diagnostic approach.
6. Pathological evaluation : The four elements possibly implicated: Gross and histological findings.
7. Conclusion.

**PATHOLOGY OF THE RENAL ALLOGRAFT (IMMUNE AND NON-IMMUNE MEDIATED INJURIES)**

**Objectives:**

At the end of the lecture the students will be able to:

1. Recognize the concept of renal allograft.

Describe the pathology of rejection and differentiate acute cell-mediated and antibody-mediated rejection.

1. Differentiate between acute and chronic rejection.
2. Recognize the pathology of the principal infections inherent to renal transplantation.
3. Recognize the pathology of acute and chronic drug toxicity.

**Outlines:**

1. Adequacy of the renal allograft biopsy.
2. Acute T-cell mediated rejection.
3. Acute antibody-mediated rejection.
4. Pathology of chronic rejection.
5. Pathology of the principal infections of the renal allograft: CMV-polyoma.
6. Pathology of acute and chronic drug toxicity.

**PATHOLOGY OF THE FIVE MAJOR RENAL CLINICAL SYNDROMES**

**Objectives:**

At the end of the activity (2 lectures) the students will be able to:

1. Recognize the five major renal clinical syndromes.
2. Describe the main differential pathological diagnosis for each syndrome.
3. Perform a clinico-pathological correlation.
4. Describe the patterns of injury of each syndrome.

**Outlines:**

1. The nephrotic syndrome: (Minimal change, FSGS, membranous, diabetes).
2. The nephritic ssyndrome: (Acute post streptococcal Glomerulonephritis GN, Membrano-proliferative GN, Systemic Lupus Erythematosus).
3. Rapidly progressive GN: (Crescentic GN)
4. Asymptomatic Hematuria / Proteinuria: IgA Nephropathy.
5. The Chronic Nephritic Syndrome: (Chronic Renal Failure).

**PATHOLOGY OF THE INFECTIONS OF THE KIDNEY AND URINARY TRACT**

**Objectives:**

At the end of the two lectures the students will be able to:

1. Recognize the predisposing factors for infections of the kidney and urinary tract.
2. Describe the different types of infections in the kidney and urinary tract.
3. Recognize acute and chronic pyelonephritis.
4. Describe the causes of urinary tract obstruction.
5. Recognize drug induced nephritis.

**Outlines:**

1. Urinary Tract Obstruction: causes and clinical manifestations in children and adults.
2. Infections of the Urinary Tract: Predisposing Factors and Clinical Manifestations.
3. Pathology of Acute and Chronic Pyelonephritis including causes and complications of urolithiasis.
4. Drug induced interstitial nephritis and renal necrosis.

**TUMORS OF THE KIDNEY AND URINARY BLADDER**

**Objectives:**

At the end of the lecture the students will be able to:

1. Recognize the benign tumors of the kidney.
2. Describe renal cell carcinoma and Wilm’s tumor.
3. Recognize transitional cell and squamous carcinoma of the urinary bladder.

**Outlines:**

1. Benign tumors of the kidney: Adenoma and Angiomyelipoma.
2. Renal Cell Carcinoma: Incidence, Clinical Presentation, Histological Features and Prognosis.
3. Wilm’s tumor (nephroblastoma): Incidence, Clinical Features, Genetic and Histological Characteristics.
4. Transitional Cell and Squamous Carcinoma: Predisposing Factors, Incidence, Clinical Pathological Features and Prognostic Indicators (Grade and Stage).