

IS RTP Postgraduate Renal Pathology Outreach Program (iPROP)-2023

Week 1: Introduction: 16th January 2023 (Monday)

1. Why choose Nephropathology?
2. Indications for a biopsy, introduction to clinical syndromes and terminology
3. Introduction to light microscopy with special stains -
4. Introduction to Immunofluorescence
5. Introduction to Electron Microscopy

Q&A

Learning Objectives –

Introduction to the art of Nephropathology, its difference from other branches of Pathology with emphasis on the need for clinical – pathological correlation in every case

Identification of different structures and cells in the kidney biopsy and the role of special stains in biopsy interpretation

The technique of direct immunofluorescence, methods and interpretation. What are the parameters assessed and how does it contribute to the final diagnosis

The technique of transmission electron microscopy and its role in kidney biopsy diagnosis. Identification of different structures on ultrastructural examination

The algorithmic approach to kidney biopsy interpretation as the Pathologist assesses LM, IF and EM

Week 2: Non-proliferative pattern injury in glomeruli. 20th January 2023

1. Minimal change disease/ Focal and segmental glomerulosclerosis
2. Membranous nephropathy
3. Deposit glomerulopathy
4. Urine sediment examination (¼)

Q&A

Learning Objectives –

Connecting non proliferative patterns of glomerular injury with the clinical syndrome of Nephrotic syndrome

Salient features of each entity on LM, IF and EM

Understanding basic pathogenesis of each entity including the concept of Podocytopathy

Algorithmic approach to the diagnosis of glomerular diseases with organized deposits with special emphasis on EM

Week 3: Proliferative pattern injury in glomeruli. 27th January 2023

1. Mesangioproliferative pattern
2. Diffuse proliferative pattern
3. Membranoproliferative pattern
4. Crescentic pattern

Q&A

Learning Objectives –

Connecting proliferative patterns of injury with the clinical syndrome of Nephritic syndrome

Salient features of each entity on LM, IF and EM and differential diagnoses

Week 4: Tubulo-interstitial and vascular. 3rd February 2023

1. Acute Tubular injury (Ischemic/ Toxic – casts and crystals)
 2. Acute-tubulo-interstitial nephritis/ Chronic tubulo-interstitial nephritis
 3. Important vascular patterns of injury (HTN/ TMA)
- Q&A

Learning Objectives –

Histology of acute tubular injury and approach to different casts, role of urinary sediment examination

Common causes of acute and chronic tubulointerstitial nephritis with histologic clues

Approach to non inflammatory vascular disease in the kidney

Week 5: Recent Advances. 10th February 2023

1. Kidney diseases requiring genetic testing
 2. Genetic testing simplified
 3. Don't let the kidney biopsy spook you ! - Closing remarks/ anecdotal cases
- Q&A

Learning Objectives –

Which patterns of injury – glomerular or tubulointerstitial, clinical profiles etc should trigger genetic testing

Role of electron microscopy in diagnosis of these diseases

Basics of genetic testing – what you need to know about methods and diagnostic panels