

## COURSE SYLLABUS

### Nephrology A

2324-3-H4101D260-H4101D065M

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#### Aims

The main aim of the course, organized in two modules (A and B) , is to provide evidence-based knowledge of the main medical diseases of the kidney and urinary tract. Ability to define the degree of renal function, to understand the major lab and diagnostics tests and ability in defining a diagnostic pathway. Knowledge of the main methods of renal replacement therapy: dialysis and transplantation.

At the end of the course the student will be able to:

- 1) Know aetiology, pathogenesis, clinical manifestations, complications and prognosis of the main renal diseases.
- 2) Evaluate correctly patient history and physical examination in order to classify the nephropathy.
- 3) Interpret lab tests and diagnostic investigations in order to diagnose kidney diseases.
- 4) Know the main pathological pictures of glomerulonephritis, vascular, tubulo-interstitial and cystic diseases of the kidney.
5. Know the complications of kidney and urinary tract diseases and the physiopathology and clinical aspects of renal failure, including renal replacement therapy (dialysis and transplantation).

#### Contents

Approach to the nephropathic patient: epidemiology, laboratory, signs and symptoms.

Renal syndromes (asymptomatic urinary abnormalities, nephritic syndrome, nephrotic syndrome, rapidly progressive glomerulonephritis, chronic kidney failure)

Hints of dialysis therapy and renal transplantation.

Hypertensive nephropathy and diabetic nephropathy

Acute renal failure

Cystic kidney disease

Glomerular diseases: primary and secondary glomerulonephritis

Kidney and plasma cell dyscrasias

## **Detailed program**

### **Approach to the nephropathic patient: epidemiology, laboratory, signs and symptoms**

- Epidemiologic dimensions of renal disease
- Assessment of renal function (glomerular filtration and tubular function) and urinalysis
- Instrumental investigations (ultrasonography, radiological investigations, radioisotopic investigations)
- Renal biopsy
- Signs/symptoms of nephropathies: nephrologic syndromes (asymptomatic urinary abnormalities, nephritic syndrome, nephrotic syndrome, rapidly progressive glomerulonephritis, chronic kidney failure)

### **Chronic kidney failure.**

- Defining, staging
- Alterations in laboratory tests
- Signs, symptoms, and involvement of other organs and systems
- Hints of dialysis therapy and renal transplantation.

### **Hypertensive nephropathy and diabetic nephropathy.**

- Epidemiology, clinical and laboratory of hypertensive nephropathy
- Nephrovascular and nephroparenchymal hypertension
- Epidemiology, pathogenesis, clinical and laboratory of diabetic nephropathy.

### **Acute renal failure**

- Pre-renal acute renal failure: causes and clinic
- Renal acute renal failure: acute tubular necrosis and other causes and clinical
- Post-renal acute renal failure: causes and clinic

### **Renal cystic pathology**

- Autosomal dominant polycystic kidney disease (ADPKD): pathogenesis and clinic
- Autosomal recessive polycystic kidney disease (ARPKD): pathogenesis and clinical

### **Glomerular Diseases**

- Classification and etiopathogenesis
- Main anatomo-clinical pictures of primary GNs
- Main anatomo-clinical pictures of secondary GNs.

### **Kidney and plasma cell dyscrasias**

- Kidney and myeloma, amyloidosis and gammopathies

Gender differences in the prevalence, clinical expressiveness, evolution, and therapeutic response of individual nephropathies and in chronic kidney disease will be emphasized in the discussion.

Palliative care in patients with advanced chronic kidney disease and pain therapy in the patient with renal failure will also be addressed.

## **Prerequisites**

Knowledge of Anatomy and Physiology of kidney and urinary tract

## **Teaching form**

Frontal lessons with audio-visual aids and open discussion in the classroom, practice in smaller groups in outpatient clinics, wards and operating rooms.

## **Textbook and teaching resource**

- Harrison's Principles of Internal Medicine Ed. McGraw Hill 20th edition;
- Cecil Textbook of Medicine, 26th Edition, 2019;
- Rugarli Medicina Interna Sistemica Ed. Elsevier Masson 8° edizione, 2021;
- Johnson R, Feehally J, Floege J, Tonelli M. Comprehensive Clinical Nephrology 7th Edition\*\*, \*\* Elsevier 2023.

## **Semester**

second semester

## **Assessment method**

The assessment of achieved objectives will be verified with written tests and oral exam. 33 single-answer questions with 4 answers of which only one exact (30 points) and oral exam (30 points).

The student who refuses a score >20 cannot participate in the next exam session.

## **Office hours**

Contact the Professor by e-mail

## **Sustainable Development Goals**

NO POVERTY | GOOD HEALTH AND WELL-BEING | REDUCED INEQUALITIES

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