

## Kidney & Urinary tract



# CLINICAL MANIFESTATIONS OF RENAL DISEASES

## ➤ 1-Azotemia

- refers to an elevation of blood urea nitrogen(BUN) and creatinine levels
- It is largely related to a decreased glomerular filtration rate (GFR).

## ➤ 2-uremia

- when azotemia progresses to **clinical** manifestations and systemic biochemical abnormalities.

► **Uremia is characterized by:**

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- 1- failure of renal excretory function
- 2- metabolic and endocrine alterations
- 3- 2ry gastrointestinal manifestations (e.g., uremic gastroenteritis)
- 4- 2ry neuromuscular manifestations (e.g., peripheral neuropathy)
- 5- 2ry cardiovascular manifestations (e.g., uremic fibrinous pericarditis)

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## The major renal syndromes

### ➤ 1-Nephritic syndrome:

- a glomerular syndrome characterized by:
- acute onset .
- gross hematuria.
- mild to moderate proteinuria (< 3.5 gm of protein/day in adults)
- azotemia.
- edema.
- hypertension.



## Nephritic Syndrome: Presentation

- **PHAROH**
- **Proteinuria**
  - $<3.5\text{g}/1.73\text{m}^2/\text{day}$
- **Hematuria**
  - *Abrupt onset*
- **Azotemia**
  - *Increased creatinine and urea*
- **RBC Casts**
- **Oliguria**
- **HTN**



Peripheral Edema/Puffy Eyes

"Smoky Urine"

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## 2-Nephrotic syndrome

- ▶ a glomerular syndrome characterized by:
- ▶ heavy proteinuria (excretion of >3.5 gm of protein/day in adults)
- ▶ hypoalbuminemia
- ▶ severe edema
- ▶ hyperlipidemia
- ▶ lipiduria (lipid in the urine).

## Nephrotic syndrome



➤ 3-Asymptomatic hematuria or proteinuria:

- A manifestation of mild glomerular abnormalities.

➤ 4-Rapidly progressive glomerulonephritis (crescentic GN)

- loss of renal function in a few days or weeks
- It is manifested by :
- microscopic hematuria.
- dysmorphic RBC and RBC casts in urine sediment.
- mild-moderate proteinuria





## 5-Acute renal failure

- oliguria (<400 ml/day) or anuria (no urine flow).
- recent onset of azotemia.
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- It can result from :
- 1-glomerular injury
- 2-interstitial injury
- 3-vascular injury (thrombotic microangiopathy)
- 4-acute tubular necrosis

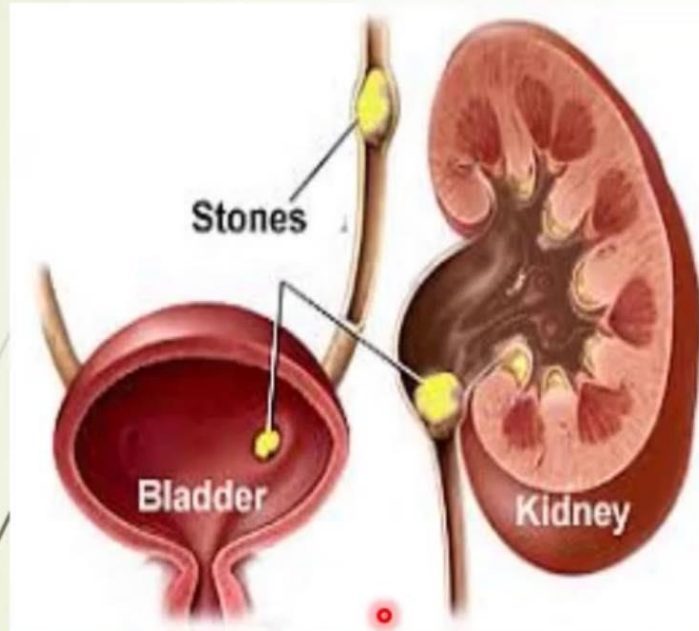
## 6- Chronic renal failure

- ▶ prolonged symptoms and signs of uremia.
- ▶ the end result of all chronic renal diseases .

## ▶ 7- Urinary tract infection

- ▶ bacteriuria and pyuria (bacteria and WBCs in urine).
- ▶ symptomatic or asymptomatic.
- ▶ Types :
- ▶ 1- *pyelonephritis* (kidney ).

## 8-Nephrolithiasis



- = Renal stones.
- manifested by:
- 1-renal colic.
- 2-hematuria.
- 3-recurrent stone formation.