Acute Kidney Injury (AKI)

1. What is the primary cause of prerenal acute kidney injury?

a) Intrinsic kidney damage

b) Obstruction in the urinary tract

c) Decreased renal perfusion

d) Nephrotoxic drugs

2. Which of the following is NOT a common cause of intrarenal acute kidney injury?

a) Acute tubular necrosis

b) Pyelonephritis

c) Dehydration

d) Glomerulonephritis

3. Postrenal acute kidney injury is primarily caused by:

a) Renal artery stenosis

b) Urinary obstruction

c) Glomerular damage

d) Nephrotoxicity

4. How does a prerenal cause of AKI typically affect the glomerular filtration rate (GFR)?

a) Decreases GFR

b) Increases GFR

c) No effect on GFR

d) Fluctuates widely

5. What is the characteristic clinical manifestation of oliguria?

a) Increased urination

b) Decreased urination

c) Painful urination

d) Frequent urination

6. Elevated serum creatinine levels indicate:

a) Normal kidney function

b) Impaired kidney function

c) Urinary infection

d) Fluid overload

7. Early recognition of AKI is crucial because:

a) It prevents hypertension

b) It improves fluid balance

c) It can lead to early intervention and improved outcomes

d) It reduces pain levels

8. Which of the following is the most common cause of AKI in hospitalized patients?

a) Postrenal injury

b) Prerenal injury

c) Extrarenal injury

d) Intrarenal injury

9. Chronic dehydration can lead to which type of AKI?

a) Prerenal

b) Intrarenal

c) Postrenal

d) All of the above

10. What laboratory test is most sensitive for detecting AKI?

a) Serum creatinine

b) Blood urea nitrogen (BUN)

c) Urinary creatinine

d) Urinalysis

Renal Calculi

11. The formation of renal calculi is primarily due to:

a) Infection

b) Turbulent blood flow

c) Supersaturation of urine with certain substances

d) Increased urine output

12. Which factor most significantly contributes to the supersaturation of urine leading to stone formation?

a) High fluid intake

b) Hypercalcemia

c) Low dietary sodium

d) Vegan diet

13. What type of stone is most commonly associated with a urinary tract infection?

a) Calcium oxalate stones

b) Uric acid stones

c) Struvite stones

d) Cystine stones

14. Calcium oxalate stones form in urine that is:

a) Alkaline

b) Acidic

c) Hypotonic

d) Isotonic

15. Uric acid stones are most likely to form in which condition?

a) Gout

b) Diabetes mellitus

c) Cystic fibrosis

d) Hypertension

Chronic Kidney Disease (CKD) Staging

16. Chronic Kidney Disease (CKD) is classified into stages based on:

a) Serum creatinine levels

b) Urinary albumin excretion

c) Estimated glomerular filtration rate (eGFR)

d) Symptoms present

17. Stage 1 CKD is defined by an eGFR of:
    a) Greater than 90 mL/min
    b) 60-89 mL/min
    c) 30-59 mL/min
    d) Less than 15 mL/min

18. At what stage of CKD should a patient be referred to a nephrologist?
    a) Stage 1
    b) Stage 2
    c) Stage 3
    d) Stage 4 and 5

19. Clinical implications of Stage 2 CKD include:
    a) Need for dialysis
    b) Monitoring kidney function and risk factors
    c) Immediate kidney transplant
    d) No clinical implications

20. What is a common complication of advanced CKD?
    a) Hypoglycemia
    b) Hypertension
    c) Constipation
    d) Asthma

Complications of CKD

21. Anemia in CKD is primarily due to:

a) Decreased erythropoietin production

b) Increased blood volume

c) Iron overload

d) High Vitamin B12 levels

22. Mineral bone disorders in CKD arise mainly due to:

a) Excess dietary phosphate

b) Altered calcium and phosphate metabolism

c) Increased parathyroid hormone secretion

d) Both b and c

23. Which condition is associated with renal osteodystrophy?

a) Diabetes mellitus

b) Cardiovascular disease

c) Secondary hyperparathyroidism

d) Hyperkalemia

24. Patients with CKD are at increased risk for:

a) Hypercalcemia

b) Heart attacks

c) Dehydration

d) All of the above

25. How does renal failure lead to anemia?

a) Decreased erythropoietin levels

b) Increased blood volume

c) Increased hemolysis

d) All of the above

Diagnostic Approaches

26. To differentiate between prerenal and intrarenal AKI, which test is often performed?

a) Urinalysis

b) Serum creatinine

c) Urine electrolytes

d) Blood urea nitrogen (BUN)

27. A low urine sodium concentration suggests which type of AKI?

a) Prerenal

b) Intrarenal

c) Postrenal

d) Nephrotoxic

28. A urine osmolality greater than 500 mOsm/kg typically indicates:

a) Prerenal AKI

b) Intrinsic renal AKI

c) Postrenal AKI

d) Normal renal function

29. What is the significance of a high BUN/creatinine ratio in the evaluation of AKI?

a) Indicates intrinsic renal damage

b) Suggests prerenal azotemia