Kidney Pathology

MCQs

1. Each of the following features are characteristic of the nephrotic syndrome except:

A. marked proteinuria
B. hypoalbuminemia
C. edema
D. hypertension

2. Hematuria is least likely to occur in:

A. papillary transitional cell carcinoma of renal pelvis, ureter or bladder
B. renal tubular adenocarcinoma
C. acute post-infectious glomerulonephritis
D. urinary lithiasis
E. minimal change disease

3. Urinalysis results include proteinuria, many red blood cells and red blood cell casts, and 1–2 white blood cells per high power field. Which of the following diseases best fits with these findings?

A. acute cystitis
B. acute pyelonephritis
C. chronic pyelonephritis
D. acute post-streptococcal glomerulonephritis
E. minimal change disease

4. Red cell casts in the urine would be compatible with:

A. a ureteral calculus
B. a transitional cell carcinoma of the renal pelvis
C. anti-glomerular basement membrane antibody induced renal lesion
D. a foreign body in the urinary bladder
5. In the usual adult type of polycystic kidneys, findings often include:

A. involvement of both kidneys
B. another family member with the disease
C. enlarged kidneys
D. renal failure late in course
E. all of the above

6. In adult polycystic disease, each of the following statements is true except:

A. The disease is familial.
B. The renal involvement is occasionally unilateral.
C. The disease is generally asymptomatic until early adult or middle life.
D. Hematuria, hypertension and palpable abdominal masses are frequent clinical findings in symptomatic patients.

7. In adult polycystic disease of the kidney:

A. the disease is generally asymptomatic until early adult and middle life.
B. hematuria, hypertension and palpable abdominal masses are frequent clinical findings in symptomatic patients.
C. both
D. neither

8. Typical features of adult polycystic kidney disease include:

A. involvement of both kidneys
B. autosomal dominant inheritance
C. enlarged kidneys
D. cysts in the liver
E. all of the above

9. An important condition causing renal calculi is:

A. nephrotic syndrome
B. renal tumors
C. hyperparathyroidism
D. hypoparathyroidism  
E. hypertension

10. The crystalloids that are major constituents in 75—85% of renal calculi are calcium plus:

A. cystine and oxalate  
B. cystine and phosphate  
C. oxalate and phosphate  
D. oxalate and urate  
E. phosphate and urate

11. Metabolic diseases leading to excessive excretion of materials which may form calculi in the urinary tract include all of the following except:

A. hyperparathyroidism  
B. oxalosis  
C. gout  
D. nephrotic syndrome  

12. Renal calculi:

A. may be the result of gout  
B. occur as a complication of hyperparathyroidism  
C. are more apt to form in an alkaline urine  
D. most frequently contain calcium, oxalate and phosphate  
E. all of the above

13. Each of the following is characteristic of ureteral calculi except:

A. often lodge at uteropelvic junction, pelvic brim and at vesicoureteral junction  
B. cause of excruciating flank pain radiating into groin and scrotum  
C. originate in ureteral lumen due to chronic ureteritis  
D. associated with hematuria  
E. may lead to hydronephrosis
14. Morphologic changes seen with chronic pyelonephritis are:
A. interstitial chronic inflammatory cellular infiltrate
B. pericapsular glomerular fibrosis
C. protein casts in renal tubules
D. hyalinized glomeruli
E. all of the above

15. Which of the following is most helpful in differentiating acute pyelonephritis from lower urinary tract infection?
A. proteinuria
B. hypertension
C. white cell casts in urine
D. glomerular immune-complex deposition

16. A 38-year-old mother of five children died in an automobile accident. At postmortem, both kidneys revealed irregular U-shaped depressions on their surfaces. Microscopically, there was periglomerular fibrosis, collections of lymphocytes and plasma cells in the interstitium with focal scarring. The tubules were focally dilated and contained eosinophilic proteinaceous material. Some tubules contained epithelial cells and neutrophils. The best diagnosis is:
A. chronic glomerulonephritis
B. malignant nephrosclerosis
C. papillary necrosis
D. polycystic kidney disease
E. chronic pyelonephritis

17. The organism most frequently implicated as the cause of acute pyelonephritis is:
A. Pseudomonas species
B. Escherichia coli
C. beta hemolytic streptococci
D. Proteus species
E. Streptococcus fecalis
18. Each of the following is true of acute poststreptococcal glomerulonephritis except:

A. becomes rapidly progressive glomerulonephritis in 50% of children
B. is a proliferative glomerulonephritis
C. preceded by infective episode
D. shows dome-shaped subepithelial humps
E. usually affects children

19. The majority of patients with acute poststreptococcal glomerulonephritis:

A. die from congestive heart failure in a few weeks
B. die from renal failure in a few weeks
C. pass through a latent period but eventually develop chronic glomerulonephritis
D. progress through subacute phase to chronic glomerulonephritis
E. recover completely

20. Which is not a feature of Kimmelstiel-Wilson disease?

A. occurs in diabetes
B. nodular glomerulosclerosis
C. hyalinization of efferent arteriole
D. subepithelial glomerular deposits
E. thickened basement membrane

21. A histopathologic glomerular lesion which, when present, strongly suggests diabetes mellitus is:

A. absence of foot processes as the only EM finding
B. extensive crescent formation
C. linear Ig G and C3 on immunofluorescence
D. splitting of basement membrane
E. nodular glomerulosclerosis
22. Membranous glomerulopathy and post-streptococcal glomerulonephritis are similar in that they both:

A. are self-limiting and transient renal diseases
B. are commonly associated with the nephrotic syndrome
C. are most commonly seen in children
D. have glomerular immune complex deposits
E. occur most frequently following an infectious disease

23. A 12-year-old boy with septicemia develops hematuria, hypertension, and oliguria. Microscopic examination reveals enlarged glomeruli with diffuse mesangial and endothelial hypercellularity. The best diagnosis is:

A. acute cortical necrosis
B. acute proliferative glomerulonephritis
C. membranoproliferative glomerulonephritis
D. rapidly progressive glomerulonephritis

24. A patient with hemoptysis and renal failure has a renal biopsy which reveals crescentic proliferative glomerulonephritis. Immunofluorescence reveals linear deposits of IgG and C3. The diagnosis is:

A. acute post-infectious glomerulonephritides
B. membranous nephropathy
C. Goodpasture’s syndrome
D. minimal change disease

25. The most characteristic feature of rapidly progressive glomerulonephritis is

A. crescent formation
B. hyaline nodules
C. sub-epithelial dense deposits
D. thickened capillary loops
E. wire-loop lesions
26. The nephrotic syndrome is characterized by all of the following except:

A. generalized edema

B. hematuria

C. proteinuria

D. hypoproteinemia

E. hyperlipidemia

27. Nodular intercapillary glomerulosclerosis is characteristic of:

A. lupus erythematosus

B. diabetes mellitus

C. arteriolar nephrosclerosis

D. glomerulonephritis

E. pyelonephritis

28. Minimal change disease and membranous glomerulonephritis share which of the following characteristics?

A. nephrotic syndrome

B. IgG deposits in glomeruli

C. good prognosis with steroid therapy

D. capillary loop thickening by light microscopy

29. Nodular glomerulosclerosis is characteristic of:

A. arteriolar nephrosclerosis

B. diabetes mellitus

C. minimal change disease

D. lupus erythematosus

E. pyelonephritis

30. Deposition of IgG on or in the glomerular basement membrane can be seen in all of the following except:

A. acute post-streptococcal glomerulonephritis

B. minimal change glomerulonephritis
C. lupus erythematosus glomerulonephritis

D. Goodpasture’s syndrome

E. membranous nephropathy

31. A patient with minimal change disease is least likely to have:

A. hypoproteinemia

B. edema

C. massive albuminuria

D. **hypertension**

E. hyperlipemia

32. A renal disease characterized by the presence of anti-glomerular basement membrane antibodies is:

A. Goodpasture’s disease

B. post-streptococcal glomerulonephritis

C. focal glomerulonephritis

D. malignant nephrosclerosis

E. minimal change disease

33. Nephrotic syndrome is characterized by:

A. hematuria, proteinuria, hypertension

B. pyuria, oliguria, hematuria

C. hematuria, azotemia, hypertension

D. **proteinuria, edema, hyperlipidemia**

E. bacteriuria, azotemia, hypertension

34. Necrotizing papillitis is associated with:

A. acute glomerulonephritis

B. arteriolar nephrosclerosis

C. **diabetes mellitus**

D. multiple myeloma

E. toxemia of pregnancy
35. Which renal vascular disease best fits the following description? The essential lesion is sclerosis of small arteries and arterioles. The effects of the vascular changes are reflected in the glomeruli, which early show a thickening of capillary basement membranes, and, later, varying degrees of hyalinization and atrophy. The atrophy of the glomeruli and associated tubules produces the renal shrinkage.

A. atherosclerosis
B. arteriolosclerosis
C. malignant hypertension
D. Kimmelstiel-Wilson disease
E. polyarteritis nodosa

36. Benign nephrosclerosis is characterized morphologically by:

A. fibrinoid necrosis of afferent arterioles with ischemic atrophy of nephrons
B. hyalinization of afferent arterioles with ischemic atrophy of nephrons
C. diffuse thickening of the glomerular capillary basement membranes leading to glomerulosclerosis
D. deposition of basement membrane-like material within the glomerular mesangium leading to glomerulosclerosis

37. Renal cortical petechiae are a common finding in:

A. benign nephrosclerosis
B. malignant nephrosclerosis
C. both
D. neither

38. In all of the following diseases, glomerular damage is due to deposition of circulating immune complexes except for:

A. systemic lupus erythematosis
B. membranous glomerulonephritis (MGN)
C. acute post-streptococcal glomerulonephritis (PSGN)
D. minimal change disease
39. Polycystic disease of the kidney is characteristically associated with:

A. double ureter
B. the nephrotic syndrome
C. both
D. neither

40. An irritable female infant, age 2 years, has a fever of 104° F and bloody urine. Microscopic examination of the urine reveals red blood cells and neutrophils but no casts. The most likely diagnosis is:

A. sarcoma botryoides
B. acute cystitis
C. urinary stone
D. acute glomerulonephritis
E. polycystic kidney

41. A 20-year-old patient has long standing microscopic hematuria and hypertension around 180/95. Which of the following conditions would be least likely in your differential diagnosis?

A. trauma
B. chronic glomerulonephritis
C. minimal change disease
D. diabetic glomerulosclerosis
E. congenital polycystic kidneys

42. A 2-year-old child presents with huge abdominal mass (or masses), hematuria, hypertension and abdominal pain. Which of the following is the least likely diagnosis?

A. Wilm’s tumor
B. neuroblastoma
C. polycystic kidney(s)
D. hydronephrosis
E. renal adenocarcinoma
43. A 50-year-old male develops acute renal failure with dark urine one week after a flu-like illness. A renal biopsy is likely to reveal:

A. renal infarction
B. crescentic glomerulonephritis
C. myeloma kidney
D. amyloidosis
E. acute tubular necrosis

44. Polycystic disease of the kidney is characteristically associated with:

A. amyloidosis
B. the nephrotic syndrome
C. both
D. neither

45. Most children with poststreptococcal glomerulonephritis:

A. develop nephrotic syndrome
B. progress to chronic glomerulonephritis
C. develop hypertensive cardiovascular disease
D. recover spontaneously
E. have B strep bacteria in their urine

46. Which of the following conditions does not predispose to urolithiasis?

A. hydronephrosis
B. chronic pyelonephritis
C. hypercalcemia
D. hydrocele
E. cystitis

47. Which of the following conditions does not predispose to urolithiasis?

A. hypercalcemia
B. hydronephrosis
C. chronic pyelonephritis
48. Ischemic acute tubular necrosis occurs most commonly in association with:

A. septic shock
B. ruptured aneurysm
C. carcinoma of prostate
D. hydronephrosis and pyelonephritis
E. malignant hypertension

49. The nephrotic syndrome is primarily due to:

A. diabetic glomerulosclerosis
B. toxic necrosis of renal tubular epithelium
C. increased permeability of the glomerular filtration barrier
D. narrowing of the afferent arteriole

50. A 22-year-old pregnant female has flank pain and fever. Her urine contains white blood cell casts. It can be safely assumed that she has at least:

A. chronic glomerulonephritis
B. analgesic nephritis
C. acute pyelonephritis
D. ectopic pregnancy
E. pre-eclampsia (toxemia of pregnancy)

51. A 45-year-old male complains of costovertebral angle pain and shortness of breath. A chest x-ray reveals “cannon ball” metastases in the lungs. Fresh RBC are found in the urine. The gall bladder was removed for stones 2 years previously. Physical exam is otherwise normal. In this patient, which of the following is least likely to be present?

A. hypertension
B. a red blood cell count of greater than 6 million (polycythemia)
C. elevated prostatic acid phosphatase
D. feminization
E. hypercalcemia
52. A 48-year-old male has hemoptysis, microscopic hematuria, and a mass at the upper pole of the right kidney. The most likely diagnosis is:

A. Goodpasture’s syndrome
B. Cushing’s syndrome
C. primary aldosteronism
D. renal adenocarcinoma
E. hepatocellular carcinoma

53. The most common organism associated with acute pyelonephritis is:

A. Staphylococcus aureus
B. chlamydia
C. beta-hemolytic streptococci
D. Campylobacter
E. E. coli

54. Which of the following glomerular disorders is not apparently immunologically mediated?

A. systemic lupus erythematosis glomerulopathy
B. poststreptococcal glomerulonephritis
C. allergic pupura
D. diabetic nephropathy
E. rapidly progressive glomerulonephritis

55. The most common appearance of the glomeruli in adults with the nephrotic syndrome is:

A. proliferative glomerulonephritis
B. membranous glomerulonephritis
C. rapidly progressive “crescentic” glomerulonephritis
D. normal appearing glomeruli
E. wire loops
56. A urine sediment has many RBC, several RBC casts, and few WBC. The patient probably does not have:

A. acute post-streptococcal glomerulonephritis
B. lupus glomerulonephritis
C. renal involvement with polyarteritis
**D. acute pyelonephritis**
E. malignant hypertension

57. Which is the most characteristic feature in the urine sediment of patients with post-streptococcal glomerulonephritis?

A. epithelial casts
B. white cell casts
C. red blood cells and casts
D. marked proteinuria

58. The most common cause of chronic renal failure is:

A. diabetes mellitus
B. acute tubular necrosis
C. chronic glomerulonephritis
D. renal tubular adenocarcinoma

**AS4**