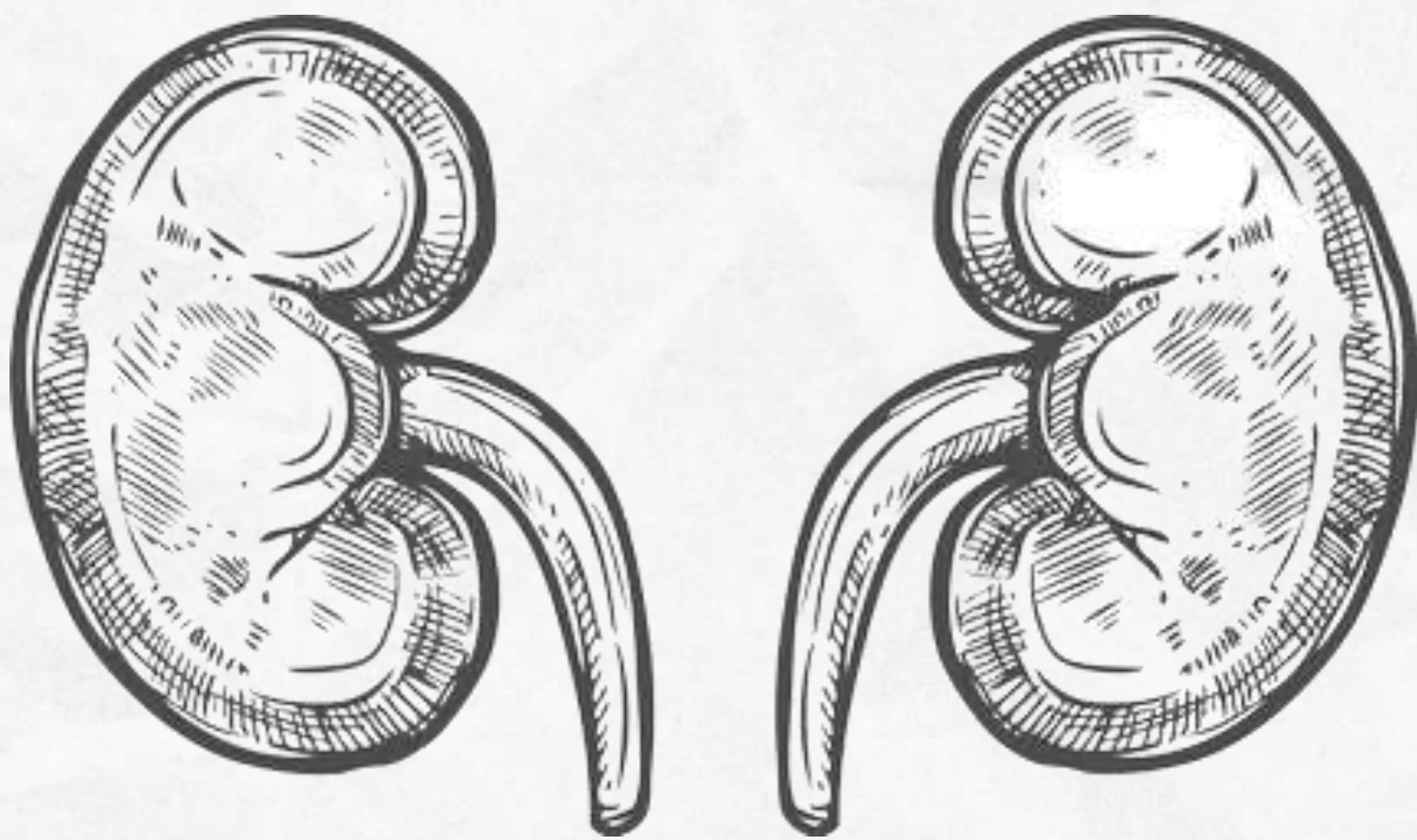


# **Genitourinary system**



**Past papers – Mid**

***Done by: Malek Abu Rahma***

# Physiology

## Lecture 1+2+3+4 (Renal Physiology)

**1. Which of the following not secreted from kidney?**

- A) Renin
- B) Erythropoietin
- C) ADH
- D) Calcitriol

**ANSWER : C**

**2. Which of the following is a function of the kidney?**

- A) production of RBC.
- B) eliminate CO<sub>2</sub>
- C) balance of electrolytes

**ANSWER : C**

**3. Which substance has Time gradient transport?**

**ANSWER : Na<sup>+</sup> (no T<sub>max</sub>)**

**4. How would blockade of prostaglandins synthesis by non-steroidal anti-inflammatory drugs affect 20 glomerular filtration rate (GFR) and renal plasma flow (RPF) in a patient with impaired renal function?**

- A) It will increase both GFR and RPF
- B) It will decrease both GFR and RPF
- C) It will have no effect on GFR or RPF
- D) It will increase GFR and decrease RPF
- E) It will decrease GFR and increase RPF

**ANSWER : B**

# Physiology

## Lecture 1+2+3+4 (Renal Physiology)

5. Which of the following substances would be filtered least readily by the glomerular capillaries?

- A) Polycationic dextran with a molecular weight of 5,000
- B) Polyanionic dextran with a molecular weight of 60 000
- C) Polycationic dextran with a molecular weight of 25,000
- D) Neutral dextran with a molecular weight of 25,000
- E) Polyanionic dextran with a molecular weight of 25,000

**ANSWER : B**

6. something increases GFR:

- A) increasing in  $K_f$
- B) increasing in Bowman's hydrostatic pressure

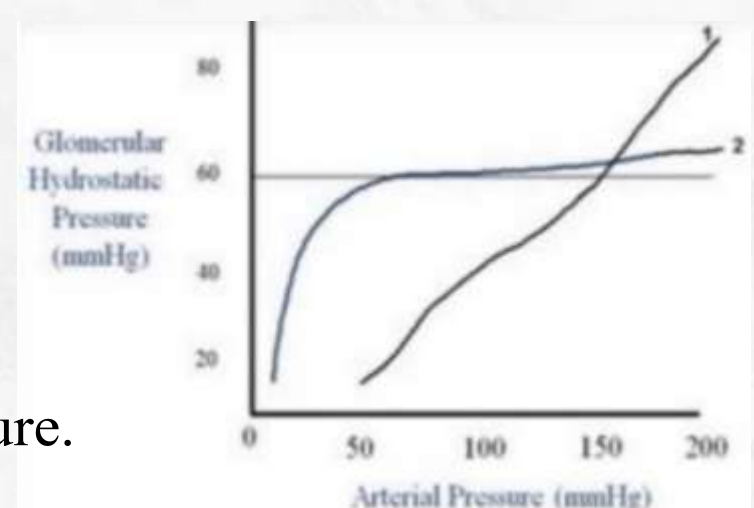
**ANSWER : A**

7. Angiotensin 2 blockers inhibit renin system leading to?

**ANSWER : Impaired GFR autoregulation only**

8. Looking at the graph below representing data from two patients (1 and 2), which of the following is correct?

- A) In curve 2, tubuloglomerular feedback in this patient is impaired.
- B) In curve 2, the patient is most probably taking renin angiotensin system blockers.
- C) In both curve 1 and curve 2, renal blood flow and GFR are not affected by changing arterial blood pressure.
- D) In curve 1, the patient has no renal autoregulation.
- E) In curve 1, GFR will be constant from 50 to 200 mmHg arterial pressure.



**ANSWER : D**

# Physiology

## Lecture 1+2+3+4 (Renal Physiology)

9. If efferent arteriolar resistance is more than 3X

**ANSWER :** ↓RPF, ↑oncotic pressure ,↓GFR

10. Glomerular filtration rate (GFR) when efferent (e) arteriolar resistance is 2X normal, is higher than GFR when resistance is 4X normal due to the following:

- A) Glomerular capillaries oncotic pressure is lower at 4X (e) resistance due to decreased renal blood flow.
- B) Glomerular capillaries oncotic pressure is higher at 4X (e) resistance due to decreased renal blood flow.
- C) Glomerular hydrostatic pressure is higher at 2X (e) resistance than 4x (e)
- D) Capsular hydrostatic pressure is higher at 4X (e) resistance than 2X (e)
- E) Capsular oncotic pressure is higher at 4X (e) resistance than 2X (e)

**ANSWER : B**

11. Glomerular filtration rate (GFR) when efferent (e) arteriolar resistance is 2X normal is higher than GFR when resistance is 4X normal due to the following:

- A) Glomerular oncotic pressure is higher at 4X (e) resistance.
- B) Glomerular hydrostatic pressure is higher at 4X (e) resistance.
- C) Capsular hydrostatic pressure is higher at 4X (e) resistance
- D) Capsular oncotic pressure is higher at 4X (e) resistance
- E) None of the above is correct answer.

**ANSWER : A**

12. Reabsorption rate in the nephron is decreased by the following:

- A) Increased peritubular capillaries oncotic pressure
- B) Increased peritubular capillaries hydrostatic pressure
- C) Increased afferent arteriolar resistance
- D) Increased efferent arteriolar resistance
- E) Increased filtration fraction

**ANSWER : B**

# Physiology

## Lecture 1+2+3+4 (Renal Physiology)

13. The following is TRUE regarding non-steroidal anti-inflammatory (NSAIDs) drugs:

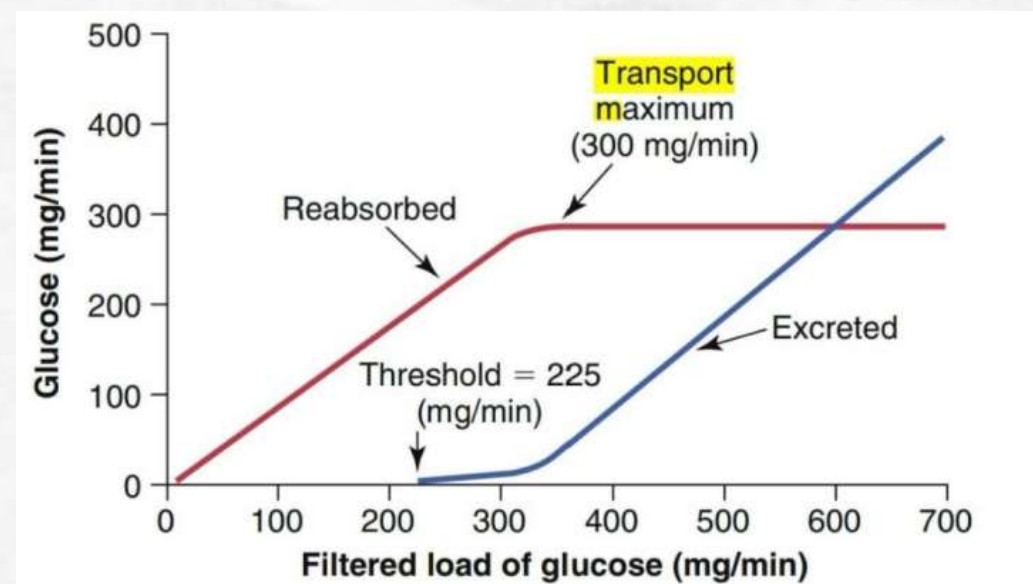
- A) They reduce the coefficient of filtration, thus decrease GFR.
- B) They are vasodilators, they decrease afferent arteriolar resistance and increase GFR.
- C) They do not affect GFR.
- D) They inhibit synthesis of prostaglandins, reducing vasodilation of afferent arterioles and decrease GFR.
- E) They are vasoconstrictor agents; they increase afferent arteriolar resistance and decrease GFR.

**ANSWER : D**

# Physiology

## Lecture 5+6 (Renal Reabsorption)

14. A 32-year-old man reports frequent urination. He is overweight (280 pounds [127 kilograms], 5 feet 10 inches [178 cm] tall). After measuring the 24-hour creatinine clearance, the Plasma concentration of the glucose was 300 mg/dl and his renal transport maximum for glucose is normal, as shown in the figure below, if you know that excretion rate of the glucose in the urine was 150 mg/min, calculate the GFR?



- A) 1 mg/min
- B) 1.5 mg/min
- C) 150 mg/min
- D) 225 mg/min
- E) 1200 mg/min

F) Information provided is inadequate to estimate the glucose excretion rate.

ANSWER : C

15. The effect of ANP (atrial natriuretic peptide) is the following:

- A) Stimulates ANG II production.
- B) Stimulates release of ADH (anti diuretic hormone).
- C) Stimulates aldosterone.
- D) Decreases renal blood flow and increases reabsorption.
- E) Increases GFR and decreases reabsorption.

ANSWER : E

16. A hypertensive 55 year old female was treated with furosemide (Lasix) for 3 weeks. Which of the following findings you would expect after the 3 weeks of treatment compared to before treatment with this drug?

- A) Increase in arterial pressure, decrease in extracellular fluid, decrease in plasma potassium.
- B) Decrease in arterial pressure, decrease in extracellular fluid, increase in plasma potassium.
- C) Decrease in arterial pressure, decrease in extracellular fluid, decrease in plasma potassium.
- D) Increase in arterial pressure, increase in extracellular fluid, decrease in plasma potassium.
- E) Decrease in arterial pressure, increase in extracellular fluid, decrease in plasma potassium.

ANSWER : C

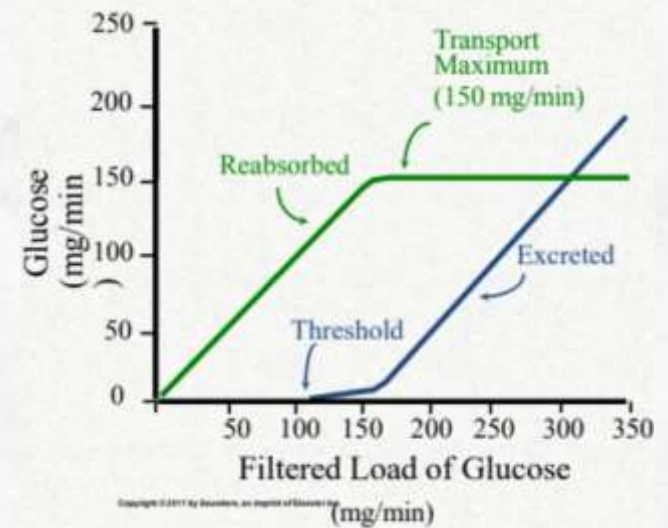
# Physiology

## Lecture 5+6 (Renal Reabsorption)

17. A uninephrectomized patient with uncontrolled diabetes has a GFR of 90 ml/min, a plasma glucose of 200 mg% (2mg/ml), and a transport max (T<sub>m</sub>) shown in the figure. What is the glucose excretion for this patient?

- A) 0 mg/min
- B) 30 mg/min
- C) 60 mg/min
- D) 90 mg/min
- E) 120 mg/min

**ANSWER : B**



18. Using the following laboratory test results. what is the clearance value?

Urine plasma flow = 1ml/min

Urine inulin concentration = 100 mg/ml

Plasma inulin concentration = 2 mg/ml

Urine urea concentration = 50 mg/ml

Plasma urea concentration = 2.5 mg/ml

- A) 0 mg/min
- B) 25 mg/min.
- C) 50 mg/min
- D) 75 mg/min
- E) 100 mg/m.

**ANSWER : C**

19. Which of the following indicates a patient with primary aldosteronism: (There was a table)

**ANSWER:**

**PH = 7.52**

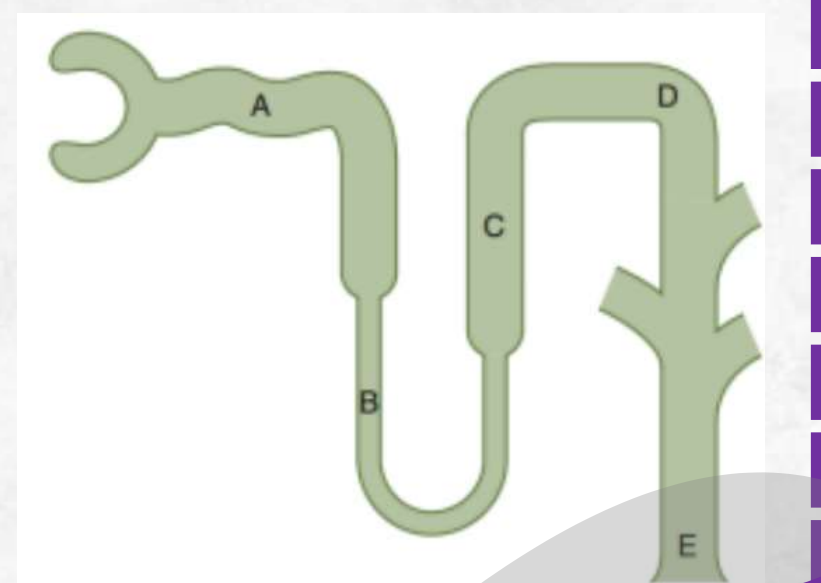
**K<sup>+</sup> = 2.5 (less than normal)**

**Na<sup>+</sup> = 146 (higher than normal)**

**Blood pressure: 140/90**

20. In a patient with severe central diabetes insipidus caused by a lack of ADH secretion, which part of the tubule would have the lowest tubular fluid osmolarity?

- A) A
- B) B
- C) C
- D) D
- E) E



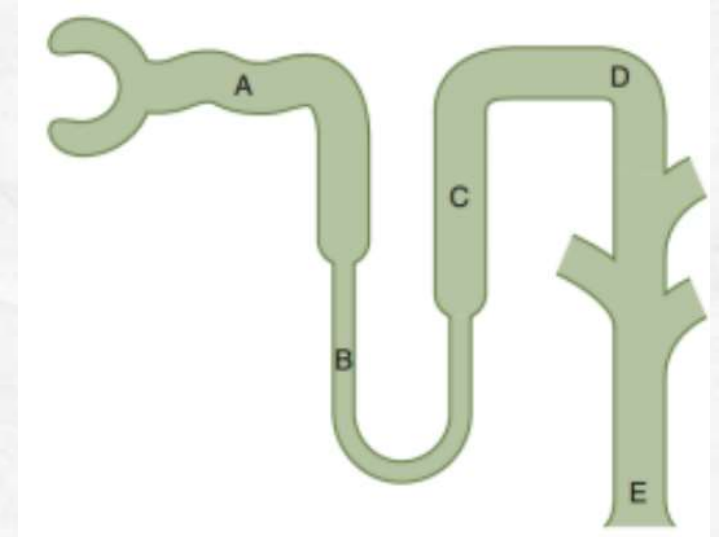
**ANSWER : E**

# Physiology

## Lecture 5+6 (Renal Reabsorption)

21. Which part of the nephron reabsorbs the most water when giving ADH?

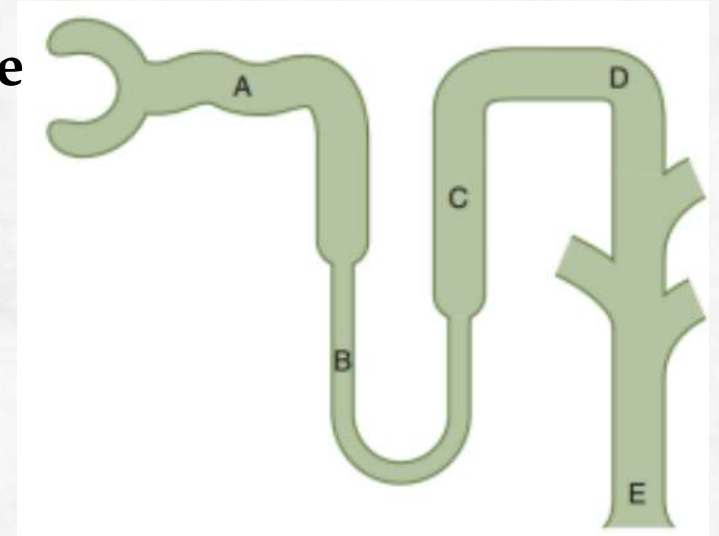
- A) A
- B) B
- C) C
- D) D
- E) E



ANSWER : E

22. In a normally functioning kidney, which part of the tubule has the lowest permeability to water?

- A) A
- B) B
- C) C
- D) D
- E) E



ANSWER : C

23. In a patient with lack of ADH, which segment is the most diluted?

- A) Thin descending
- B) Thin ascending
- C) Thick ascending
- D) Late distal + Cortical collecting

ANSWER : D

24. Which of the following would tend to induce hyperkalemia?

- A) A tumor secreting excess aldosterone.
- B) A mild increase in potassium intake in a person with normal kidneys and normal aldosterone system
- C) A tumor secreting renin.
- D) Long-term treatment with a diuretic such as furosemide
- E) Long-term treatment with a diuretic such as amiloride

ANSWER : E



# Physiology

## Lecture 5+6 (Renal Reabsorption)

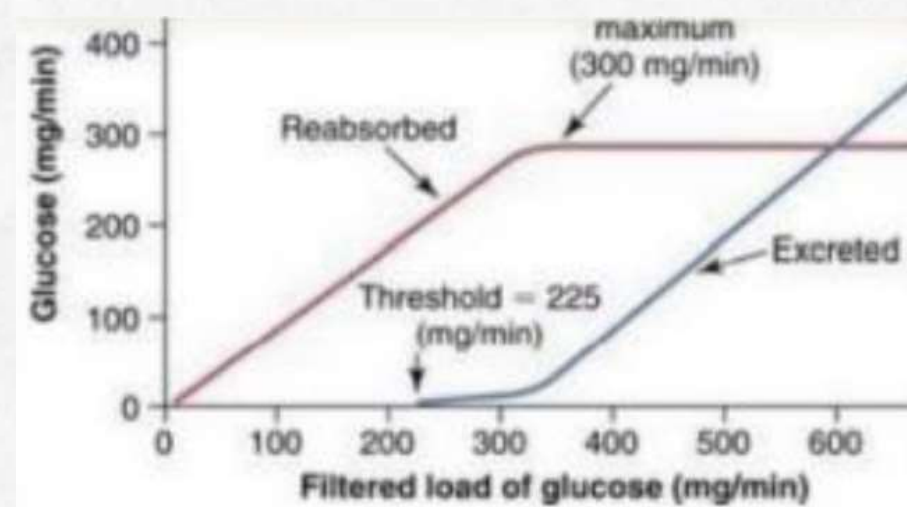
25. Effects of angiotensin II on filtration and reabsorption rates under physiologic limits are the following:

- A) Decreases filtration rate, decreases reabsorption rate.
- B) No effect on filtration rate, no effect on reabsorption rate.
- C) Increases filtration rate, decreases reabsorption rate.
- D) Decreases filtration rate, increases reabsorption rate.
- E) Keeps normal filtration rate, increases reabsorption rate.

ANSWER : E

26. A 32-year-old man complains of frequent urination. His estimated GFR is 150 ml/min. His plasma glucose is 4 mg/ml. Assuming that his renal transport maximum for glucose is normal, as shown in the figure below, what would be this patient's approximate rate of urinary glucose excretion?

- A) 300 mg/min
- B) 150 mg/min
- C) 0 mg/min
- D) 100 mg/min
- E) 200 mg/min



ANSWER : A

27. Which of the following changes would be expected in a patient with diabetes insipidus due to a lack of antidiuretic hormone (ADH) secretion?

- A) Decreased plasma osmolarity concentration, decreased sodium concentration, decreased plasma renin, normal urine volume.
- B) Normal plasma osmolarity concentration, normal sodium concentration, increased plasma renin, increased urine volume
- C) Increased plasma osmolarity concentration, increased sodium concentration, increased plasma renin, increased urine volume.
- D) Increased plasma osmolarity concentration, increased sodium concentration, normal plasma renin, normal urine volume
- E) Normal plasma osmolarity concentration, normal sodium concentration, decreased plasma renin, increased urine volume.

ANSWER : C

# Physiology

## Lecture 5+6 (Renal Reabsorption)

**28. In diabetes mellitus, increased tubular fluid osmotic pressure will result in:**

- A) Increased interstitial osmotic pressure and increased water reabsorption.
- B) Increased peritubular capillaries oncotic pressure and increased water reabsorption.
- C) Decreased water reabsorption, diuresis and polyuria.
- D) Increased peritubular capillaries hydrostatic pressure and decreased water reabsorption.
- E) Increased arterial hydrostatic pressure and GER.

**ANSWER : C**

**29. Which of the following tends to decrease potassium secretion by the cortical collecting tubule?**

- A) High sodium intake
- B) Acute hyperkalemia
- C) Increased plasma sodium concentration
- D) A diuretic that inhibits the action of aldosterone (e.g., spironolactone)
- E) Increased potassium intake

**ANSWER : D**

**30. Which of the following changes would you expect to find after administering a vasodilator drug that caused a 50% decrease in afferent arteriolar resistance and no change in arterial pressure?**

- A) Increased renal blood flow, increased GFR, and increased peritubular capillary hydrostatic pressure, decreased reabsorption.
- B) Increased renal blood flow, increased GFR, and decreased peritubular capillary hydrostatic pressure, increased reabsorption.
- C) Decreased renal blood flow, decreased GER, and decreased peritubular capillary hydrostatic pressure, decreased reabsorption.
- D) Increased renal blood flow, increased GFR, and no change in peritubular capillary hydrostatic pressure, increased reabsorption.
- E) Decreased renal blood flow, decreased GFR, and increased peritubular capillary hydrostatic pressure, increased reabsorption.

**ANSWER : A**

# Physiology

## Lecture 5+6 (Renal Reabsorption)

31. Given the following data about substance X and GFR, calculate the rate of net reabsorption or net secretion. GFR = 100 ml/min, plasma concentration of X = 0.14 mg/ml, urine concentration of X = 2 mg/ml, urine flow = 1 ml/min:

- A) secretion = 3.4 mg/min
- B) Secretion = 1.2 mg/min
- C) Reabsorption = 12 mg/min
- D) Secretion = 0.6 mg/min
- E) Reabsorption = 1.4 mg/min

**ANSWER : C**

31. Which of the following changes tends to increase peritubular capillary fluid reabsorption?

- A) Increased efferent arteriolar resistance.
- B) Decreased filtration fraction.
- C) Decreased angiotensin II.
- D) Increased renal blood flow.
- E) Increased blood pressure.

**ANSWER : A**

32. Pressure natriuresis occurs due to the following factor/s:

- A) Inhibition of renin angiotensin aldosterone system.
- B) Increased peritubular hydrostatic pressure.
- C) Increased glomerular hydrostatic pressure.
- D) Increased production of prostaglandins and EDRF (NO).
- E) All of the above mentioned factors are corrected

**ANSWER : E**

33. A patient with uncontrolled diabetes and kidney disease has a GFR of 90 ml/min, a plasma glucose of 3 mg/ml, and a transport max ( $T_m$ ) is 150 mg/min. What is the glucose excretion rate for this patient?

- A) 435 mg/min
- B) 285 mg/min
- C) 150 mg/min
- D) 120 mg/min
- E) 0 mg/min

**ANSWER : D**

# Physiology

## Lecture 5+6 (Renal Reabsorption)

**34. Effects of angiotensin II on filtration and reabsorption rates are the following:**

- A) Decreases filtration rate, decreases reabsorption rate
- B) Prevents a decrease in filtration rate, increases reabsorption rate
- C) Decreases filtration rate, increases reabsorption rate
- D) Prevents an increase in filtration rate, decreases reabsorption
- E) No effect on filtration rate, no effect on reabsorption

**ANSWER : B**

**35. In the absence of ADH, tubular fluid in the following nephron segment has the lowest osmolarity of all other nephron segments:**

- A) Early Distal convoluted tubule
- B) Late distal and collecting duct
- C) Thin descending limb of Henle
- D) Proximal convoluted tubule
- E) Thick ascending limb of Henle

**ANSWER : B**

**36. In diabetes mellitus, diuresis and polyuria occurs by the following mechanism:**

- A) Increased arterial hydrostatic pressure and GFR
- B) Increased interstitial osmotic pressure and increased water reabsorption
- C) Increased tubular fluid osmotic pressure and decreased water reabsorption
- D) Increased peritubular capillaries oncotic pressure and increased water reabsorption
- E) Increased peritubular capillaries hydrostatic pressure and decreased water reabsorption

**ANSWER : C**

**37. Pressure natriuresis occurs by the following mechanism:**

- A) Stimulation of renin angiotensin system
- B) Increase in GFR and decrease in  $\text{Na}^+$  reabsorption rate
- C) Stimulation of aldosterone
- D) Stimulation of antidiuretic peptide (ADH)
- E) Decrease in peritubular hydrostatic pressure

**ANSWER : B**

# Physiology

## Lecture 5+6 (Renal Reabsorption)

38. ANP

ANSWER : inhibits angiotensin II

39. Place where most of nutrients (Na K HCO<sub>3</sub>) are reabsorbed:

ANSWER : Proximal

40. Place where H<sub>2</sub>O is reabsorbed only without nutrients:

ANSWER : Thin descending

41. place where Na/k/Cl channel and it's called diluting segment:

ANSWER : Thick ascending

# Physiology

## Lecture 5+6 (Renal Reabsorption)

42. Which of the following inhibits RAAS and increases the GFR?

ANSWER : ANP

43. Patient with gfr decrease by 50%,which of the following is true?

ANSWER : After some time- creatinine excretion remains the same

44. What is correct regarding someone that increases his salt diet intake?

ANSWER : potassium excretion unchanged

# Physiology

## Lecture 7 (Renal Clearance)

45. Calculate GFR knowing : Urine flow rate = 1 ml/min, Urine inulin concentration = 100 mg/ml, Plasma inulin concentration = 2 mg/ml

- A) 25 ml/min
- B) 50 ml/min
- C) 100 ml/min
- D) 125 ml/min

**ANSWER : B**

46. The maximum possible clearance rate of a substance that is completely cleared from the plasma by the kidneys would be equal to

- A) glomerular filtration rate
- B) the filtered load of the substance
- C) urine excretion rate of the substance
- D) Renal plasma flow
- E) None of the above

**ANSWER : D**

47. If the glomerular filtration rate (GFR) of a patient is reduced to 50% of normal and sustained at that level, you would expect to find \_\_\_\_\_ 6 weeks after the decrease in GFR compared with normal. Assume steady-state conditions and that the patient has maintained the same diet.

- A) The best renal creatinine excretion
- B) no change renal creatinine excretion
- C) the worst renal creatinine excretion
- D) decreased renal creatinine excretion
- E) increased renal creatinine excretion

**ANSWER : B**

48. If the glomerular filtration rate (GFR) of a patient is reduced to 50% of normal and sustained at that level, you would expect to find \_\_\_\_\_ 6 weeks after the decrease in GFR compared with normal. Assume steady-state conditions and that the patient has maintained the same diet.

- A) The best renal creatinine clearance
- B) no change renal creatinine clearance
- C) the worst renal creatinine clearance
- D) decreased renal creatinine clearance
- E) increased renal creatinine clearance

**ANSWER : D**

# Physiology

## Lecture 7 (Renal Clearance)

49. If the glomerular filtration rate (GFR) of a patient is reduced to 50% of normal and sustained at that level, you would expect to find \_\_\_\_\_ 6 weeks after the decrease in GFR compared with normal. Assume steady-state conditions and that the patient has maintained the same diet.

- A) The best serum creatinine concentration
- B) no change serum creatinine concentration
- C) the worst serum creatinine concentration
- D) decreased serum creatinine concentration
- E) increased serum creatinine concentration

ANSWER : E

50. Using the following laboratory test results. what is the GFR?

Urine plasma flow = 1ml/min

Urine inulin concentration = 100 mg/ml

Plasma inulin concentration = 2 mg/ml

Urine urea concentration = 50 mg/ml

Plasma urea concentration = 2.5 mg/ml

- A) 50 ml/min.
- B) 75 ml/min
- C) 100 ml/min
- D) 125 ml/min

ANSWER : A

51. Using the following laboratory test results. What is the net urea reabsorption rate?

Urine plasma flow = 1ml/min

Urine inulin concentration = 100 mg/ml

Plasma inulin concentration = 2 mg/ml

Urine urea concentration = 50 mg/ml

Plasma urea concentration = 2.5 mg/ml

- A) 0 mg/min.
- B) 25 mg/min.
- C) 50 mg/min
- D) 75 mg/min

ANSWER : D

52. A patient with renal disease had a plasma creatinine of 2 mg/dl during an examination 6 months ago. You note that his blood pressure has increased about 30 mm Hg since his previous visit, and laboratory tests indicate that his plasma creatinine is now 4 mg/dl. Which of the following changes, compared with his previous visit, would you expect to find, assuming steady-state conditions and no changes in electrolyte intake or metabolism?

	Sodium Excretion Rate	Creatinine Excretion Rate	Creatinine Clearance	Filtered Load of Creatinine
A)	↔	↔	↓ by 50%	↓
B)	↔	↔	↓ by 50%	↔
C)	↔	↔	↓ by 75%	↓
D)	↓	↓	↔	↔
E)	↓	↓	↓ by 50%	↓

ANSWER : B



# Physiology

## Lecture 7 (Renal Clearance)

53. The highest renal clearance rate of any substance would not exceed:

- A) Glomerular filtration rate
- B) Renal plasma flow
- C) Renal blood flow
- D) Tubular reabsorption rate
- E) None of the above mentioned is correct.

**ANSWER : B**

54. Glomerular filtration rate (GFR) when efferent (e) arteriolar resistance is 2X normal, is higher than GFR when resistance is 4X normal due to the following:

- A) Glomerular capillaries oncotic pressure is lower at 4X (e) resistance due to decreased renal blood flow.
- B) Glomerular capillaries oncotic pressure is higher at 4X (e) resistance due to decreased renal blood flow.
- C) Glomerular hydrostatic pressure is higher at 2X (e) resistance than 4x (e)
- D) Capsular hydrostatic pressure is higher at 4X (e) resistance than 2X (e)
- E) Capsular oncotic pressure is higher at 4X (e) resistance than 2X (e)

**ANSWER : B**

55. Estimate GFR from the following data: Plasma creatinine concentration= 0.0125 mg / ml

56. For kidney function evaluation of a 55-year-old diabetic man; Urine was collected in a 24-hour 4 period. Knowing the following results from analysis of his urine and plasma samples

Plasma creatinine = 0.01 mg/mL

Urine creatinine = 0.60 mg/ mL

Plasma potassium = 0.05 mmol/ml

Urine potassium = 0.2 mmol/ml

Urinary flow rate=1 ml/min

What is his approximate glomerular filtration rate (GFR)?

- A) 10 mL/min
- B) 30 mL/min
- C) 60 ml/min
- D) 80 mL/min

**ANSWER : C**

# Physiology

## Lecture 7 (Renal Clearance)

57. A tumor secreting aldosterone (primary aldosteronism) will cause the following:

- A) Hypotension
- B) Hypokalemia
- C) Acidosis
- D) Na<sup>+</sup> wasting
- E) Fluid loss

**ANSWER : B**

58. What is the net renal tubular reabsorption rate of potassium in the patient, knowing the following results from analysis of his urine and plasma samples

Plasma creatinine = 0.01 mg/mL

Urine creatinine = 0.60 mg/ mL

Plasma potassium = 0.05 mmol/ml

Urine potassium = 0.2 mmol/ml

Urinary flow rate=1 ml/min

- A) Potassium is not reabsorbed, instead secreted in this example
- B) 3.2 mmol/min
- C) 2.8 mmol/min
- D) 0.280 mmol/min
- E) 1.8 mmol/min

**ANSWER : C**

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59. the glomerular filtration rate (GFR) of a patient is reduced to 50% of normal and sustained at that level, you would expect to find \_\_\_\_\_ renal creatinine excretion rate, \_\_\_\_\_ renal creatinine clearance, and \_\_\_\_\_ serum creatinine concentration 6 weeks after the decrease in GFR compared with normal. Assume steady-state conditions and that the patient has maintained the same diet.

**ANSWER : no change , decreased , increased**

# Physiology

## Lecture 7 (Renal Clearance)

60. The maximum possible clearance rate of a substance that is completely cleared from the plasma by the kidneys would be equal to renal plasma flow, so we use.....clearance to estimate RPF

**ANSWER : Paraminohippuric acid (PAH)**

61. SGLT inhibitor (table )

**ANSWER : Decrease GFR/ increase resistance/ decrease RBF**

62. Calculate GFR knowing : Urine flow rate = 1 ml/min, Urine inulin concentration = 100 mg/ml, Plasma inulin concentration = 2 mg/ml

- A) 25 ml/min
- B) 50 ml/min
- C) 100 ml/min
- D) 125 ml/min

**ANSWER : B**

# Physiology

## Lecture 8 +9 (Urine Concentration & Dilution)

63. If the max. urine osmolarity is 1200 mOsm/L, and 600 mOsm of solute must be excreted each day to maintain electrolyte balance, the obligatory urine volume is:

- A) 0.5 L/day
- B) 1.0 L/day
- C) 1.5 L/day
- D) 2.0 L/day
- E) 2.5 L/day

**ANSWER : A**

64. If the max. urine osmolarity is 300 mOsm/L, and 600 mOsm of solute must be excreted each day to maintain electrolyte balance, the obligatory urine volume is:

- A) 0.5 L/day
- B) 1.0 L/day
- C) 1.5 L/day
- D) 2.0 L/day
- E) 2.5 L/day

**ANSWER : D**

65. In normal kidneys, which of the following is true of the osmolarity of renal tubular fluid that flows out of loop of Henle and entering the early distal tubule in the region of the macula densa?

- A) Usually hypertonic compared with plasma
- B) Usually hypotonic compared with plasma
- C) Hypertonic, compared with plasma, in antidiuresis
- D) Usually isotonic compared with plasma

**ANSWER : B**

66. Which statement is true?

- A) Water reabsorption from the descending loop is normally less than the ascending part
- B) ADH increases water reabsorption from the ascending loop
- C) Osmolarity of fluid in the early distal tubule would be less than 300 mOsm/l
- D) ADH decreases the urea permeability in the medullary collecting tubules
- E) Sodium reabsorption from the ascending loop is normally less than the descending part

**ANSWER : C**

# Physiology

## Lecture 8 +9 (Urine Concentration & Dilution)

67. A patient's urine flow rate of 5 ml/min. Urine osmolarity is 150 mOsm/l, and plasma osmolarity is 300 mOsm/l. "free water clearance" is:

- A) +2.5 ml/min
- B) -5.0 ml/min
- C) +5.0 ml/min
- D) 0.0 ml/min
- E) -2.5 ml/min

**ANSWER : A**

68. The following has normal urine concentrating capability:

- A) 75 % nephron loss
- B) taking Loop diuretics
- C) Malnutrition
- D) drinking alcohol
- E) High protein diet

**ANSWER : E**

69. Which statement is false?

**ANSWER : Vasa recta countercurrent multiplier**

70. In one case the plasma osmolarity increased by 5%, in the second case the volume is increased by 5%. What is correct?

**ANSWER : ADH is increased more in osmotic**

# Physiology

## Lecture 8 +9 (Urine Concentration & Dilution)

71. A patient's urine flow rate of 5 ml/min. Urine osmolarity is 150 mOsm/l, and plasma osmolarity is 300 mOsm/l. "free water clearance" is:

- A) -2.5 ml/min
- B) -5.0 ml/min
- C) +5.0 ml/min
- D) 0.0 ml/min
- E) +2.5 ml/min

**ANSWER : E**

72. The following has normal urine concentrating capability:

- A) taking Loop diuretics
- B) drinking alcohol
- C) Malnutrition
- D) 75 % nephron loss
- E) High protein diet

**ANSWER : E**

73. Which statement is true?

- A) Osmolarity of fluid in the early distal tubule would be less than 300 mOsm/l
- B) ADH decreases the urea permeability in the medullary collecting tubules
- C) ADH increases water reabsorption from the ascending loop
- D) Sodium reabsorption from the ascending loop is normally less than the descending part
- E) Water reabsorption from the descending loop is normally less than the ascending part

**ANSWER : A**

74. In normal kidneys, which of the following is true of the osmolarity of renal tubular fluid that flows out of loop of Henle and entering the early distal tubule in the region of the macula densa?

- A) Usually hypotonic compared with plasma
- B) Usually isotonic compared with plasma
- C) Hypertonic, compared with plasma, in antidiuresis
- D) Usually hypertonic compared with plasma

**ANSWER : A**

# Pathology

## Lecture 1

75. All of the following are manifestations of nephritic syndrome, except:

- A) Massive proteinuria ( $> 3.5$  g/day)
- B) RBC casts
- C) Hypertension
- D) Azotemia
- E) Oliguria

**ANSWER : A**

76. In order to know the specific composition of immune deposits inside the glomerulus, we typically use the following test:

- A) Transmission electron microscopy
- B) Dissecting microscopy
- C) Light microscopy (Silver stain)
- D) Direct Immunofluorescence microscopy
- E) Light microscopy (H&E stain)

**ANSWER : D**

77. Which cell type comprises the visceral layer of Bowman capsule?

- A) Endothelial cells
- B) Juxtaglomerular cells
- C) Mesangial cells
- D) Podocytes
- E) Extraglomerular mesangial (or Lacis) cells

**ANSWER : D**

78. A characteristic feature of nephritic syndrome:

**ANSWER : Hematuria**

79. Which of the following is not a nephrotic sign?

**ANSWER : azotemia**

# Pathology

## Lecture 2

80. One is true about Minimal change disease:

- A) Maybe caused by nephron loss
- B) Diffuse glomerular basement membrane thickening
- C) Leads to recurrent hematuria
- D) Selective albumin loss in urine
- E) Azotemia is an important finding in blood tests

**ANSWER : D**

81. One is true about primary membranous nephropathy:

- A) Azotemia
- B) Recurrent episodes of hematuria
- C) Hypertension
- D) Urine RBC casts
- E) Massive proteinuria

**ANSWER : E**

82. A 4-year-old boy presents with severe proteinuria, hypoalbuminemia, generalized edema, and hyperlipidemia. The patient improves on an empiric trial of corticosteroids, with complete resolution of proteinuria. Which of the following is the most likely diagnosis?

- A) Diabetic nephropathy
- B) Focal segmental glomerulosclerosis
- C) Lupus nephropathy
- D) Membranous glomerulonephritis
- E) Minimal change disease

**ANSWER : E**

83. A 3-year-old girl presents with generalized edema shortly after recovery from an upper respiratory infection. Laboratory studies reveal marked albuminuria, as well as hypoalbuminemia and hyperlipidemia. Prior similar episodes responded to adrenal steroid medication. The most likely diagnosis is:

- A) focal segmental glomerulosclerosis.
- B) membranous glomerulonephritis.
- C) minimal change disease.
- D) poststreptococcal glomerulonephritis.
- E) rapidly progressive glomerulonephritis.

**ANSWER : C**



# Pathology

## Lecture 2

84. ONE is true about focal and segmental glomerulosclerosis (FSGS):

- A) A disease of childhood
- B) Only some glomeruli are affected
- C) Rapidly progressive glomerulonephritis
- D) Positive family history in most cases
- E) Subepithelial humps

**ANSWER : B**

85. A disease that presents with nephrotic syndrome?

**ANSWER : Membranous nephropathy**

# Pathology

## Lecture 3

86. One is true about membranoproliferative glomerulonephritis :

- A) Most common cause of azotemia in children
- B) Only one type exists
- C) Inflammation is not a contributing factor in pathogenesis m
- D) Mesangial IgA deposits are diagnostic
- E) Double contour (tram track) GBM is characteristic

**ANSWER : E**

87. One is true about IgA nephropathy :

- A) Most common nephrotic syndrome in childhood
- B) An x-linked hereditary nephritis
- C) Elevated serum anti-ASO titers
- D) Recovery is the usual outcome
- E) Linked to abnormality in secretory immunoglobulin clearance

**ANSWER : E**

88. One of the following is correct about post infectious glomerulonephritis (PSGN):

- A) Mostly causes nephrotic syndrome
- B) Negative tests by immunofluorescence
- C) Elevated anti-streptolysin O titers
- D) Caused by streptococcal pyelonephritis
- E) More common in adults than children

**ANSWER : C**

89. Dense deposit disease is also known as :

- A) MPGN 1
- B) RPGN 1
- C) PSGN
- D) RPGN 2
- E) MPGN 2

**ANSWER : E**

# Pathology

## Lecture 3

90. Dense deposit disease is characterized by glomerular deposits composed of one of the following:

- A) IgG.
- B) IgA.
- C) IgM .
- D) C3.
- E) C4.

**ANSWER : D**

91. Post-infectious glomerulonephritis is most commonly linked to an immune response against the following microorganism :

- A) Schistosomiasis
- B) Streptococcus Group A
- C) Staphylococcus
- D) H. influenza
- E) Corona viruses

**ANSWER : B**

92. A 5-year-old boy presents with hematuria. His mother states that he has had a sore throat for the past 2 days and that he has had hematuria a few times in the past, also concomitantly with a sore throat. She states that his urine usually returns to a normal clear yellow color after a few days. Which of the following is the most likely diagnosis?

- A) Alport syndrome
- B) Goodpasture syndrome
- C) IgA nephropathy
- D) Membranoproliferative glomerulonephritis
- E) Poststreptococcal glomerulonephritis

**ANSWER : C**

93. The abbreviation MPGN stands for:

- A) Membranoproliferative Glomerulonephritis
- B) Minimal Proteinuria glomerulonephritis

**ANSWER : A**

# Pathology

## Lecture 3

94. MPGN types I and II share in common many features, except ONE of the following:

- A) C3 nephritic factor is elevated in serum
- B) An immune-mediated problem
- C) Low complements serum levels

**ANSWER : A**

95. The letter S in PSGN that represents the microorganism most frequently linked to the pathogenesis of the disease is an abbreviation for:

- A) Shigella species
- B) Streptococcus species (B- hemolytic)
- C) Salmonella species
- D) Streptococcus species (a-hemolytic)

**ANSWER : D**

# Pathology

## Lecture 4

96. ONE is true about cystic diseases of the kidney:

- A) Hypertension complicates many cases of autosomal dominant polycystic disease.
- B) Chronic hemodialysis is a risk factor to have simple renal cysts.
- C) Polyuria and polydypsia are symptoms of adult polycystic renal disease.
- D) PKD 2 mutation is linked to autosomal recessive polycystic kidney disease.
- E) Nephronophthisis uremic complex is associated with numerous cortical cysts.

**ANSWER : A**

97. Cystic diseases of the kidney that may develop carcinomas are caused by:

- A) Genetic mutation of polycystin genes
- B) Inflammation
- C) Chronic hemodialysis

**ANSWER : C**

98. Wrong combination :

**ANSWER : adult type PKD » fibrocystin 1**

99. Wrong about nephronophthisis-medullary cystic disease complex:

**ANSWER : associated with hereditary hepatic fibrosis**

# Pathology

## Lecture 4

100. Autosomal Recessive (Childhood) Polycystic Kidney Disease occurs mostly due to mutation in:

**ANSWER : PKHD1**

# Pathology

## Lecture 5

**101. Pathogenesis of analgesic nephropathy :-**

- A) T-cell mediated
- B) Inhibition of PG synthesis
- C) Type I hypersensitivity reaction
- D) Non-covalent binding to enzymes

**ANSWER : B**

**102. All of the following can lead to hydronephrosis, except ONE:**

- A) Atresia of urethra .
- B) PKHDI mutations.
- C) Ptosis of renal pelvis.
- D) Prostatic hyperplasia .
- E) Spinal cord damage.

**ANSWER : B**

**103. All are correct regarding acute drug-induced tubulointerstitial nephritis, except one :**

- A) Characterized by fever, skin rash and eosinophilia .
- B) Develops within days to weeks following drug exposure.
- C) Causes hematuria without significant proteinuria .
- D) Increased risk of urothelial carcinoma of the renal pelvis .
- E) Hypersensitivity reactions may be implicated.

**ANSWER : D**

**104. "Struvite" renal stones are composed of :**

- A) Magnesium ammonium phosphate.
- B) Calcium phosphate.
- C) Cystine crystals .
- D) Uric acid crystals.
- E) Calcium oxalate.

**ANSWER : A**

# Pathology

## Lecture 5

105. Most common kidney stone in children:

**ANSWER : oxalate stone (mostly)**

106. Wrong about acute drug-induced TIN:

**ANSWER : dose related allergy**

107. Analgesic nephropathy occurs due to:

**ANSWER : inhibition of prostaglandin synthesis**

108. Hydronephrosis can occur due to:

**ANSWER : Neurogenic bladder**



# Pathology

## Lecture 5

109. Most common type/cause of Acute Tubular Necrosis?

**ANSWER : ischemia**

110. True about urolithiasis:

**ANSWER : some renal stones can be completely asymptomatic**

111. UTI that leads to alkaline urine most likely results in?

**ANSWER : Struvite stone**

# Pathology

## Lecture 6

112. Which of the following may be seen in all Urinary tumors :-

- A) painless hematuria
- B) stone formation
- C) hematuria and pain during urination
- D) Eosinophilia

**ANSWER : A**

113. ONE statement is correct regarding tumors of the urinary tract :

- A) Schistosomiasis is a risk factor of Chromophobe renal carcinoma.
- B) Painful hematuria is a frequent symptom of renal cancers.
- C) Wilms tumor is linked to mutations in VHL gene.
- D) Clear cell carcinoma is the most common renal tumor in adults.
- E) Renal papillary carcinoma reveals mutations in VHL gene.

**ANSWER : D**

114. Most common urinary tract tumor:

**ANSWER : transitional cell carcinoma**

115. Correct pair:

**ANSWER : von Hippel » Lindau mutation » clear cell carcinoma**

# Pathology

## Lecture 6

116. What are the symptoms of prostatic hyperplasia?

**ANSWER : Urinary urgency and frequency**

117. Which of the following is correct?

**ANSWER : Chromophobe renal carcinomas with hypodiploidy**

# Pathology

## Lecture 7

**118. ONE is true about testicular tumors:**

- A) Germ cell tumors are generally considered benign tumors
- B) Seminoma typically displays schiller- Duvall bodies
- C) Sex cord- stromal tumors include embryonal carcinoma and teratoma
- D) They are the most common tumors in men > 60 years old
- E) Elevated serum AFP is considered a tumor marker for testicular yolk sac tumor

**ANSWER : E**

**119. ONE is true about prostate gland pathology**

- A) Frequent symptoms of early prostate cancer include urinary urgency and hesitancy
- B) Serum levels of prostate specific antigen (PSA) is used for prostate cancer screening
- C) Benign prostatic hyperplasia usually arise in peripheral zones
- D) Only epithelial elements are affected by benign prostatic hyperplasia
- E) Cryptorchidism is an important risk factor for prostate cancer

**ANSWER : B**

**120. The most common primary testicular tumor in children younger than 3 years is:**

- A) Embryonal carcinoma
- B) Yolk sac tumor
- C) Choriocarcinoma
- D) Teratoma

**ANSWER : B**

**121. ONE is CORRECT regarding germ cell tumors of the testes :**

- A) Embryonal carcinoma displays uniform small tumor cells
- B) Choriocarcinoma typically displays schiller- Duvall bodies
- C) Elevated serum HCG is considered a tumor marker for seminoma
- D) They are most common after the age of 60
- E) Post-pubertal germ cell tumors are considered potentially malignant

**ANSWER : E**

# Pathology

## Lecture 7

122. ONE is correct regarding prostate hyperplasia:

- A) Cryptorchidism frequently leads to prostate hyperplasia.
- B) Serum level of prostate specific antigen (PSA) is markedly high.
- C) Involves prostate overgrowth of stroma but not glands.
- D) An Androgen-dependent condition of the prostate
- E) Represents the precursor lesion for prostate cancer

**ANSWER : D**

123. Wrong about intratubular germ cell neoplasia:

**ANSWER : seen in prepubertal men**

124. Which of the following statements are correct:

**ANSWER : HCG elevated in choriocarcinoma**

125. What is found in Yolk sac tumors?

**ANSWER : Schiller-Duvall bodies**

# Anatomy

## Lecture 1

126. Which of the following muscles originate from the ischial spines ONLY ?

- A) Coccygeus
- B) Puborectalis
- C) Sphincter vaginae
- D) Iliococcygeus
- E) Levator prostate

**ANSWER : A**

127. During labour, the anteroposterior diameter of the baby's head passes in the anteroposterior diameter of the pelvic:

- A) cavity
- B) outlet
- C) obstetric conjugate
- D) brim
- E) inlet

**ANSWER : B**

128. Clinically, to assess the pelvis of a pregnant women before labor, we measure the distance between.

- A) The two arcuate lines .
- D) Sacral promontory and lower border of symphysis pubis and subtract 1.5 cm .
- C) Sacro-iliac joint on one side and the iliopubic eminence on opposite
- D) Sacral promontory and upper border of symphysis pubis .
- E) Ischial spine and pubic Arch

**ANSWER : B**

129. True:

**ANSWER : female true pelvise is shorter than males and its inlet and outlet are wider**

# Anatomy

## Lecture 1

130. Which of the following statements are incorrect:

**ANSWER :** Anteroposterior diameter is larger than the transverse in a platypelloid pelvis

131. Which one of the following is true regarding the white line?

**ANSWER :** it is the origin of puborectalis muscle that inserted in anococcygeal body

132. The widest diameter in the pelvic inlet lies between?

**ANSWER :** Between the 2 arcuate lines

# Anatomy

## Lecture 2

**133. Regarding the inferior hypogastric plexus. Choose the wrong statement :**

- A) It receives parasympathetic contribution from superior hypogastric plexus
- B) It receives contribution from pelvic splanchnic nerves
- C) It lies medial to internal iliac vessels
- D) It receives contribution from sacral sympathetic chain
- E) It lies lateral to rectum

**ANSWER : A**

**134. The muscle which is located posterior to the right ureter is supplied by artery;**

- A) Iliolumbar .
- B) Internal pudendal .
- C) Obturator .
- D) Lateral Sacral Artery.
- E) Superior gluteal

**ANSWER : A**

**135. Regarding pelvic nerves, choose the WRONG statement:**

- A) The sensation from base of the urinary bladder in females is carried by pelvic splanchnic nerve.
- B) Pudendal nerve is a branch of sacral plexuses
- C) The pudendal nerve block is used to anesthetizes the patient during Episiotomy.
- D) The pregnant women could complain of aching pain extending down one of the lower limbs due to compression of anococcygeal nerve.
- E) The ganglion impar is formed by union of the two sacral sympathetic trunks.

**ANSWER : D**

**136. In females, which of the following arteries originates from posterior division of internal artery ?**

- A) inferior gluteal
- B) superior vesical
- C) superior gluteal
- D) middle rectal
- E) uterine

**ANSWER : C**



# Anatomy

## Lecture 2

137. Mismatch?

**ANSWER :** Anterior internal iliac division is in the greater pelvis

138. The nerve that supplies the skin between anal and

# Anatomy

## Lecture 3

139. Which of the following branches of the renal artery passes in the renal column:

- A) Segmental
- B) Interlobar
- C) Interlobular
- D) lobar
- E) Arcuate

**ANSWER : B**

140. Omar, a 38 years old man is complaining of severe renal colic radiating to his flanks. X ray revealed renal stone. After surgical removal of the stone, the doctor advice his family that Omar can eat and drink after his full recovery. Why Omar can eat and drink after this operation?

- A) The kidney is not a gastrointestinal organ.
- B) Small intestine is supplied by superior mesenteric artery while the kidney by renal artery.
- C) The intestinal blood is drained by portal vein while renal vein is drained by systematic circulation.
- D) The intestinal pain transmitted to T10 while renal pain to T12 segments of spinal cord.
- E) The kidney is a retroperitoneal structure

**ANSWER : E**

141. what is not one of the posterior relations of the rt kidney:

- A) rib 12 with diaphragm in between
- B) parietal pleura with diaphragm in between
- C) subcostal nerve without diaphragm
- D) 2 nerves with the same root value
- E) two arcuate ligaments

**ANSWER : E**

142. Wrong about the kidney:

**ANSWER : peritoneum reflects from inferior surface of liver to cover the kidney from its upper pole to its lower pole**

# Anatomy

## Lecture 3

143. a case for a man with hematuria ,no WBCs in urine ,no symptoms of systemic involvement ,what is the best diagnosis ?

**ANSWER : Nutcracker syndrome**

144. After surgery patient loses feeling in area around the ribs, most likely due to damage of which structure?

**ANSWER : Subcostal nerve**

# Anatomy

## Lecture 4

145. Regarding the ureter, which of the following is INCORRECT;

- A) It is crossed by genitofemoral nerve.
- B) Its pelvic part is supplied by branches from vesical, middle rectal and uterine arteries
- C) The Inferior mesenteric vein is medial to the left ureter
- D) Sensory fibers from the ureter enter the spinal cord through last two thoracic and upper two lumbar segments .
- E) One of its narrowest points located medial to ischial spine.

**ANSWER : A**

146. referred pain along distribution of the genitofemoral nerve:

**ANSWER : Ureter**

147. The pelvic part of the ureter begins at the end of common iliac artery

- A) True
- B) False

**ANSWER : A**

148. Which of the following lies posterior to the right ureter

- A) Genitofemoral nerve
- B) Mesentry
- C) Right coloc artery
- D) Third part of the duodenum

**ANSWER : A**

# Anatomy

## Lecture 4

149. Pain is referred along distribution of the .....nerve

- A) Ilioinguinal
- B) Iliohypogastric
- C) Genitofemoral
- D) Subcostal

**ANSWER : C**

# Anatomy

## Lecture 5

**150. Intraperitoneal fluid collection of urine and blood is caused by:**

- A) superior wall of the bladder injury
- B) pelvic fractures
- C) anterior wall of bladder injury
- D) Prostatic tumor

**ANSWER : A**

**151. The sphincter vesicae is supplied by:**

- A) Prostatic plexus
- B) inf. Hypogastric plexus
- C) coelic plexus
- D) renal plexus

**ANSWER : B**

**152. Choose the WRONG Statement:**

- A) The posterior ligaments of the urinary bladder contain vesical veins.
- B) The lymphatics from spongy part of male urethra are drained by deep and superficial inguinal lymph nodes.
- C) The urethral sphincter that prevents reflux of semen into the urinary bladder during ejaculation is supplied by autonomic fibers from the inferior hypogastric plexus .
- D) During insertion a male urinary catheter you feel resistance while it passes through membranous urethra as it is the narrowest part of the urethra.
- E) The female urethra is more distensible than male urethra

**ANSWER : D**

**153. A 16-year-old boy presents to the emergency department with rupture of the penile urethra. Extravasated urine from this injury can spread into which of the following structures:**

- A) Scrotum
- B) Ischiorectal fossa
- C) Pelvic cavity
- D) Testis
- E) Thigh

**ANSWER : A**

# Anatomy

## Lecture 5

154. A 21-year-old man is involved in a highspeed motor vehicle accident. As a result, he has extensive damage to his sphincter urethra. Which of the following best describes the injured sphincter urethra?

- A) Smooth muscle
- B) Innervated by the perineal nerve
- C) Lying between the perineal membrane and Colles fascia
- D) Enclosed in the pelvic fascia
- E) Part of the pelvic diaphragm

**ANSWER : B**

155. A 59-year-old man is diagnosed with prostate cancer following a digital rectal examination. For the resection of prostate cancer, it is important to know that the prostatic ducts open into or on which of the following structures:

- A) Membranous part of the urethra
- B) Seminal colliculus
- C) Spongy urethra
- D) Prostatic sinus
- E) Prostatic utricle

**ANSWER : D**

156. An elderly man with prostatitis is seen at an internal medicine clinic. The seminal colliculus of his prostate gland is infected, and its fine openings are closed. Which of the following structures is/are most likely to be disturbed:

- A) Ducts of the prostate gland
- B) Prostatic utricle
- C) Ducts of the bulbourethral glands
- D) Ejaculatory ducts
- E) Duct of the seminal vesicles

**ANSWER : D**

157. A child with ruptured penile urethra, urine extravasation won't reach:

**ANSWER : The thigh**

# Anatomy

## Lecture 5

158. Which ligament of the bladder contains veins that drain to internal iliac vein?

**ANSWER : Posterior ligament**



# Anatomy

## Lecture 6

**159. Which of the following structures doesn't pass within the spermatic cord:**

- A) Pampiniform venous plexus
- B) Ilioinguinal nerve
- C) Vestige of processus vaginalis
- D) Testicular Artery
- E) Vas deferens

**ANSWER : B**

**160. Regarding the Prostate, all are correct except ONE:**

- A) The prostatic venous plexus is drained by the internal ac veins
- B) Apex rests on the perineal membrane
- C) The inferolateral surfaces are facing levator ani muscle
- D) It is related anteriorly to fascia of Denonviliers
- E) The medial lobe is related to trigon of the urinary bladder

**ANSWER : D**

**161. Adam is 3 months old, his parent notice a swelling in his scrotum. The doctor diagnosed it as a hydrocele. During fluid aspiration the needle will pass through the following structures EXCEPT:**

- A) Internal spermatic fascia .
- B) Skin and Dartos muscle.
- C) Visceral layer of Tunica vaginalis.
- D) External spermatic fascia.
- E) Cremastic muscle and fascia.

**ANSWER : C**

**162. A 17-year-old boy suffers a traumatic groin injury during a soccer match. The urologist notices tenderness and swelling of the boy's left testicle that may be produced by thrombosis in which of the following veins:**

- A) Left internal pudendal vein
- B) Left renal vein
- C) Inferior vena cava
- D) Left inferior epigastric vein
- E) Left external pudendal vein

**ANSWER : B**

# Anatomy

## Lecture 6

163. Choose the **WRONG** statement;

- A) The Cremasteric artery is a branch from inferior epigastric artery
- B) Sinus of epididymis extends between lateral side of testis and the epididymis .
- C) The Middle spermatic nerves arise from the superior hypogastric plexus .
- D) The feeling of kick in the stomach accompanying injury of the testis is a referred pain through inferior spermatic nerve.
- E) The left renal vein is compressed between aorta and superior mesenteric artery

**ANSWER : D**

164. Wrong about spermatic cord:

**ANSWER : can contain the sac of direct inguinal hernia**

165. Where does the pre-ejaculatory duct open?

**ANSWER : on the spongy urethra**

166. More likely to result in varicocele?

**ANSWER : Left renal vein**

# Anatomy

## Lecture 6

167. The external oblique muscle is replaced by in the scrotum

- A) Cremasteric muscle and fascia
- B) External spermatic fascia
- C) Internal spermatic fascia
- D) Tunica vaginalis

**ANSWER : B**

168. The Tunica vaginalis is absent at .....of the testis

- A) Anterior border
- B) Posterior border
- C) Upper pole
- D) lateral surface

**ANSWER : B**

169. The deep layer of superficial fascia of testis is called Scarpa's fascia

- A) True
- B) False

**ANSWER : B**

170. The lymphatic drainage of testis is

# Anatomy

## Lecture 7

171. An elderly man with a benign enlargement of his prostate experiences difficulty in urination, urinary frequency, and urgency. Which of the following lobes of the prostate gland is commonly involved in benign hypertrophy that obstructs the prostatic urethra:

- A) Anterior lobe
- B) Median lobe
- C) Right lateral lobe
- D) Left lateral lobe
- E) Posterior lobe

ANSWER : B

172. A 37-year-old man is suffering from carcinoma of the skin of the penis. Cancer cells are likely to

173. A 39-year-old man is unable to expel the last drops of urine from the urethra at the end of micturition because of paralysis of the external urethral sphincter and bulbospongiosus muscles. This condition may occur as a result of injury to which of the following nervous structures:

- A) Pelvic plexus
- B) Prostatic plexus
- C) Pudendal nerve
- D) Pelvic splanchnic nerve
- E) Sacral splanchnic nerve

ANSWER : C

174. A 72-year-old man comes to his physician for an annual checkup. Which of the following structures is most readily palpated during rectal examination:

- A) Prostate gland
- B) Epididymis
- C) Ejaculatory duct
- D) Ureter
- E) Testis

ANSWER : A

# Anatomy

## Lecture 7

**175. Regarding the Prostate, all are correct except ONE:**

- A) The prostatic venous plexus is drained by the internal ac veins
- B) Apex rests on the perineal membrane
- C) The inferolateral surfaces are facing levator ani muscle
- D) It is related anteriorly to fascia of Denonviliers
- E) The medial lobe is related to trigon of the urinary bladder

**ANSWER : D**

**176. A first-year resident in the urology department reviews pelvic anatomy before seeing patients. Which of the following statements is correct?**

- A) The dorsal artery of the penis supplies the glans penis.
- B) The seminal vesicles store spermatozoa.
- C) The duct of the bulbourethral gland opens into the membranous urethra.
- D) The duct of the greater vestibular gland opens into the vagina
- E) The anterior lobe of the prostate gland is prone to carcinomatous transformation

**ANSWER : A**

**177. A male patient has bilateral occlusion of ejaculatory ducts, his ejaculation will contain..... only:**

- A) Prostatic secretion and alkaline secretion rich in fructose
- B) Sperms and prostatic secretion
- C) Prostatic secretion
- D) Sperms
- E) Alkaline secretion rich in fructose

**ANSWER : C**

**178. A 58-year-old man is diagnosed as having a slowly growing tumor in the deep perineal space. Which of the following structures would most likely be injured?**

- A) Bulbourethral glands
- B) Crus of penis
- C) Bulb of vestibule
- D) Spongy urethra
- E) Great vestibular gland

**ANSWER : A**

# Anatomy

## Lecture 7

179. Which veins are responsible for the spread of cancer prostate to lumbar vertebrae?

**ANSWER : Batson venous plexus**

180. What supplies the vas deferens?

**ANSWER: Supplied by artery branch from inferior vesical**

181. The seminal vesicles are supplied by

- A) superior rectal A
- B) inferior rectal A
- C) middle rectal A
- D) superior vesical A

**ANSWER : C**

182. The anterior surface of prostate is related to:

- A) Levator ani
- B) piriformis
- C) coccygeus
- D) puboprostatic ligament

**ANSWER : D**

# Anatomy

## Lecture 7

183. The nerve supply of Vas deferens is mainly sympathetic

- A) True
- B) false

**ANSWER : A**

184. The deep dorsal vein of floe penis is drained into

**ANSWER : prostatic venous plexus**

# Histology

## Lecture 1&2

185. Which statement is wrong?

**ANSWER :** Epididymis has a circular layer between two longitude layers

186. The Proximal convoluted Tubules is a part of collecting ducts

- A) True
- B) False

**ANSWER : B**

187. The Inner (visceral) layer of Bowman's capsule is lined by

- A) Simple columnar epithelium
- B) Podocytes
- C) Simple squamous epithelium
- D) Simple cuboidal epithelium

**ANSWER : B**

188. The urine of patient with glomerulonephritis contains excessive

- A) Protein
- B) Sugar
- C) Lipid
- D) mucous

**ANSWER : A**



# Histology

## Lecture 1&2

**189. Which of the following structure is lined by Simple cuboidal epithelium with long microvilli**

- A) Distal convoluted Tubule
- B) Collecting Ducts
- C) Loop of Henle
- D) Proximal convoluted Tubule

**ANSWER : D**

**190. The ureter is lined by transitional epithelium**

- A) True
- B) False

**ANSWER : A**

**191. Which of the following cells produce peristalsis waves to help movement of spermatozoa and testicular fluid?**

- A) Spermatogenic cells
- B) Sertoli cells
- C) Myoid cells

**ANSWER : C**

**192. Which of the following cells contain 23 chromosomes ?**

- A) Secondary spermatocytes
- B) Spermatogonia
- C) Primary spermatocytes

**ANSWER : A**

# Histology

## Lecture 1&2

193. The head of sperm contains mitochondrial sheath

- A) True
- B) False

**ANSWER : B**

194. The corpora amylacea is found in .....

- A) Vas deferens
- B) Prostate
- C) Epididymis

**ANSWER : B**

195. What helps in the movement of spermatozoa and testicular fluid?

**ANSWER : Myoid cells**

196. Which is false regarding the vaginal part of the cervix?

**ANSWER : Lined by pseudostratified**

# Histology

## Lecture 1&2

197. Where are the Lacis cells found?

**ANSWER :** In the triangular region between the afferent and efferent arterioles

198. Which one of the following is concerned with renewal of glomerular capillaries BM?

**ANSWER :** Podocytes

# Microbiology

## Lecture 1

**199. Which of the following inhibits bacterial growth in the bladder ?**

- A) Urine retention
- B) Bacterial biofilm formation
- C) Lactoferrin in the urine
- D) Urine pH of 7.4
- E) Absence of secretory antibodies

**ANSWER : C**

**200. All of the following can inhibit bacterial growth in the urinary tract except:**

- A) Tamm-Horsfall protein.
- B) Lactoferrin.
- C) Urine flow .
- D) Abundance of Iron.
- E) Urea.

**ANSWER : D**

**201. Which of the following is true regarding complicated and uncomplicated UTIS?**

- A) Management is the same for both.
- B) The most common pathogen is the same for both.
- C) Bacteria lacking adhesions usually cause uncomplicated UTIS, while bacteria expressing adhesions cause complicated UTIS.
- D) Risk factors are the same for both.
- E) Dysuria and frequency are found only in complicated UTIS

**ANSWER : A**

**202. Which of the following is expected to be an uncomplicated urinary tract infection ?**

- A) Dysuria and frequency in a 30-year-old female with a ureteral catheter
- B) Dysuria and frequency in a 6-year-old female
- C) Dysuria and frequency in an AIDS patient
- D) Dysuria and suprapubic pain in a 30-year-old male
- E) Dysuria and fever in a 65-year-old diabetic male

**ANSWER : B**

# Microbiology

## Lecture 1

**203. The most common cause of the UTI?**

**ANSWER : microbes from GI tract**

**204. Which of the following is a proper response of the urinary tract to the bacteria?**

**ANSWER : Sequestering iron**

**205. A young lady (description of a patient with uncomplicated cystitis) who had a UTI 4 years ago, now has infection of the bladder. What does she have?**

**ANSWER : Uncomplicated cystitis (LEC 2)**

# Microbiology

## Lecture 2

206. A 26-year-old female, previously healthy, presents to the clinic with a 3-day history of pain on passing urine associated with frequent bathroom visits. She denies urethral discharge or itch, and reports no sexual activity in the past 6 months. Which of the following laboratory results most likely confirms her diagnosis with a UTI?

- A) Any number of RBCS in urine .
- B) Urine culture revealing growth of coagulase negative, gram positive cocci .
- C) Dipstick test reveals decreased urine pH.
- D) Dipstick test reveals presence of nitrite .
- E) Any number of WBCS in urine.

ANSWER : D

207. Which of the following is true regarding urinary tract infection treatment?

- A) Treatment can be initiated if UTI symptoms are present without need for further lab testing depending on history and physical examination
- B) Urine analysis and culture is mandatory before initiation of therapy
- C) Antimicrobial therapy is not always required for symptomatic UTI
- D) Treatment regimen for cystitis and pyelonephritis are usually the same
- E) Treatment regimen includes a combination of antibacterial, antifungal, and antiviral drugs

ANSWER : A

208. Which of the following best describes emphysematous pyelonephritis?

- A) Pyelonephritis associated with vaginal discharge
- B) A severe multifocal bacterial pyelonephritis with high mortality
- C) Clinically asymptomatic pyelonephritis
- D) Pyelonephritis caused by ureteric stone formation
- E) Pyelonephritis that resolves spontaneously in 30% of patients

ANSWER : B

209. A 28-year-old woman presents with fever, dysuria, urinary frequency, and flank tenderness. The urine contained numerous neutrophils and many white cell casts. Urine protein was moderately increased. A quantitative urine culture revealed more than 10<sup>5</sup> bacteria per milliliter. The most likely causative organism is:

- A) Escherichia coli.
- B) Haemophilus influenzae.
- C) Proteus vulgaris.
- D) Pseudomonas aeruginosa

ANSWER : A

# Microbiology

## Lecture 2

210. A 26-year-old female, previously healthy, presents to the clinic with a 3-day history of pain on passing urine associated with frequent bathroom visits. She denies urethral discharge or itch, and reports no sexual activity in the past 6 months. Laboratory tests for this patient are most likely to reveal which of the following?

- A) Dipstick test reveals decreased urine pH
- B) Urine culture reveals Gram positive diplococci
- C) Dipstick test reveals increased leukocyte esterase
- D) Urine culture reveals spore forming Gram positive rods
- E) Dipstick test reveals absent nitrite

ANSWER : C

211. A 26-year-old female, previously healthy, presents to the clinic with a 3-day history of pain on passing urine associated with frequent bathroom visits. She denies urethral discharge or itch, and reports no sexual activity in the past 6 months, what is the next step?

ANSWER : No test required before starting empirical treatment

212. Which symptom is more likely to be present in upper urinary tract infections (UTIs) compared to lower UTIs?

- A) Dysuria
- B) Urinary frequency
- C) Costovertebral angle tenderness
- D) Suprapubic pain

ANSWER : C

213. Which diagnostic test is most useful in confirming the diagnosis of an upper urinary tract infection (UTI)?

- A) Renal ultrasound
- B) Urine culture and sensitivity
- C) Blood culture
- D) Urinalysis

ANSWER : B

# Microbiology

## Lecture 3

**214. Screening for, and treating asymptomatic bacteriuria is recommended in which of the following cases ?**

- A) A 22-year-old male undergoing urinary tract surgery .
- B) A 50-year-old male with a chronic indwelling urinary catheter .
- C) A 73-year-old male with history of diabetes.
- D) A 30-year-old healthy female
- E) A 60-year-old male with benign prostatic hypertrophy.

**ANSWER : A**

**215. Screening for, and treating asymptomatic bacteriuria is recommended in which cases?**

- A) Patients undergoing abdominal procedures
- B) Pregnant women
- C) A patient with an indwelling catheter

**ANSWER : B**

**216. Which of the following regarding Catheter-associated urinary tract infection (CAUTI) is true?**

- A) The urinary catheter drainage system should be open to decrease chances of CAUTI
- B) CAUTI is primarily caused by viral pathogens.
- C) The risk of CAUTI is lower in patients who receive regular irrigation of the catheter with antiseptic solutions.
- D) Daily assessment of the necessity of the catheter and only keeping the catheter for appropriate indications would decrease the chance of CAUTI.

**ANSWER : D**

**217. Screening for, and treating asymptomatic bacteriuria is recommended in which of the following cases?**

- A) A 60-year-old male with benign prostatic hypertrophy
- B) A 22-year-old male undergoing urinary tract surgery.
- C) A 30-year-old healthy female
- D) A 50-year-old male with a chronic indwelling urinary catheter

**ANSWER : B**



# Microbiology

## Lecture 3

218. A 23-year-old woman at 8 weeks gestation, comes to the clinic for her first antenatal visit. She reports no symptoms apart from some mild nausea which she is managing with small, frequent meals. A urine sample is sent as part of the routine pregnancy panel. Culture shows greater than 100,000 CFU/mL of gram-negative rods. Failure to appropriately treat this condition will place this patient at an increased risk for?

**ANSWER : pyelonephritis & preterm labor**

219. A 25-year-old woman comes to the clinic because of urinary frequency and dysuria for the past 3 days. She is otherwise healthy and states that she is sexually active. Physical examination shows suprapubic tenderness. Urinalysis shows the presence of leukocyte esterase and nitrites. Which of the following is the most likely causative organism for her condition?

**ANSWER : Escherichia coli**

220. A 82-year-old woman is sent from her nursing home to the emergency department because of concerns for sepsis. The patient has late-stage Alzheimer's, no known drug allergies, and an indwelling Foley catheter. The referral letter states that she has had back pain, fevers, and tachycardia for the past two days. Physical examination shows costovertebral tenderness on the right. Urinalysis is positive for protein, leukocyte esterase, and nitrates and shows greater than 50 WBC per high powered field. Laboratory studies show a leukocytosis. Which of the following is the next best step in the management of this patient?

**ANSWER : remove the indwelling Foley catheter and then commence empiric antibiotic therapy according to local guidelines.**

221. A 48-year-old woman comes to the emergency department because of 'burning, bloody urine'. She has been urinating more frequently for the past 2 days, but she denies polydipsia, vaginal discharge, back pain, abdominal pain, nausea, vomiting, or fevers. Physical examination shows that she is afebrile and her other vital signs are stable. Her abdomen is soft, non-tender and there is no flank tenderness. Urine dipstick is positive for leukocyte esterase and nitrites. What is the most appropriate initial treatment option?

**ANSWER : trimethoprim - sulfamethoxazole (TMP-SMX)**

# Microbiology

## Lecture 3

**222. In which of the following patients is treating ASB recommended?**

**ANSWER : 70 years old men prostate resection**

# Microbiology

## Lecture 4

**223. Bacterial vaginosis is best described as :**

- A) Vaginal discharge caused by a disturbance in the vaginal microbiota .
- B) Vaginal discharge caused by gram positive rods .
- C) A Common sexually transmitted disease.
- D) A Self-limiting disease that should not be treated with antibiotics .
- E) A rare cause of vaginal discharge worldwide.

**ANSWER : A**

**224. Wrong about T. vaginalis:**

**ANSWER : Endodyogeny**

**225. main difference between BV & Trichomoniasis:**

**ANSWER : epithelial cells studded with adherent coccobacilli**

**226. BV is best described as:**

**ANSWER : Vaginal discharge and decrease lactobacilli**

# Microbiology

## Lecture 5

227. 10-A 22-year-old male presents to his physician, complaining of a 2-week history of a sore on his penis. Physical examination shows a firm, raised, red, nontender chancre midway between the base and glans. Which of the following is the most appropriate course of action for the physician?

- A) Test a serum sample for antibodies to herpes simplex virus.
- B) Swab the chancre and culture on Thayer-Martin agar.
- C) Swab the chancre and perform a Gram stain.
- D) Perform a dark-field examination on a swab of the active lesion.
- E) Swab the chancre and culture on blood agar.

ANSWER : D

228. The pathogen that causes the common sexually transmitted disease chlamydia :

- A) Is similar morphologically to the pathogen causing syphilis .
  - B) Is diagnosed using culture on tryptic soy agar .
  - C) Can survive inside epithelial cells.
  - D) Only affects epithelium of the genital tract .
- Can only be transmitted through sexual contact.

ANSWER : C

229. 16-A 20-year-old, sexually-active female presents at her family physician's office with fever, painful arthritis of the right knee, and several small pustules on her extremities. Material from the pustules and joint fluid were collected for culture on modified Thayer-Martin medium. Which of the following results are consistent with a diagnosis of gonococcal infection?

- A) Growth of small colonies consisting of gram-negative diplococci. Bacteria grown on plates are catalase and oxidase positive.
- B) Growth of small colonies consisting of gram-positive cocci. Bacteria growth on plates are catalase and oxidase positive.
- C) Growth of small colonies consisting of gram-negative diplococci. Bacteria growth on plates are catalase and oxidase negative.
- D) Growth of large mucoid colonies consisting of gram-negative bacilli. Bacteria growth on plates are catalase and oxidase negative.
- E) Growth of gram-negative diplococci within polymorphonuclear leukocytes. Bacteria can utilize glucose and maltose as a carbon sources.

ANSWER : A

# Microbiology

## Lecture 5

**230. Which one of the following is characteristic of chlamydiae?**

- A) Reticulate bodies are an infectious, extracellular form of the organism.
- B) Most genital tract infections are asymptomatic and undiagnosed.
- C) They are sensitive to  $\beta$ -lactam antibiotics.
- D) They stain gram-positive.
- E) Inclusion bodies are formed from division of elementary bodies

**ANSWER : B**

**231. A feature of chlamydiae that is unique to this group is:**

- A) the requirement of an obligate intracellular habitat.
- B) its replicative cycle is distinguished by two morphologic forms that develop within cytoplasmic vacuoles.
- C) the lack of detectable peptidoglycan in its cell envelope.
- D) its use of host coenzymes of energy metabolism.
- E) all of the above.

**ANSWER : B**

**232. A 19-year old male presents at an STD clinic with a urethral discharge and dysuria. A swab specimen was collected and examined by Gram stain followed by light microscopy. Polymorphonuclear leukocytes were detected in the exudate along with intracellular and extracellular Gram negative diplococci. How should this patient's infection be treated?**

- A) No treatment is necessary
- B) With a tetracycline-based antibiotic such as doxycycline.
- C) With a third-generation cephalosporin antibiotic such as ceftriaxone
- D) With a combination of ceftriaxone and doxycycline
- E) With penicillin

**ANSWER : D**

**233. Which of the following antibiotics is most likely to be effective for chlamydial infections?**

- A) Penicillins
- B) Vancomycin
- C) Cephalosporins
- D) Carbapenems
- E) Macrolides

**ANSWER : E**

# Microbiology

## Lecture 5

**234. A feature of chlamydia:**

**ANSWER : it has infectious and non - infectious form**

**235. Which of the following tests is used to Screen, stage and monitor the syphilis:**

**ANSWER : VDRL test**

**236. Findings of a Gonorrhoea patient**

**ANSWER : gram negative cocci**

# Microbiology

## Lecture 6

237. A 35-year-old male presents to the clinic complaining of a genital vesicular rash that appeared a few days before the visit, with some vesicles starting to ulcerate, his history reveals unprotected intercourse with 3 different sexual partners in the last 2 months. The pathogen causing this lesion is most likely ?

- A) Spirochete.
- B) Yeast.
- C) Gram-negative diplococci.
- D) A double stranded DNA virus .
- E) A single stranded RNA virus

ANSWER : D

238. A patient with Painful vesicular lesions, what is the cause?

ANSWER : Double stranded DNA

239. Which of the following is true?

ANSWER : Acquiring a UTI increase the risk for requiring another UTI

240. Vesicular rash or lesions/ulcerating vesicles:

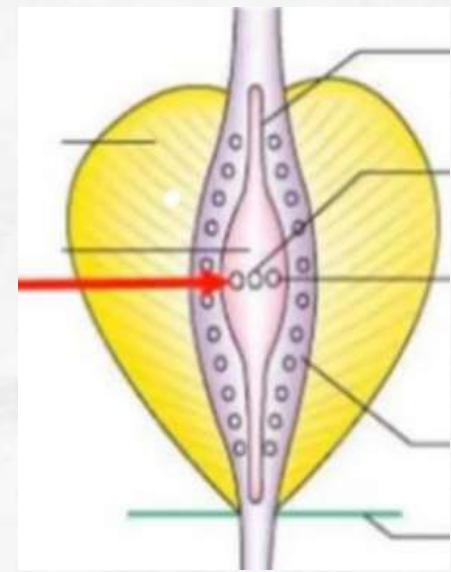
ANSWER : HSV-2

# Labs

## Anatomy

241. The pointed structure is the opening of the?

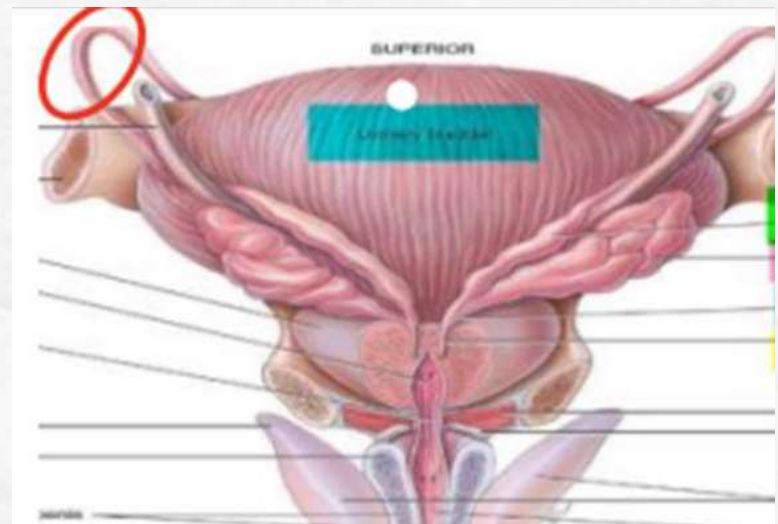
- A) Prostatic utricle
- B) Ejaculatory duct
- C) Bulbourethral gland
- D) Vas deferens



**ANSWER : B**

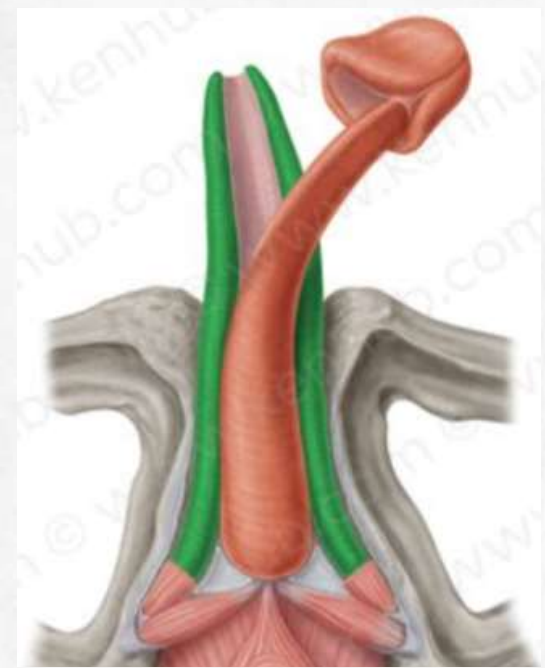
242. The pointed structure crosses which structure?

**ANSWER : Inferior epigastric artery**



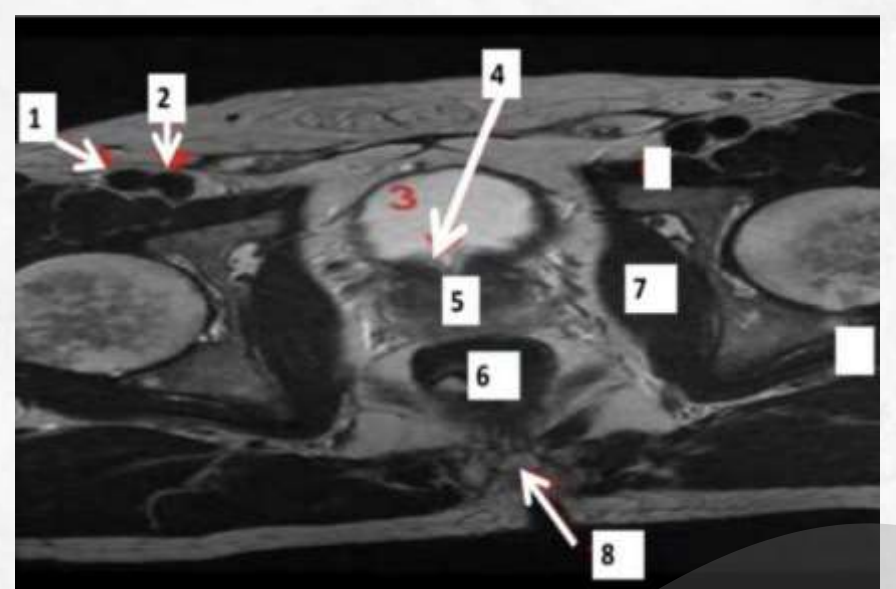
243. Picture pointing at the corpus cavernosa of the penis, blood supply is?

**ANSWER : Deep artery of the penis.**



244. What is the structure labeled with number 5 called?

- A) Urinary bladder
- B) Seminal Vesicle
- C) Anal Canal
- D) Levator ani muscle
- E) Prostate



**ANSWER : E**

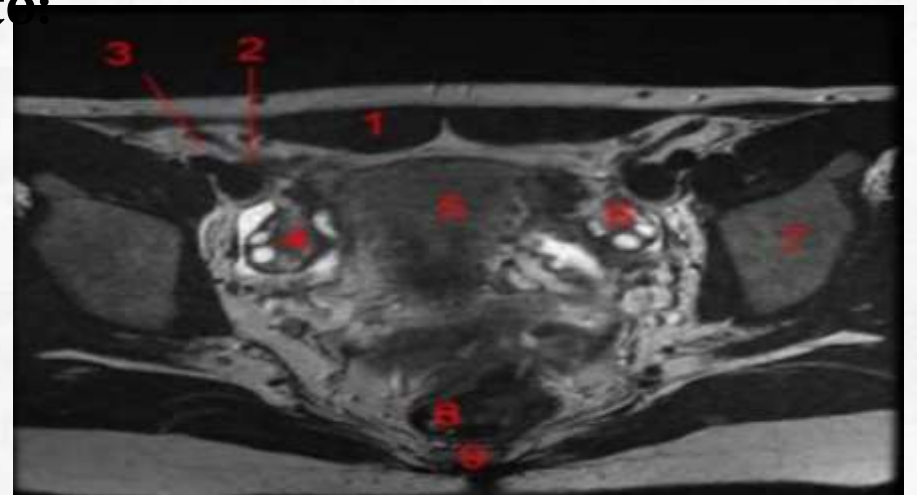


# Labs

## Anatomy

245. Structure number 4 lateral border is related to

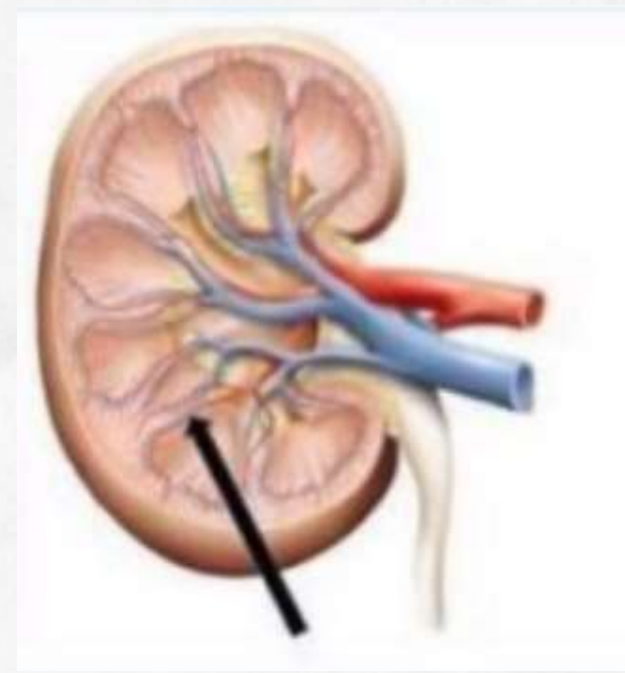
- A) Right obturator nerve
- B) Left obturator artery
- C) Ureter
- D) Right uterine tube
- E) Left uterine tube



ANSWER : A

246. The pointed artery passes through.

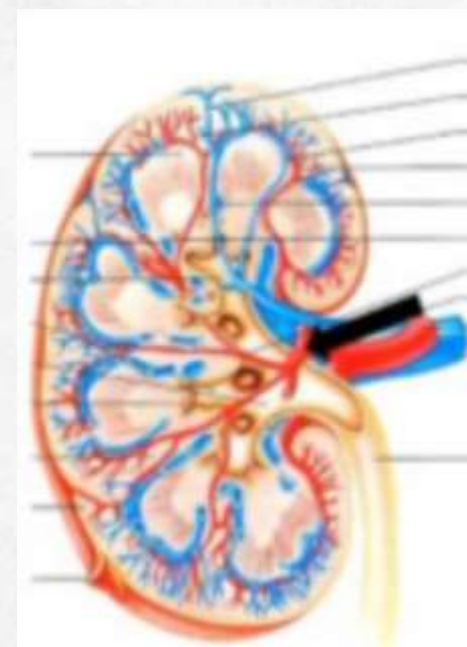
- A) Renal lobule.
- B) Renal pelvis .
- C) Minor calyces .
- D) Renal column.
- E) Renal pyramid.



ANSWER : D

247. The pointed structure is \_\_\_\_\_ vessels

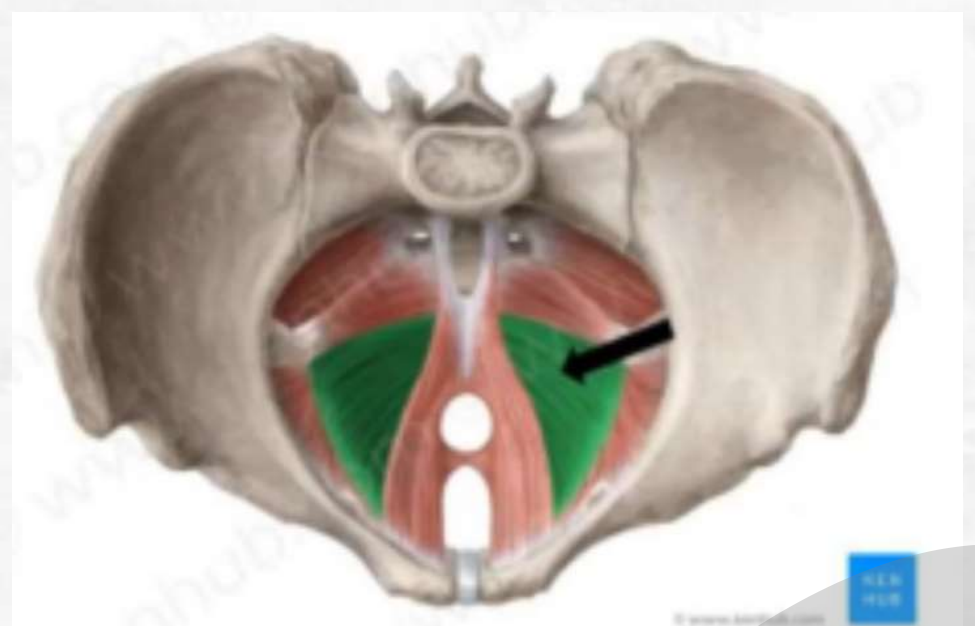
- A) Lobar
- B) Interlobar
- C) Arcuate
- D) Interlobular



ANSWER : A

248. The pointed structure is ..... muscle

- A) Coccygeus
- B) puborectalis
- C) Iliococcygeus
- D) Pubococcygeus proper



ANSWER : C

# Labs

## Anatomy

249. The marked yellow area is related to:

- A) Lumbosacral trunk.
- B) Obturator nerve.
- C) Sympathetic chain.
- D) Piriformis muscle.
- E) iliolumbar artery.

**ANSWER : C**

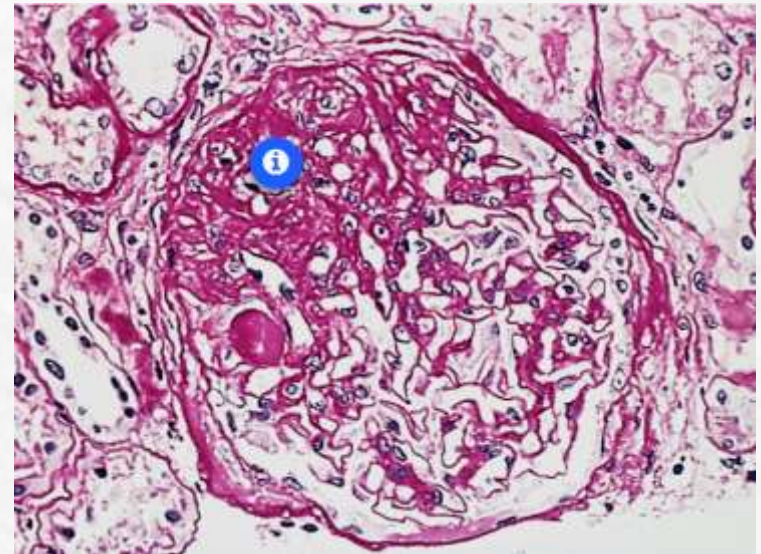


# Labs

## Pathology

250. The pink-colored material in this picture that is characteristic of this glomerular disease is composed of:

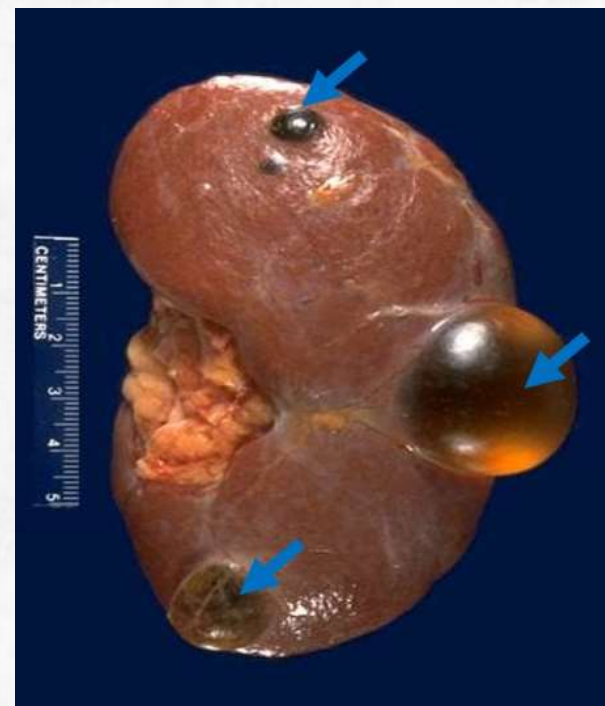
- A) Collagen
- B) Complements
- C) Immunoglobulins



**ANSWER : A**

251. A healthy 34 years-old man had a general medical check up for a job interview. This picture (blue arrows) is representative of what he was told to have in his left kidney. His other tests including kidney function test and urine analysis were normal. He had normal blood pressure readings. What is the most likely diagnosis?

- A) Medullary sponge kidney
- B) Simple renal cysts
- C) Hydronephrosis
- D) Adult polycystic kidney disease



**ANSWER : B**

252. A 5 years-old boy was brought to the pediatrics clinic as his parents were concerned about his growth. They described that "he drinks a lot of water and urinates very frequently". They mentioned that some of his uncles had renal failure as children and young adults. Physical examination revealed high blood pressure. His blood tests show high creatinine and urea. This picture which is representative of what the child has shows many renal cysts at the corticomedullary junction. What is the correct diagnosis?

- A) Childhood polycystic kidney disease
- B) Medullary sponge kidney
- C) Nephronophthisis Medullary cystic -Uremic disease



**ANSWER : C**

# Labs

## Pathology

253. Choose the correct statements regarding this testicular tumor removed from a 6 years-old boy.

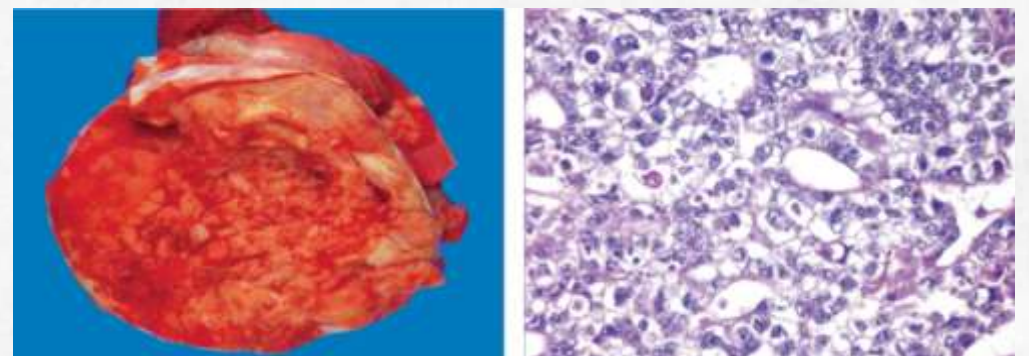
- A) This testicular tumor may contain firm masses and cysts with hair, cartilage and bone
- B) In pre-pubertal males, the prognosis is unfavorable with frequent metastasis.



ANSWER : A

254. A 21 years-old man is found to have a large right testicular mass. He undergoes right orchiectomy. The testis contains ill-defined masses with foci of hemorrhage and necrosis. Microscopic examination shows undifferentiated cells and primitive gland-like structures. What is the most likely diagnosis?

- A) Embryonal carcinoma
- B) Mature cystic teratoma
- C) Seminoma



ANSWER : A

255. Dilation of renal pelvis and calyces due to \_\_\_\_\_, with accompanying \_\_\_\_\_ of kidney parenchyma. The onset maybe \_\_\_\_\_ or \_\_\_\_\_.  
Significance: if untreated, leads to renal parenchymal damage and \_\_\_\_\_



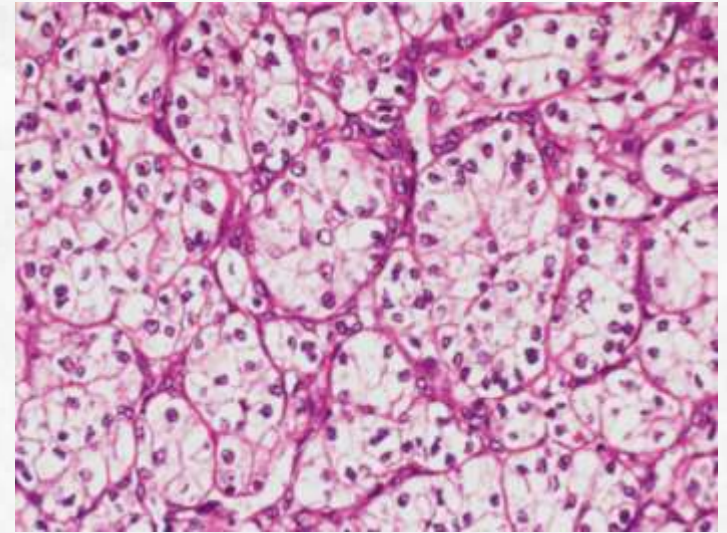
ANSWER : obstruction, atrophy, sudden, insidious, dysfunction.

# Labs

## Pathology

256. choose the correct statement regarding the histological type of this renal tumor:

- A) The MET protooncogene is involved in familial and also sporadic cases of this tumor.
- B) Arises from the intercalated cells of the collecting ducts.
- C) Von Hippel-Lindau (VHL) disease is associated with this type of renal cancer
- D) These tumor cells have a papillary growth pattern.



ANSWER : C

257. Choose the correct statements regarding this testicular tumor removed from a 6 years-old boy.

- A) The correct diagnosis is seminoma germ cell tumor.
- B) The tissues composing the tumor are a mixture of differentiated tissues.



ANSWER : B

اللهم سلم غزة وأهلها من كل سوء وشر، اللهم انصرهم وثبت أقدامهم وكن لهم ناصرًا ومعينًا

لا تتسوني من صالح دعائكم

**Malek Abu Rahma**

**The End**  
**Good Luck シ**