Cerebellum

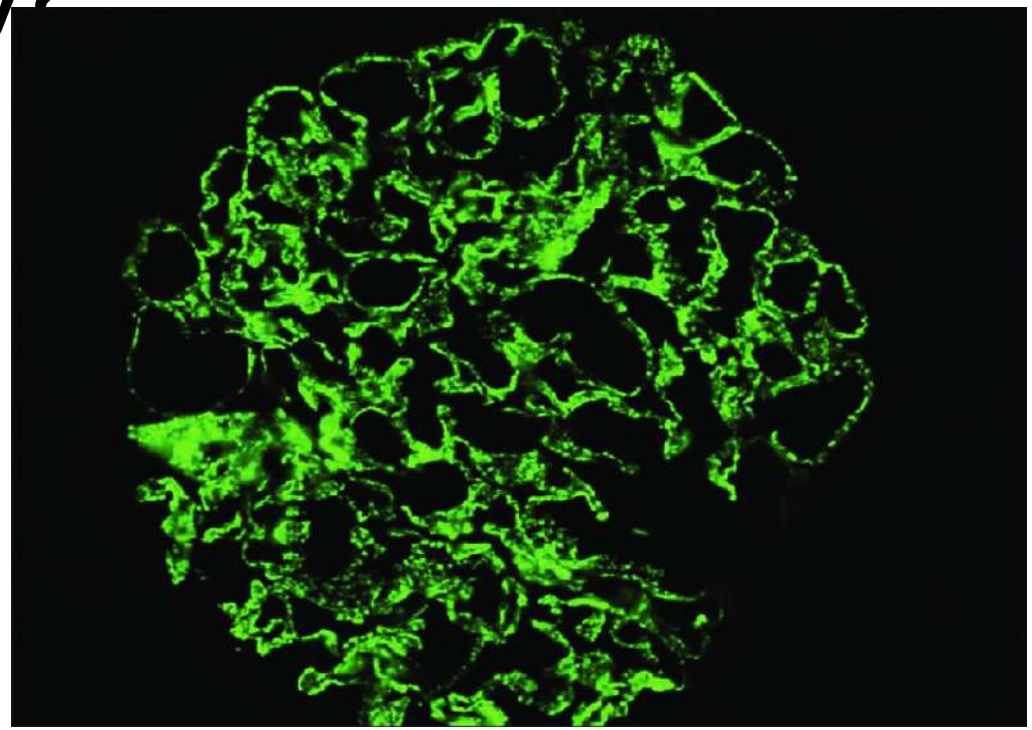
Get the balance right

Integrated Renal + GI - 31-08-2025

Dr. Zainab Vora

1. A 13-year-old boy comes to the clinic due to shortness of breath and fatigue over the past 2 weeks. He reports significant weight gain, swelling around the ankles, and profound fatigue. Laboratory findings include red blood cell casts in urine and elevated creatinine. Immunofluorescence microscopy shown. Which of the following light microscopy findings is most likely to be seen in this patient's renal biopsy?

A. Subepithelial deposits
B. Crescent formation
C. Nodular glomerulosclerosis
D. Normal glomeruli



2. Which of the following is most likely based on the lab values given?
Blood pH: 7.3
Na+: 134 mEq/L
K+: 2.8 mEq/L
Cl: 113mEq/L
HCO3-: 12mEq/L
BUN: 3 mg/dL
Creatinine: 0.6mg/dL
Urinary pH: 4.4

A. Type 4 RTA
B. Type 1 RTA
C. Type 2 RTA
D. HAGMA

3. Which of the following changes are most likely to occur in this patient's kidney function after starting therapy with NSAID?

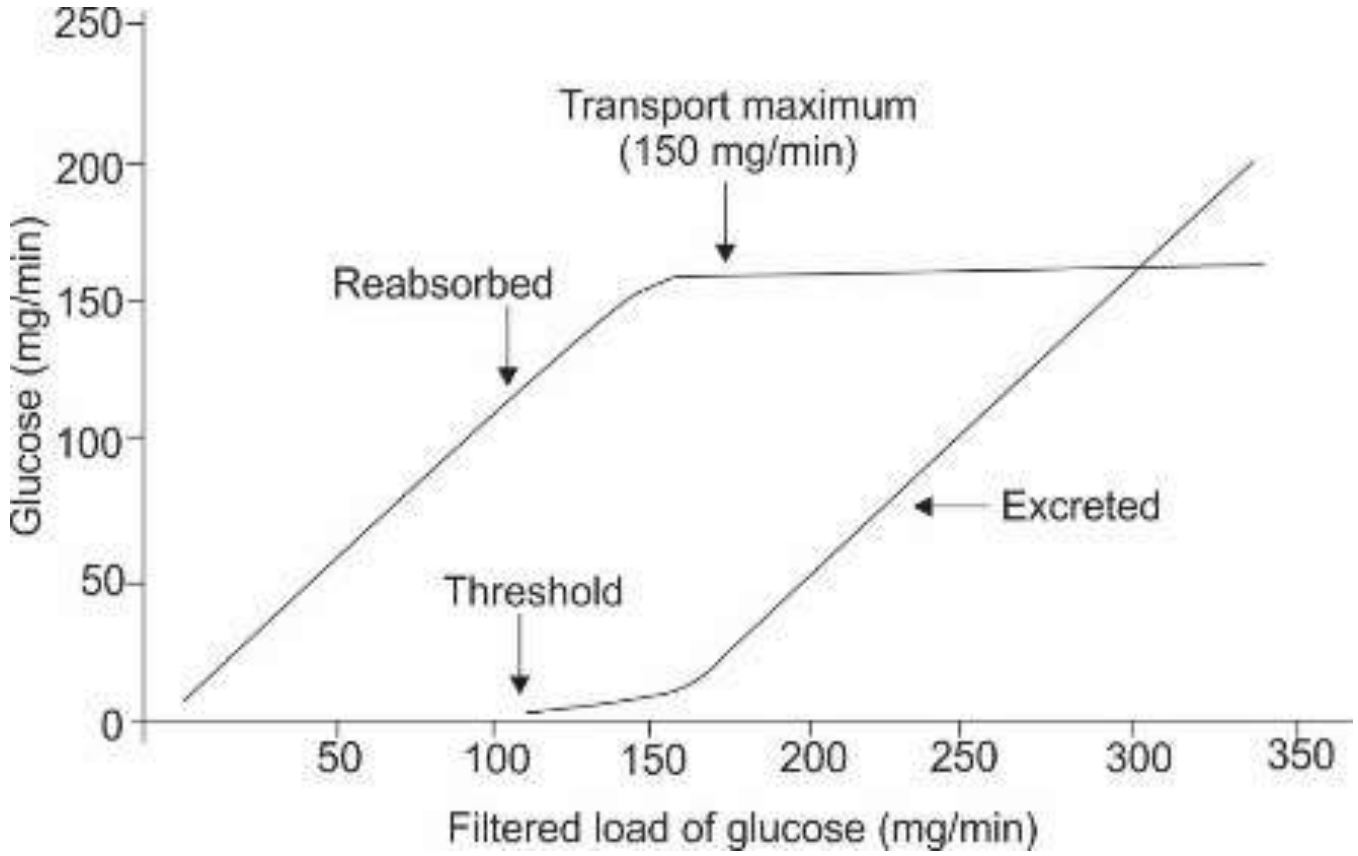
A. Decreased renal perfusion, decreased intraglomerular pressure, and constant filtration fraction
B. Increased renal perfusion, decreased intraglomerular pressure, and decreased filtration fraction
C. Decreased renal perfusion, increased intraglomerular pressure, and decreased filtration fraction
D. Decreased renal perfusion, decreased intraglomerular pressure, and constant filtration fraction

4. Low Renin Hypertension is seen in which of the following:

A. Liddle syndrome
B. Reninoma
C. Renovascular hypertension
D. Fibromuscular dysplasia

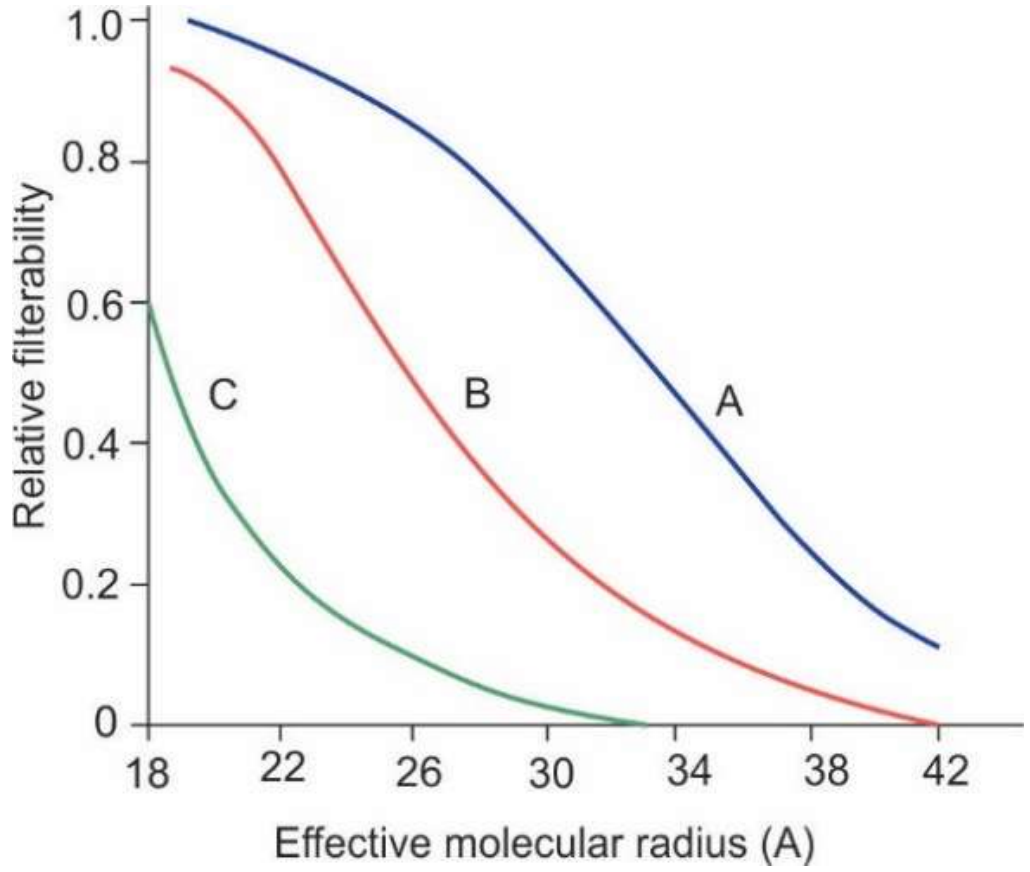
5. A patient has a blood glucose level of 200 mg/dL and GFR of 90 ml/min. What is the amount of glucose excreted if the transport maximum of the patient is as shown below?

A. 80 mg/min
B. 50 mg/min
C. 40 mg/min
D. 30 mg/min



6. This is the graph depicting the filterability of dextran through the kidney, 1 representing complete filtration and 0 representing no filtration. Choose the substance A, B, C respectively?

A. Polycationic, Neutral, polyanionic
B. Polyanionic, neutral, polycationic
C. Neutral, polycationic, polyanionic
D. Polyanionic, Polycationic, Neutral



7. A 34-year-old woman comes to the OPD with several months of vision problems, difficulty chewing, and trouble speaking. The symptoms fluctuate, but the patient has noticed that they are worse after a long day. During physical examination, the patient is asked to keep her eyes focused on a spot on the ceiling, and after 2 minutes she develops diplopia. The pathogenesis of this patient's disease is most similar to which of the following conditions?

A. Atopic dermatitis

B. Contact dermatitis

C. Goodpasture syndrome

D. Hypersensitivity pneumonitis

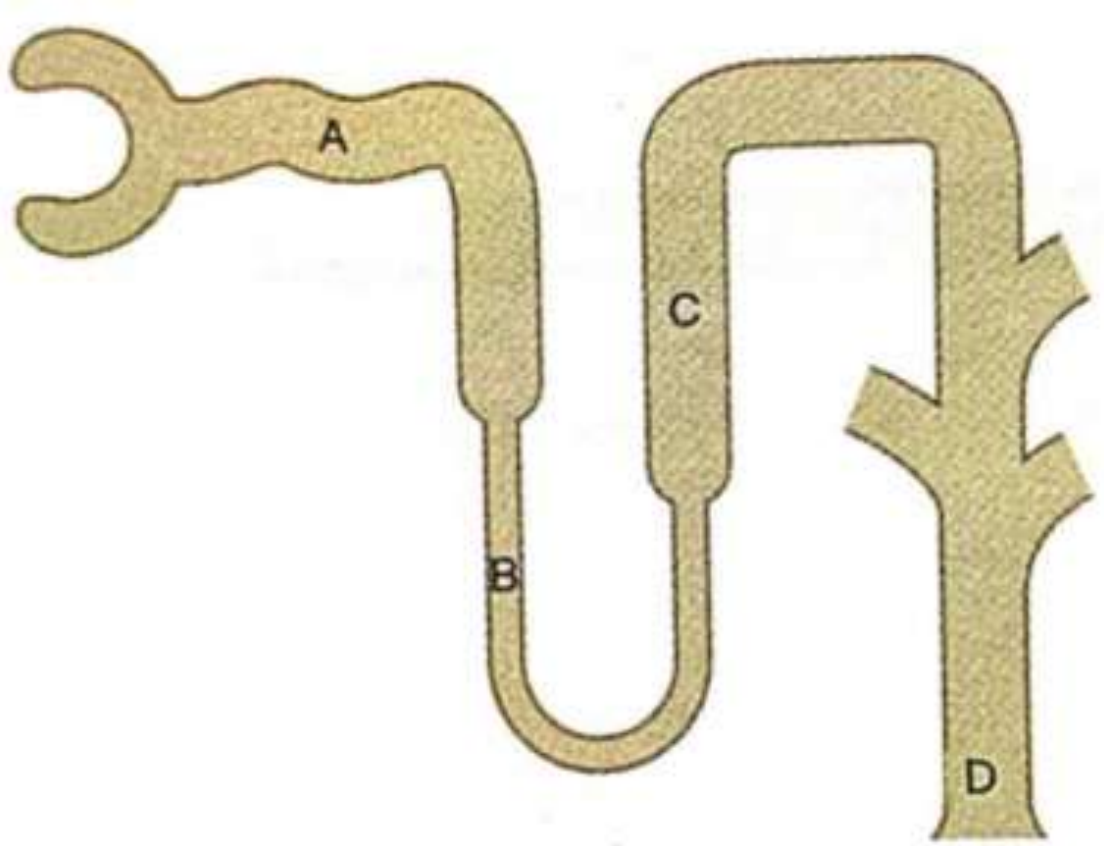
8. Which of the following is false regarding Bartter's syndrome?

A. Hypokalaemia and metabolic alkalosis
B. Indomethacin may be used for treatment
C. Associated with sensorineural deafness
D. Autosomal dominant disorder

	Gene	OMIM	Inheritance	Protein	Clinical findings
Type I	*SLC12A1*	601678	AR	NKCC2	Prematurity, polyhydramnios, nephrocalcinosis, hypokalemic alkalosis, hyposthenuria
Type II	*KCNJ1*	241200	AR	ROMK1	Prematurity, polyhydramnios, nephrocalcinosis, hypokalemic alkalosis, hyposthenuria, transient hyperkalemia
Type III	*CLCNKB*	607364	AR	CLC-Kb	Hypokalemia, hypochloremic alkalosis
Type IVa	*BSND*	602522	AR	Barttin	Prematurity, polyhydramnios, sensorial deafness, hypokalemia, hypochloremic alkalosis
Type IVb	*CLCNKA* *CLCNKB*	613090	AR	CLC-Ka CLC-Kb	Prematurity, polyhydramnios, sensorial deafness, hypokalemia, hypochloremic alkalosis
Transient BS	*MAGE-D2*	300971	XLR	MAGE-D2	Transient salt wasting, polyhydramnios
AD hypocalcemic hypercalciuria	*CASR*	601198	AD	CaSR	Hypocalcemic hypercalciuria

9. Where in the tubule would a patient with severe central diabetes insipidus have the lowest tubular fluid osmolality?

A. A
B. C
C. B
D. D



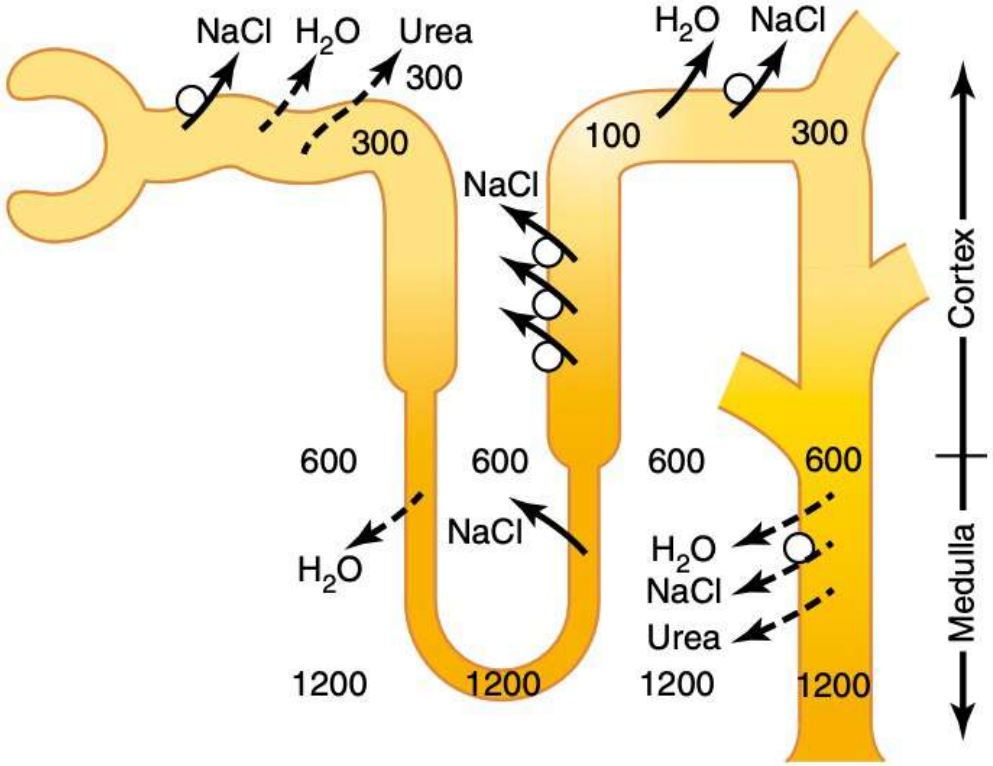


Figure 28-5 Formation of a concentrated urine when antidiuretic hormone (ADH) levels are high. Note that the fluid leaving the loop of Henle is dilute but becomes concentrated as water is absorbed from the distal tubules and collecting tubules. With high ADH levels, the osmolarity of the urine is about the same as the osmolarity of the renal medullary interstitial fluid in the papilla, which is about 1200 mOsm/L. (Numerical values are in milliosmoles per liter.)

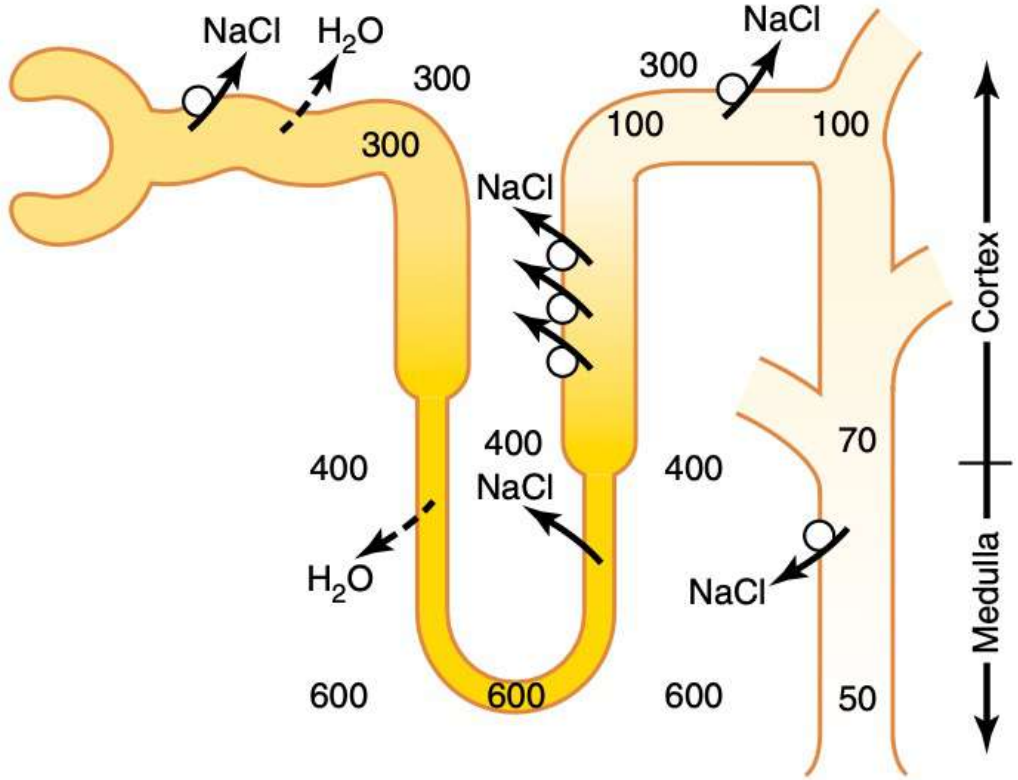


Figure 28-2 Formation of dilute urine when antidiuretic hormone (ADH) levels are very low. Note that in the ascending loop of Henle, the tubular fluid becomes very dilute. In the distal tubules and collecting tubules, the tubular fluid is further diluted by the reabsorption of sodium chloride and the failure to reabsorb water when ADH levels are very low. The failure to reabsorb water and continued reabsorption of solutes lead to a large volume of dilute urine. (Numerical values are in milliosmoles per liter.)

10. A 47-year-old male presents with 400 ml urine output in 24 hours. On biopsy he had crescents with pauci immune glomerulonephritis. What is the next step?

A. Anti GBM antibody
B. ANCA
C. Anti phospholipase A2 receptor antibody
D. Anti nculear antibody

11. Which of the following statements is false regarding the role of urea in renal function?

A. A high-protein diet increases the kidneys ' ability to concentrate urine

B. High vasopressin increases the urea deposition in the medullary interstitium

C. Urea is transported by urea transport proteins (UT-A) by primary active transport

D. Helpful in creation of counter current mechanism

12. Which of the following statements is true regarding clear cell carcinoma of the kidney?

1. It is the most common sporadic renal tumor
2. Associated with loss of long arm of chromosome 3
3. Arises from distal convoluted tubule
4. Cells show intracellular accumulation of PAS + Diastase sensitive substance

A. 1, 2, 4

B. 2, 3

C. 1, 3

D. 1, 4

13. A 10-year-old child presented with sore throat, for which oral amoxicillin was prescribed. In a few days, the child developed flank pain and rash. Peripheral blood demonstrated eosinophilia, and urinalysis showed WBC casts. What is the likely diagnosis?

A. Allergic Interstitial Nephritis
B. Post-streptococcal glomerulonephritis
C. Berger Disease
D. Urinary Tract Infection

14. A 20-year-old male patient arrives at the emergency department. Laboratory results are as follows: pH: 7.34, Sodium: 135 mmol/L, Potassium: 5 mmol/L, Bicarbonate: 12 mmol/L, Chloride: 92 mmol/L, RBS: 450 mg/dL, pCO2 30mmHg. Given these laboratory findings, which of the following statements best describes the patient's acid-base status?

A. DKA

B. RTA

C. High-altitude travel

D. Myasthenia gravis

15. A decrease in GFR is associated with which of the following?

A. Increased Renal Blood Flow
B. Increased Glomerular hydrostatic pressure
C. Decreased Bowman's oncotic pressure
D. Decreased Glomerular oncotic pressure

16. Identify the correct match out of the following diuretics and the respective site of action:

A. Osmotic diuretics → Collecting duct
B. Carbonic Anhydrase inhibitors → Proximal convoluted tubule
C. Thiazides → Loop of Henle
D. Aldosterone antagonists → Distal Convoluted tubule

17. A 25 year old patient of bipolar disorder on lithium therapy presented with polydipsia and polyuria. Investigations revealed increased low urinary osmolality. Which of the following channels are involved here?

A. AQP-1
B. AQP-2
C. AQP-3
D. AQP-4

18. Dialysis will be effective for which of the following?

1. Seizures
2. Metabolic acidosis
3. Peripheral neuropathy
4. Uremic pericarditis
5. Hyperkalemia

A. 1, 2, 3, 4, 5

B. 2, 3

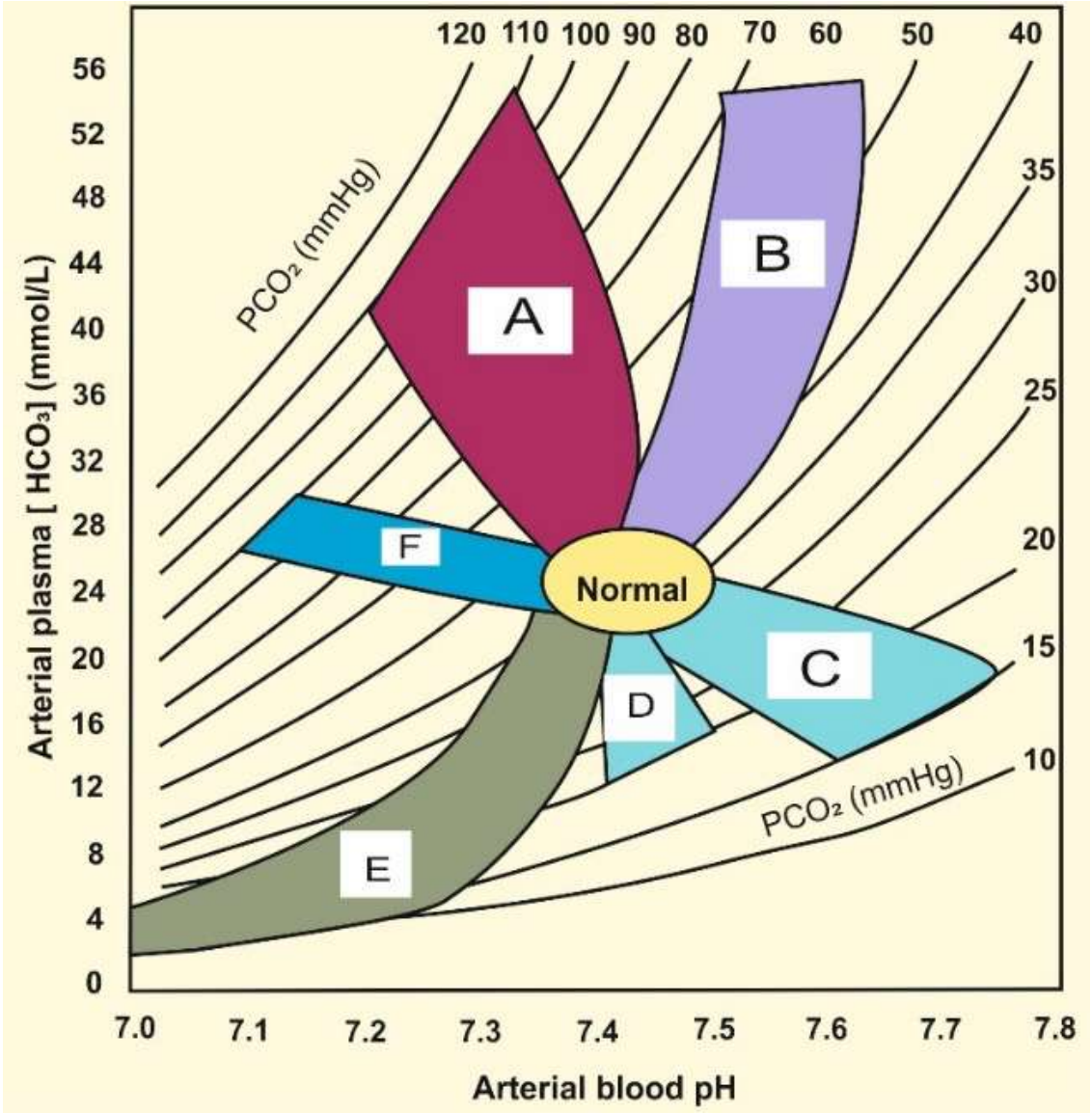
C. 1, 2, 4, 5

D. 1, 3, 5

Uremia:
Pericarditis
P.Edema
Ph <7.2
Potassium >6.5
Encephalopathy
Bleeding diathesis

19. Identify the areas marked C in the following diagram:

A. Acute metabolic alkalosis
B. Acute respiratory alkalosis
C. Chronic respiratory alkalosis
D. Chronic metabolic alkalosis



20. Which of the following medications is incorrect about microalbuminuria?

A. Urine protein levels range from 30 mg/d to 300 mg/d

B. It is an independent risk factor for cardiovascular morbidity in diabetic patients

C. It is the earliest marker of diabetic nephropathy

D. It is detected by routine dipstick method

21. A patient presents to the OPD with complaints of breathlessness on lying down and chest pain. He was diagnosed to have congestive cardiac failure and was administered torsemide. This drug inhibits which of the following type of transport mechanism?

A. Secondary active Cotransport
B. Primary active transport
C. Facilitated diffusion
D. Secondary active Counter-transport

22. What is the effect of prostaglandins on renal blood flow?

A. Increase blood flow to cortex and medulla
B. Increase blood flow to cortex and decrease blood flow to medulla
C. Decrease blood flow to cortex as well as medulla
D. Decrease blood flow to cortex and increase blood flow to medulla

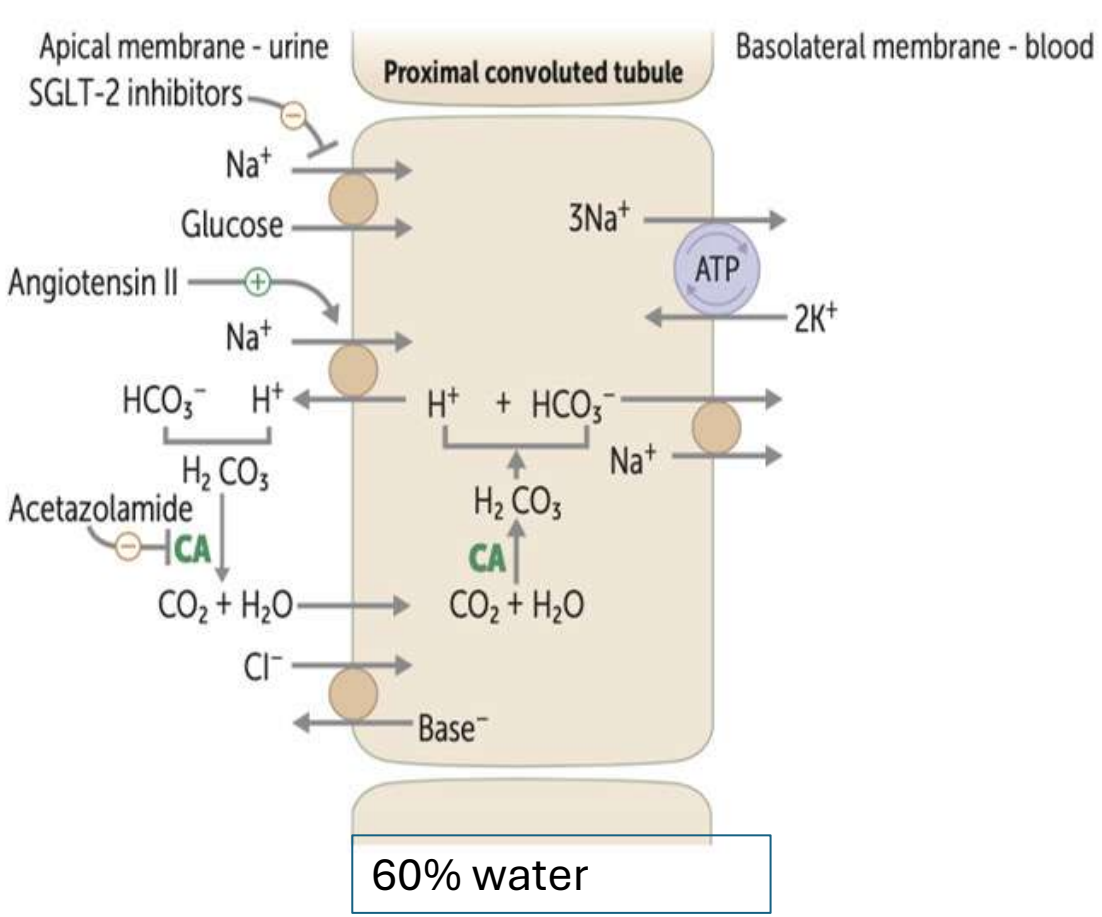
23. A 50-year-old man who has been on dialysis for 2 years presents with bone pain and bowing of legs. Further evaluation reveals hyperparathyroidism and hyperphosphatemia. What is the initial treatment of choice in this patient?

A. Sevelamer
B. Calcitriol
C. Pamidronate
D. Cinacalcet

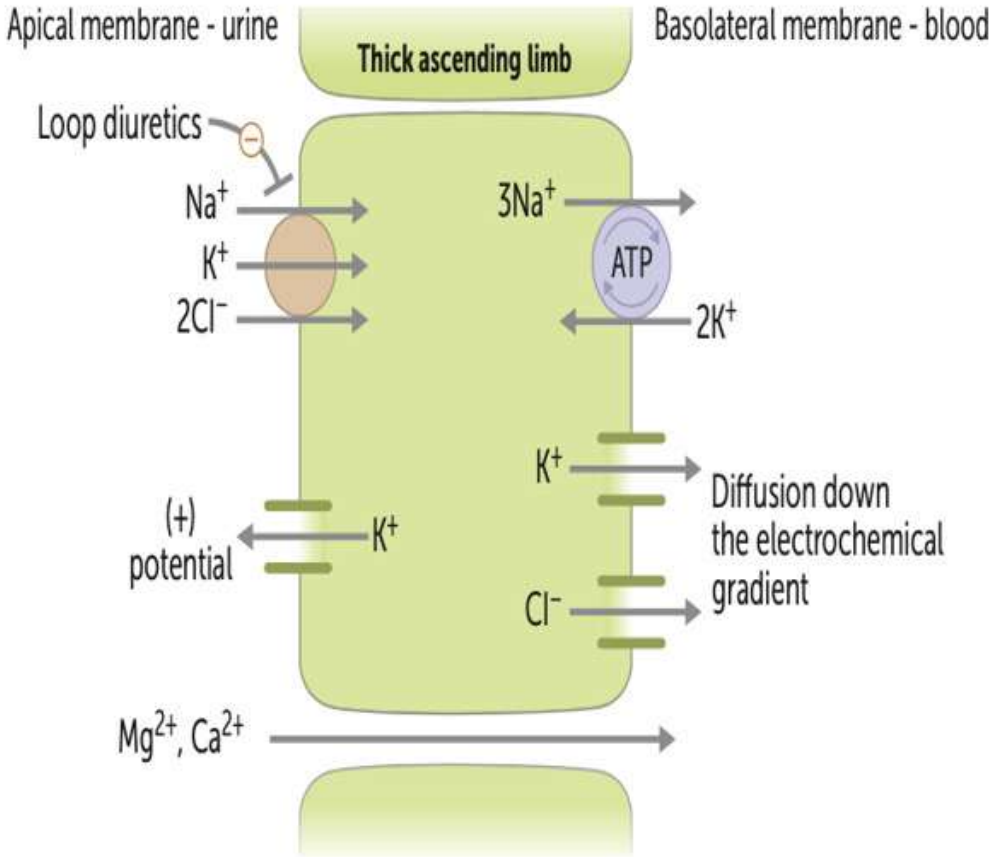
24. Several hormones regulate the tubular reabsorption of water and electrolytes at different sites in the nephron physiologically in a patient. Which of the following combination is correct?

A. Angiotensin in distal tubule
B. Aldosterone in cortical collecting duct
C. ADH in proximal tubule
D. ANP in loop of Henle

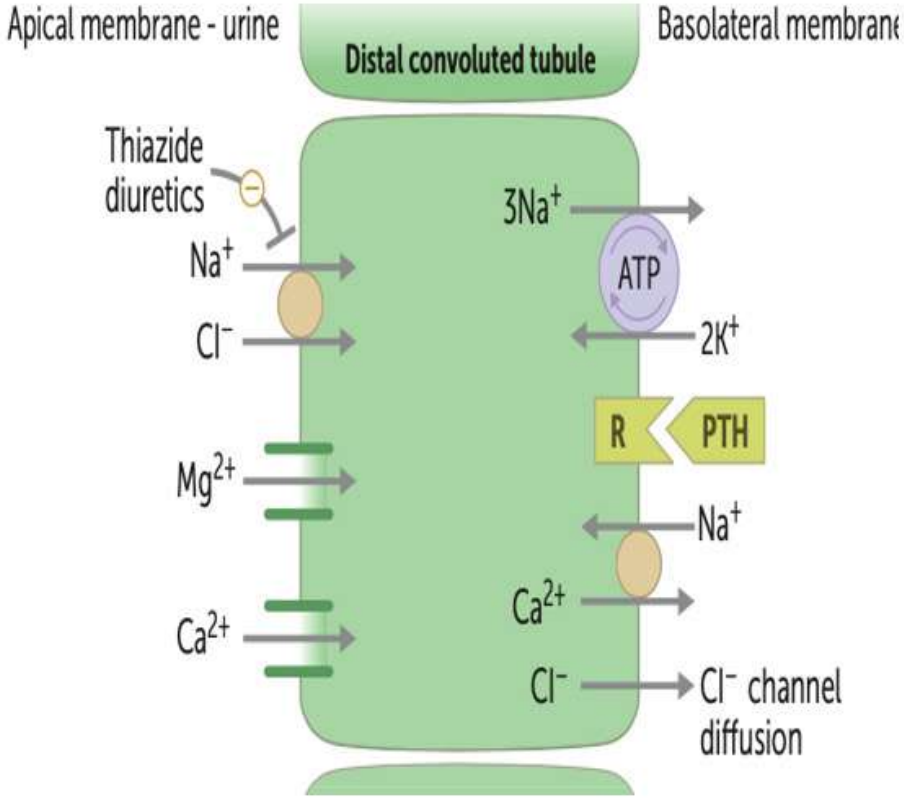
RENAL TUBULES

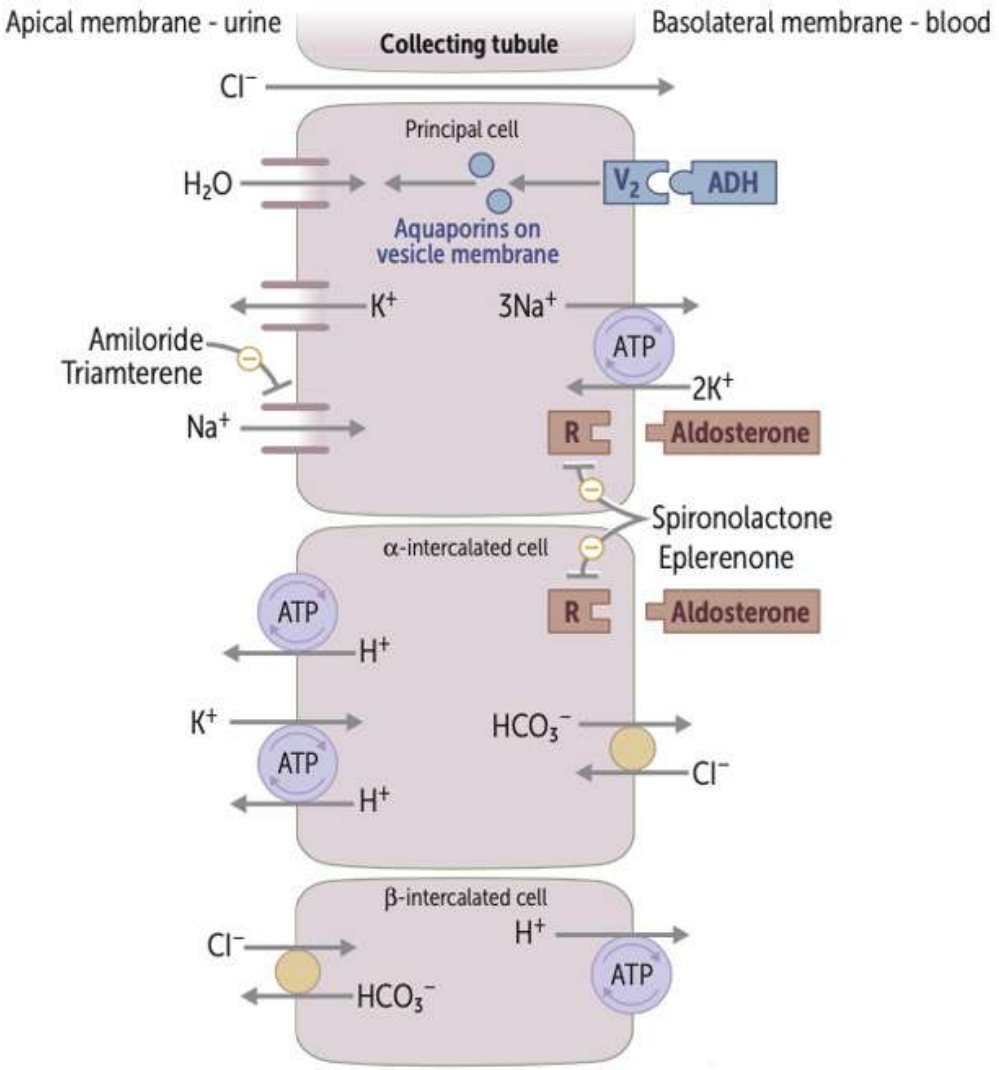


60% water



THIN DESCENDING LOH:





1-2% water absorption: no ADH
10% water absorption: ADH

25. Which of the following ions in the thick ascending limb of the loop of Henle is responsible for the resorption of divalent ions?

A. Na^+

B. K^+

C. HCO_3^-

D. H^+

26. n a patient, urine flow rate is 10 mL/min; plasma inulin is 2 mg/mL; and urine inulin is 25 mg/mL. Which of the following is true assuming GFR to be normal?

A. Inulin clearance = GFR
B. Inulin clearance > GFR
C. Inulin clearance < GFR
D. GFR cannot be calculated

27. What differentiates the distal convoluted tubule (DCT) from the proximal convoluted tubule (PCT)?

A. Presence of carbonic anhydrase in luminal membrane
B. Lack of Na^+/K^+ ATPase in the basolateral membrane
C. Possession of brush border on luminal membrane
D. Presence of 'tight' tight junctions

28. A 4-week-old, full-term boy is brought to the emergency department due to vomiting. His parents describe the emesis as undigested formula without blood or bile. The vomiting occurs after feeds and has increased in frequency and force over the past 3 days. Examination shows a sunken anterior fontanelle and dry mucous membranes. Arterial blood gas analysis is most likely to reveal which of the following sets of values?

A. pH 7.29, PaCo2 30, HCO3 14, Anion gap Elevated

B. pH 7.30, PaCo2 50, HCO3 28, Anion gap normal

C. pH 7.48, PaCo2 46, HCO3 34, Anion gap normal

D. pH 7.53, PaCo2 22, HCO3 22, Anion gap normal

29. A 44-year-old man comes to the physician because of a 2-week history of lower extremity swelling and frothy urine. He has a history of chronic hepatitis C infection. Physical examination shows 3+ pitting edema of the lower legs and ankles. Further evaluation of this patient is most likely to show which of the following?

A. Decreased cholesterol
B. Increased lipoproteins
C. Increased antithrombin III
D. Increased immunoglobulins

30. A 60-year-old with a history of COPD is brought to the clinic with worsening dyspnea. ABG was done and pH was 7.3, pCO_2 was 60 mmHg with HCO_3^- being 28 mEq/L. Which of the following is seen in this patient?

A. Respiratory acidosis, hyperventilation, inadequate metabolic compensation
B. Respiratory alkalosis, hypoventilation, inadequate metabolic compensation
C. Respiratory acidosis, hypoventilation, inadequate metabolic compensation
D. Respiratory acidosis, hypoventilation, adequate metabolic compensation

Acid-base imbalance

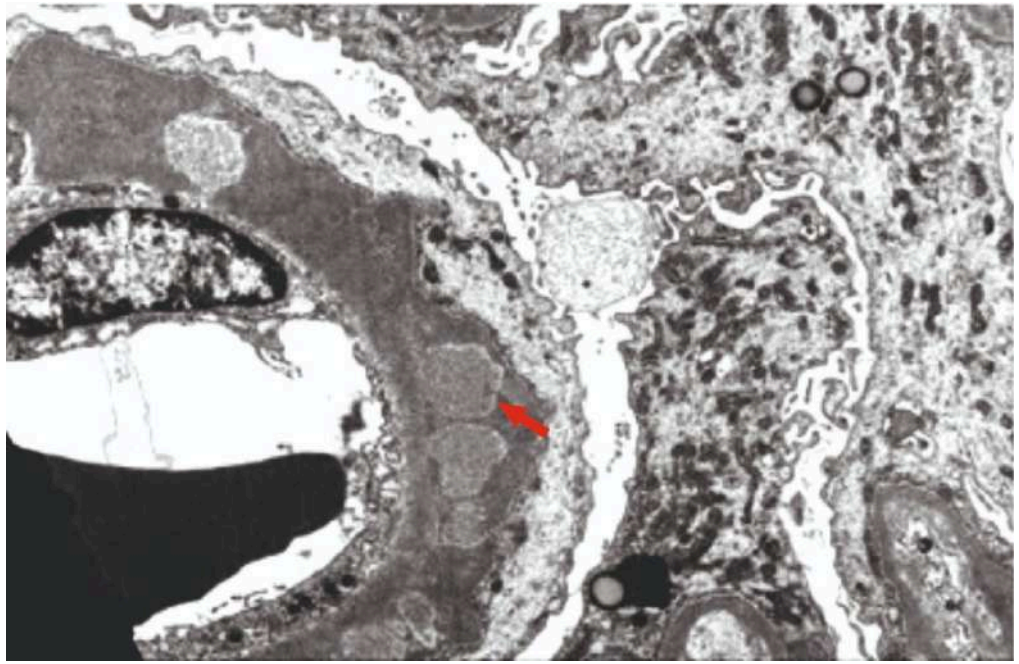
pH
Co2
HCo3-

	pH	PRIMARY CHANGE	COMPENSATION
METABOLIC ACIDOSIS			
METABOLIC ALKALOSIS			
RESPIRATORY ACIDOSIS			
RESPIRATORY ALKALOSIS			

$Pco2 = 1.5[HCO3] + 8 \pm 2$

31.Given below is an electron microscopy image showing deposits in the kidney. What could be the diagnosis?

A. Goodpasture syndrome
B. Membranoproliferative glomerulonephritis
C. Membranous nephropathy
D. Minimal change disease



32. 71-year-old man has had decreased urine output <500 mL per day for the past 3 days. Physical examination shows vital signs with temperature 37° C, pulse 88/min, respiratory rate 18/min, and blood pressure 85/60 mm Hg. He has peripheral edema and diffuse rales on auscultation of the chest. Urinalysis shows specific gravity 1.019 and no protein, blood, glucose, ketones, WBCs, RBCs, or casts. His serum creatinine is 3.3 mg/dL, and urea nitrogen is 62 mg/dL. The fractional excretion of sodium (FENa) is <1%. Which of the following underlying conditions is he most likely to have?

A. Dilated cardiomyopathy

B. Membranous nephropathy

C. ATN

D. Urothelial carcinoma

33. Which of the following can be given to a patient with eGFR of <30?

A. Chlorothiazide
B. Chlorthalidone
C. Metolazone
D. Hydrochlorothiazide

34. A 62-year-old hypertensive man presents with headache and altered consciousness. CT shows right basal ganglia hemorrhage with midline shift. Mannitol is given IV. What is the expected acute effect of this medication?

A. Serum sodium ↓, Tubular flow ↑, Filtrate osmolality ↑

B. Serum sodium ↓, Tubular flow ↓, Filtrate osmolality ↓

C. Serum sodium ↑, Tubular flow —, Filtrate osmolality ↑

D. Serum sodium —, Tubular flow ↓, Filtrate osmolality ↑

35. What is a patient's urine analysis most likely to show if they have hematuria and hypercalciuria?

A. Isomorphic RBCs

B. RBC casts

C. Nephrotic range proteinuria

D. Eosinophiluria

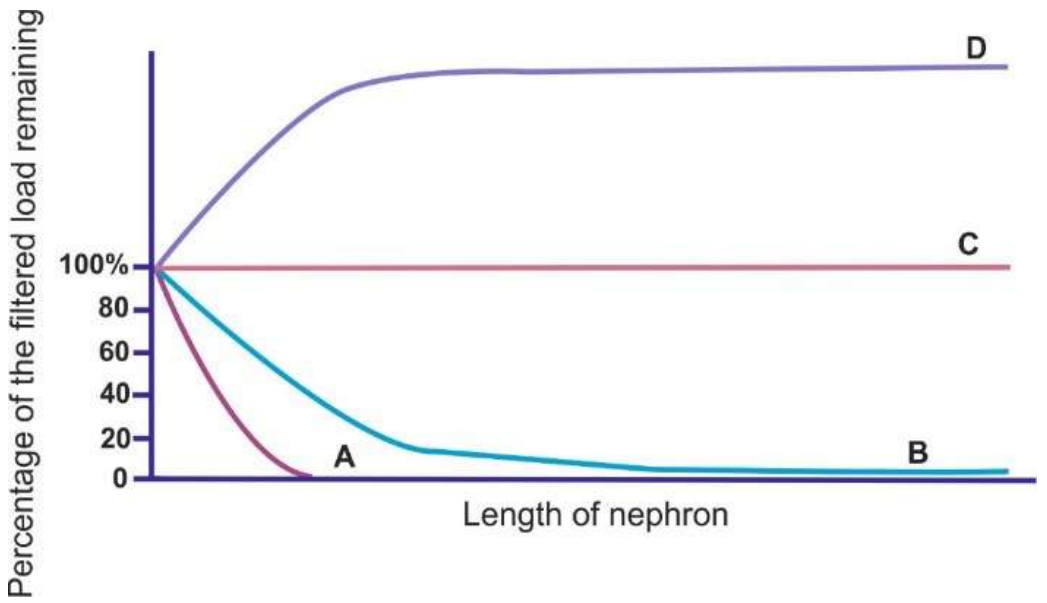
36. Identify the correctly matched pair of substances with their renal clearance from the graph given below?

A. A - Glucose, B - PAH, C - Bicarbonate and D - Inulin

B. A - Glucose, B - Bicarbonate, C - Inulin and D - PAH

C. A - PAH, B - Inulin, C - Glucose and D - Bicarbonate

D. A - Inulin, B - Glucose, C - Bicarbonate and D – PAH



37. 72-year-old woman is brought to the office by her daughter for evaluation of leg swelling since 3 months. The patient has had fatigue and joint pains for the past several years, which she attributes to old age. The daughter states that the patient seems tired all the time, barely eats anything, and "is just not herself." The patient takes no medication and does not use tobacco, alcohol, or illicit drugs. Blood pressure is 116/72 mm Hg and pulse is 78/min and regular. The lungs are clear on auscultation and heart sounds are normal. The abdomen is soft and nontender. Examination of the lower extremities reveals 3+ pitting edema. There are scattered ecchymoses, and hand examination findings are shown.

Laboratory results are as follows:

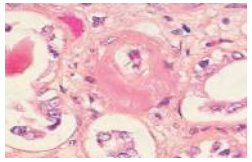
Creatinine: 0.9 mg/dL

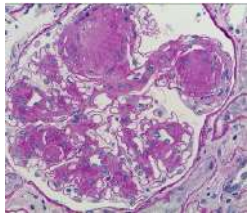
Calcium: 9.1 mg/dL

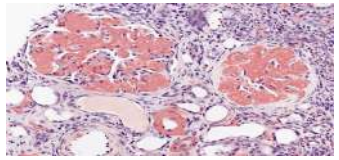
Glucose: 94 mg/dL

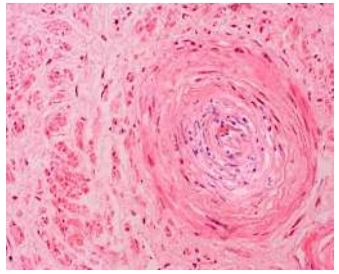
Allbumin: 2.8 g/dL

Urinalysis reveals 4+ protein with no cells or casts. A renal biopsy of this patient is most likely to show which of the following findings?

A. 

B. 

C. 

D. 

38. A 40-year-old man comes to the physician because of a two-week history of fatigue, lower extremity edema, and frothy urine. He has no history of serious illnesses. Physical examination shows symmetric pitting edema of lower extremities. Laboratory studies show a serum creatinine level of 1.1 mg/dL. Urinalysis shows 4+ proteinuria. Electron microscopy of the specimen obtained from kidney biopsy shows dense deposits within glomerular basement membrane. Immunofluorescence microscopy is positive for C3, not immunoglobulins. Which of the following is the most likely pathophysiologic mechanism that explains this patient's condition?

A. Anti-GBM-antibodies

B. Circulating immune complexes

C. Persistent activation of the alternative complement pathway

D. Cell-mediated injury

39. Which of these is not an action of atrial natriuretic peptide?

A. Afferent arteriole dilation
B. Mesangial constriction
C. Decreased sodium absorption in PCT
D. Inhibition of sodium reabsorption in medullary collecting duct

Dopamine

ANP

cAMP

PGE2

40. A 27-year-old man comes to the physician because of a 1-day history of fever and joint pains. He is being treated with cephalexin for a skin infection. His urine has turned darker. His temperature is 38.5° C (101.3° F), blood pressure is 125/70 mm Hg, pulse is 90/min, and respirations are 15/min. Examination shows a skin rash; examination otherwise shows no abnormalities. Urinalysis shows: 8 RBCs/HPF, 12 WBCs/HPF with white cell casts, eosinophiluria, and a mild degree of proteinuria. Laboratory studies show a BUN of 40 mg/dl and serum creatinine of 2.2 mg/dl. Which of the following is the most appropriate next step in management?

A. Discontinue cephalexin

B. Start iv fluids

C. Start oral ciprofloxacin

D. Get USG to rule out obstructive uropathy

41. Which of the following sodium transporters are present maximally in early part of PCT?

Na-K-ATPase

Na-glucose cotransport

Na-H antiporter

Na-HCO3 symporter

A. 3, 4, 1

B. 4, 2

C. 1, 2, 3

D. 1, 4

42. Scientists studying the kidney's response to hypoperfusion apply a clip to a pig's right renal artery that reduces blood flow to the kidney by about 7 %. After 6 months, they perform a right nephrectomy and examine the glomeruli and tubules microscopically. Which of the following cell types would be most likely to undergo hyperplasia as a result of the clip placement?

A. Cuboidal epithelial cells of the proximal tubules

B. Endothelial cells of the efferent arteriole

C. Intraglomerular mesangial cells

D. Modified smooth muscle cells of the afferent arteriole

43. Erythropoietin is produced by:

Kidney

Liver

Spleen

Lung

Select the correct answer given below code:

A. 1 only
B. 2 only
C. 1 and 2
D. 2, 3, and 4

44. A 70-year-old man is brought to the emergency department by staff of the group home where he resides because of worsening confusion for the past week. He has a history of major depressive disorder and had an ischemic stroke 4 months ago. Current medications are aspirin and sertraline. His pulse is 78/min, and blood pressure is 135/88 mm Hg. Physical examination shows moist oral mucosa, normal skin turgor, and no peripheral edema. While in the waiting room, he has a generalized, tonic-clonic seizure. Laboratory studies show a serum sodium of 119 mEq/L and an elevated serum antidiuretic hormone concentration. Which of the following sets of additional laboratory is likely in the patient?

A. Serum osmolarity increased, Urine sodium increased, Serum aldosterone increased
B. Serum osmolarity decreased, Urine sodium increased, Serum aldosterone decreased
C. Serum osmolarity increased, Urine sodium decreased, Serum aldosterone increased
D. Serum osmolarity decreased, Urine sodium increased, Serum aldosterone increased

45. A 47-year-old woman comes to the physician because of a 2-week history of gradually worsening facial and lower extremity swelling. She has had a 4-kg weight gain during this time. Her blood pressure is 150/88 mm Hg. Examination shows periorbital edema and 2+ pretibial edema bilaterally. A 24-hour collection of urine shows 4.0 g of proteinuria. Microscopic examination of a kidney biopsy specimen shows thickening of the glomerular basement membrane. Electron microscopy shows dense subepithelial deposits. Further evaluation is most likely to show which of the following?

A. Anti-phospholipase A2 receptor antibodies

B. Anti-myeloperoxidase antibodies

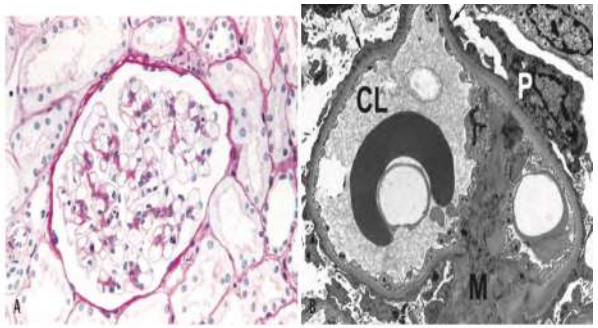
C. Anti-streptolysin O antibodies

D. Anti-proteinase 3 antibodies

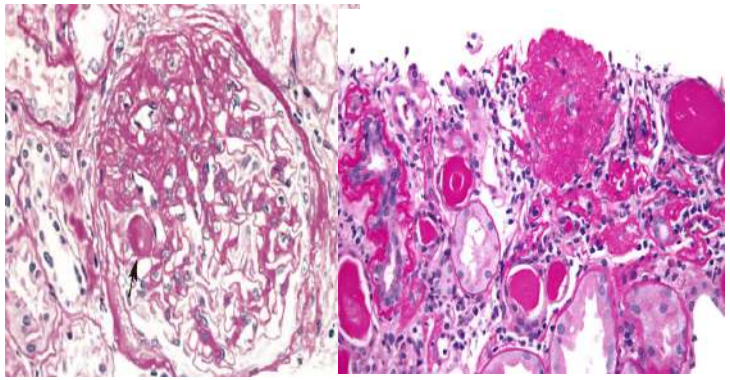
NEPHROTIC SYNDROME

Proteinuria >3.5g/d, Edema, frothy urine

Child
Prior URTI/ immunisation
NSAIDS, Hodgkin's lymphoma

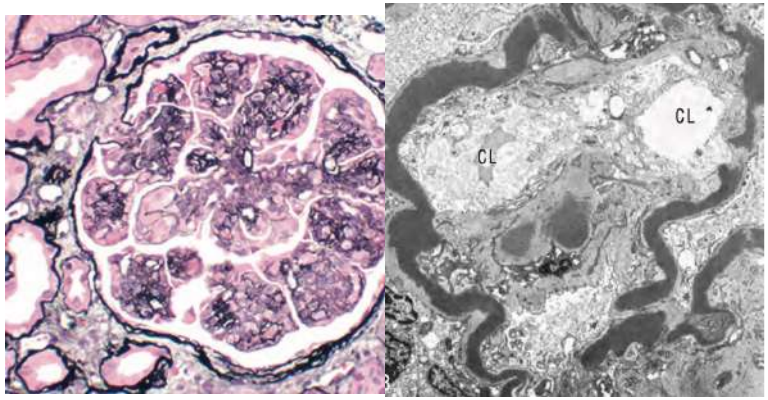


Adults
Heroin
HIVAN:APOL1 polymorphism
Reflux nephropathy
Obesity
Sickle cell anemia
NPHS2: Podocin-AR FSGS
Actinin 4: AD FSGS
TRPC6: Adult FSGS



MC in elderly
Adenoca lung / colon/ melanoma
PLAR2
Thrombospondin, CD10

Adult
HBV/HCV /malaria



SRNS:
DOC:
Steroid dependent NS:
MMF
Cyclophosphamide
Levamisole

Nephrin NPHS1-Finnish type: Congenital NS

46. A 54-year-old man is brought to the emergency department by his wife because of high fever and confusion for the past 10 hours. His wife reports that 1 week ago he underwent an emergency appendectomy. His temperature is 40.1°C (104.2°F), pulse is 132/min, and blood pressure is 74/46 mm Hg. He is oriented only to person. Physical examination shows a surgical wound in the right lower quadrant with purulent discharge. The skin is warm and dry. Serum studies show a sodium concentration of 138 mEq/L, potassium concentration of 3.7 mEq/L, and lactate concentration of 3.5 mEq/L (N = 0.5-2.2 mEq/L). Arterial blood gas analysis on room air shows:

pH	7.21
pCO_2	36
HCO_3^-	12
O_2 saturation	87%

Which of the following is the most likely explanation for these laboratory changes?

A. Hyperventilation
B. Primary adrenal insufficiency
C. Salicylate toxicity
D. Respiratory fatigue

47. A 32-year-old man is brought to the emergency department due to progressive confusion and lethargy over the past several hours. The patient has no significant medical history but he has been depressed since a recent breakup with his girlfriend. He works at an automotive repair shop, and one of his coworkers reported seeing the patient consume antifreeze prior to symptom onset. Blood pressure is 110/66 mm Hg, pulse is 110/min, and respirations are 24/min. Bilateral costovertebral angles are tender to percussion. Bladder catheterization yields a small amount of bloody urine. Which of the following is most likely to be seen on this patient's arterial blood gas analysis?

A. pH 7.3, pO2 95, pCO2 24, HCO3 19

B. pH 7.1, pO2 47, pCO2 45, HCO3 19

C. pH 7.6, pO2 95, pCO2 18, HCO3 40

D. pH 7.4, pO2 95, pCO2 24, HCO3 29

48. 54-year-old woman comes to the emergency department due to several hours of severe epigastric abdominal pain radiating to her back. She has also had nausea and several episodes of vomiting. The patient has a history of occasional upper abdominal pain after eating but has never had such severe symptoms. She has no other medical issues and takes no medications. Temperature is 37.6 C (99.6 F), blood pressure is 110/66 mm Hg, pulse is 118/min, and respirations are 24/min. The patient appears to be in moderate distress. Mucous membranes are dry. The abdomen is distended with marked epigastric tenderness. Bowel sounds are decreased. Laboratory results are as follows:
Hematocrit: 48%
Leukocytes: 18,800/mm^3
Total bilirubin: 2.2 mg/dL
Alkaline phosphatase: 370 U/L
Lipase: 2,192 U/L

Which of the following sets of renal findings are most expected in this patient?

	Renin secretion	Efferent arteriolar resistance	Tubular sodium reabsorption
a)	High	High	High
b)	High	Low	High
c)	Low	Low	Low
d)	Low	High	Low

49. 37-year-old woman comes to the OPD due to worsening leg swelling for the past 2 months. She has also felt excessively tired and has had achy pain in her hands. Serum creatinine level is 1.8 mg/dL. Urinalysis is positive for proteinuria and hematuria. Light microscopy of samples from a kidney biopsy shows diffuse, global endocapillary hypercellularity. Direct immunofluorescence demonstrates staining with diffuse, global, granular staining of glomerular capillary walls by IgG, IgM, IgA, C1q, and C3. Electron microscopy will demonstrate which of the following changes?

A. Subendothelial deposits

B. Mesangial deposits

C. Subepithelial deposits

D. Intra-membranous deposits

50. A 43-year-old woman with borderline personality disorder is brought to the emergency department after taking an undetermined number of pills. She is lethargic but arousable. She refuses to answer questions. Blood pressure is 110/60 mm Hg and heart rate is 120/min and regular. Laboratory results are as follows:
Na+: 139 mEq/L
K+: 3.3 mEq/L
Cl-: 98 mEq/L
HCO3-: 13 mEq/L

ABG on room air:
pH: 7.46
PaCO2: 19 mm Hg
PaO2: 96 mm Hg
O2 saturation: 99%

Which of the following best describes this patient's acid-base disturbance?

A. Metabolic acidosis and metabolic alkalosis
B. Metabolic acidosis and respiratory acidosis
C. Metabolic acidosis and respiratory alkalosis
D. Metabolic alkalosis and respiratory acidosis

51. A 70-year-old man comes to the OPD due to increasing headaches, nausea, and vomiting. Medical history is significant for a transient ischemic attack that led to a right carotid endarterectomy 5 years ago. Blood pressure is 220/120 mm Hg and pulse is 70/min. Bilateral abdominal bruits are present. Blood testing in this patient would most likely show which of the following?

A. Low renin, low aldosterone, high angiotensin II, low potassium

B. High renin, high aldosterone, high angiotensin II, low potassium

C. Low renin, high aldosterone, high angiotensin II, low potassium

D. Low renin, low aldosterone, low angiotensin II, high potassium

52. A patient has hyperkalemia, raised uric acid levels and is going through hemodialysis. While this, patient develops drowsiness, had a seizure and got hypotensive. What can be given in treatment for this condition?

A. Mannitol
B. Nesiritide
C. Ethacrynic Acid
D. Bumetanide

53. 60-year-old woman comes to the emergency department due to bilateral flank pain and hematuria. Medical history is significant for recurrent urinary tract infections and hypothyroidism. Blood pressure is 130/80 mm g and pulse is 80/min. CT scan of the abdomen is shown below: Urinalysis for this patient would most likely show which of the following?

A. 4+ protein

B. Numerous eosinophils

C. pH 8.0

D. Red blood cell casts

54. A 70-year-old man is hospitalized for acute chest pain and undergoes PCI. His serum creatinine is unchanged 3 days post-procedure, but from day 4 slowly rises to a peak of 2.4 mg/dL. Urinalysis demonstrates no proteinuria or red blood cells, and a few granular casts are present. Serum complement is low. Blood counts show eosinophilia. Which one of the following is likely?

A. Allergic interstitial nephritis

B. CIN

C. Atheroembolic disease

D. RPGN

55. 26-year-old previously healthy man comes to the OPD with a 3-week history of shortness of breath, cough, and hemoptysis preceded by an upper respiratory tract infection. His blood pressure is 150/85 mm Hg and pulse is 86/min and regular. Physical examination reveals bilateral inspiratory crackles and lower extremity edema. His creatinine is 4.1 mg/dL. Urinalysis shows proteinuria and hematuria with dysmorphic red blood cells. Bilateral pulmonary infiltrates are seen on chest x-ray. He is also found to have an increased carbon monoxide diffusing capacity (DLCO) on pulmonary function testing. Antibodies directed against which of the following is most likely to be associated with this patient's condition?

A. Alpha 3 chain of type IV collagen

B. Beta-hemolytic streptococci

C. Alpha 5 chain of type IV collagen

D. Double-stranded DNA

56. A 64-year-old man comes to the OPD due to generalized edema, fatigue, and dyspnea on exertion for 2 months. The patient has a 25-year history of poorly controlled rheumatoid arthritis. Urinalysis shows 4+ protein. A renal biopsy is performed. Which of the following histologic abnormalities is most likely to be seen in this patient's glomeruli?

A. Crescent formation

B. Deposition of amorphous material

C. Diffuse hypercellularity

D. IgA deposition

57. 21-year-old man is brought to the emergency department due to diffuse muscle aches and weakness. He has also noticed darkening of his urine. The patient recently joined the military and was participating in rigorous training exercises in hot weather earlier in the day.

Laboratory results:

Sodium: 136 mEq/L

Potassium: 5.6 mEq/L

Bicarbonate: 18 mEq/L

Creatinine: 2.0 mg/dL

CK: 22,000 U/L (normal: 30-170)

Which of the following urine microscopy is most likely present in this patient?

A. Dysmorphic red blood cells
B. Eosinophils
C. Granular casts
D. Waxy casts

58. 38-year-old man is brought to the emergency department due to vomiting blood. After appropriate resuscitation measures, he undergoes upper gastrointestinal endoscopy, which reveals a bleeding duodenal ulcer. During hospital day 2, the patient develops decreased urine output. Serum creatinine rises to 3.0 mg/dL from a baseline of 1.2 mg/dL. Renal biopsy shows patchy epithelial necrosis of the tubules, intratubular casts. Supportive care is provided. Several days later, his urine output significantly increases, and serum creatinine levels decline. Over the next few days, this patient is at highest risk for which of the following complications?

A. Hyperphosphatemia

B. Hypokalemia

C. Metabolic acidosis

D. Volume overload

59. 56-year-old man with chronic renal insufficiency due to polycystic kidney disease is evaluated for placement of an arteriovenous fistula for dialysis access. Blood pressure is 140/90 mm Hg and pulse is 80/min. Examination shows 2+ bilateral edema of the lower extremities. Estimated glomerular filtration rate is 15 mL/min/1.73 m². Which of the following sets of laboratory findings is most likely in this patient?

A. Low serum calcium, high serum phosphorus, high PTH, normal 25-hydroxyVitD, normal 1,25 hydroxyVitD
B. Low serum calcium, high serum phosphorus, high PTH, normal 25-hydroxyVitD, low 1,25 hydroxyVitD
C. High serum calcium, high serum phosphorus, low PTH, normal 25-hydroxyVitD, low 1,25 hydroxyVitD
D. Low serum calcium, low serum phosphorus, high PTH, normal 25-hydroxyVitD, low 1,25 hydroxyVitD

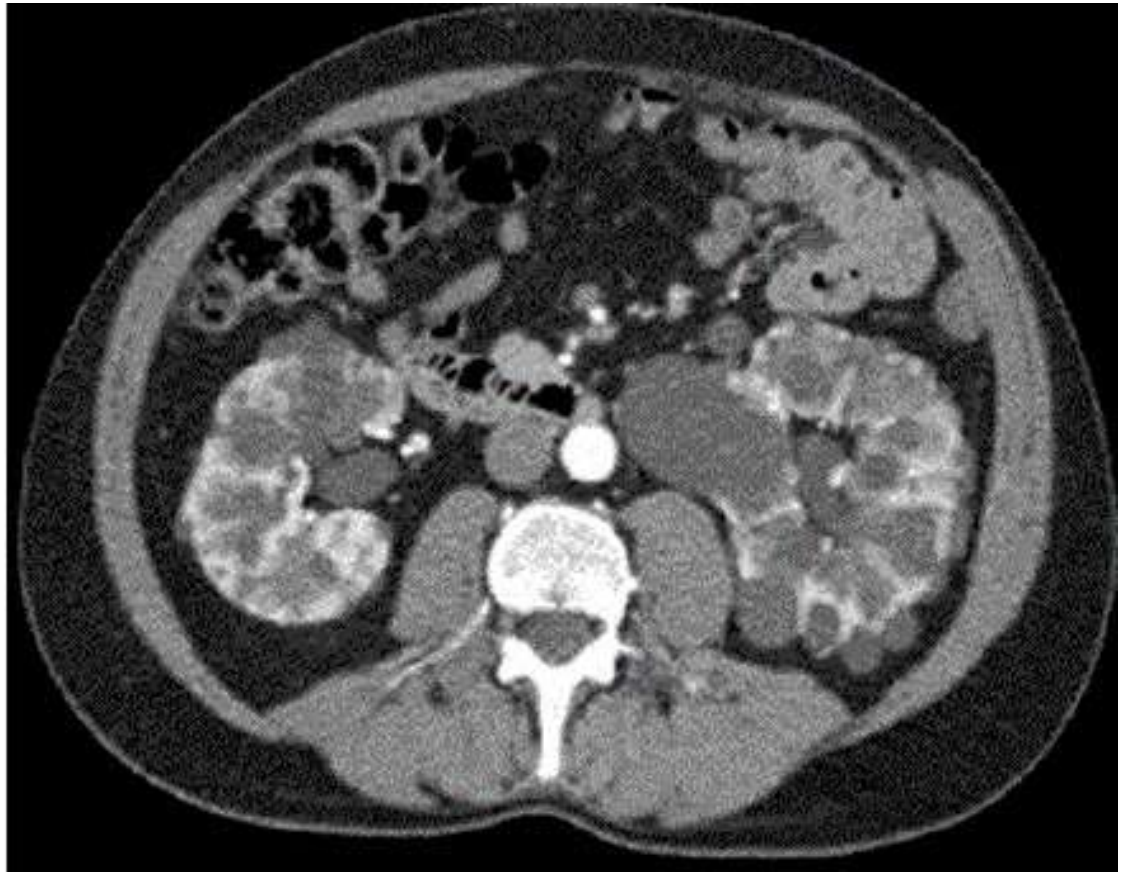
60. A 52-year-old male with the following disease as shown in CT was started on tolvaptan therapy. A few weeks later, he presents with symptoms of dry mouth and increased thirst. What is the likely mechanism behind these symptoms?

A. Increased free water clearance

B. V2 receptor agonism

C. Increased renal cAMP levels

D. Increase in urine osmolality



61. A 19-month-old girl is brought to the OPD due to a 2-month history of diarrhea. Her parents report that she has 3- 5 loose, non-bloody bowel movements daily with occasional episodes of vomiting. She was breastfed exclusively until age 9 months and has since had a well-varied diet including whole milk, fruits, vegetables, bread, and meats. However, the girl has been less interested in food over the past several weeks After laboratory evaluation, duodenal biopsy findings are shown in the exhibit. Which of the following would most likely improve this patient's symptoms?

A. Antibiotic therapy

B. Enzyme supplementation

C. Modified dairy diet

D. Modified grain diet

62. A 46-year-old man is brought to the emergency department by paramedics after an episode of large-volume hematemesis. Physical examination reveals a palpable spleen. Endoscopy shows bleeding esophageal varices. A liver biopsy performed 2 days later shows no abnormalities. Which of the following is the most likely cause of this patient's condition?

A. Long-term alcohol consumption

B. Budd-Chiari syndrome

C. Constrictive pericarditis

D. Portal vein thrombosis

63. A 14-year-old boy is hospitalized due to worsening confusion and vomiting of blood for the past 2 days. Medical history is notable for irritability and declining school performance over the past year. He is oriented to person but disoriented to time and place. During hospitalization, the patient rapidly deteriorates and passes away. Autopsy examination reveals Nodular liver, Splenomegaly, Basal ganglia atrophy with increased copper content. The most likely cause of this patient's condition is an abnormality in which of the following physiologic processes?

A. Biliary copper excretion

B. Serum copper binding transporter defect

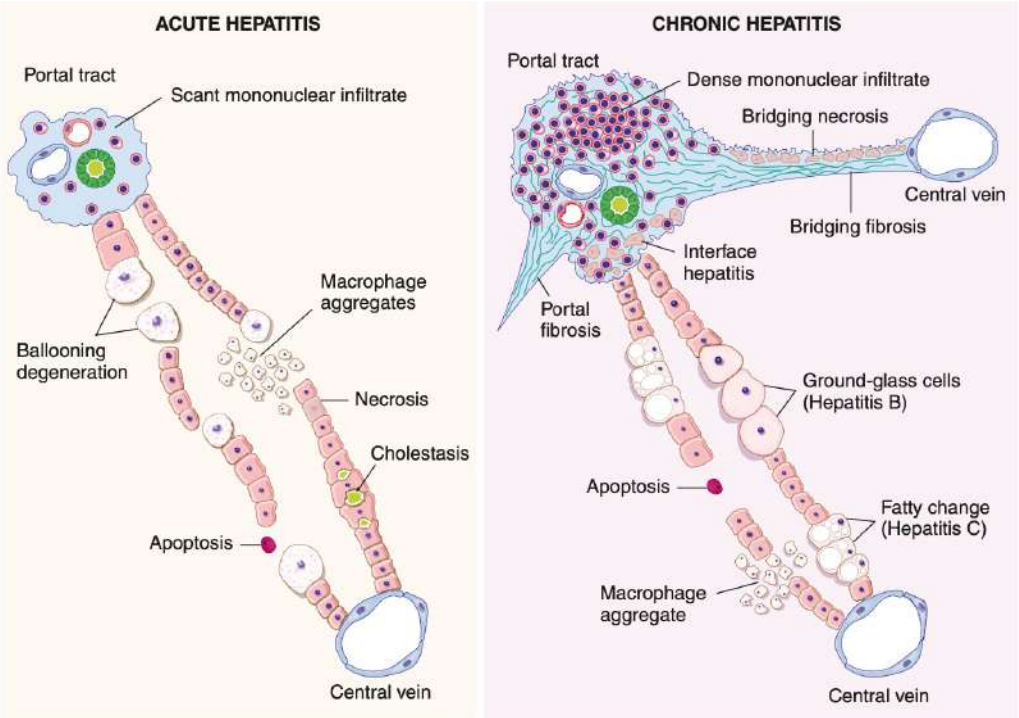
C. Increased Intestinal absorption

D. Decreased urinary excretion

64. A previously healthy 25-year-old woman comes to the physician because of a one-week history of diffuse abdominal pain. Her temperature is 39.1°C (102.3°F). Physical examination shows numerous scars and excoriations along both arms, scleral icterus, and tender hepatomegaly. Serum studies shown below: Which of the following is least likely to be seen in the liver biopsy of this patient?

Alanine aminotransferase	927 U/L
Aspartate aminotransferase	796 U/L
Hepatitis B surface antigen	Positive
Hepatitis B surface antibody	Negative
Anti-hepatitis B core antibody	Negative
Hepatitis C antibody	Negative

A. Ballooning degeneration
B. Ground glass hepatocytes
C. Focal or spotty necrosis
D. Confluent necrosis of hepatocytes


ACUTE HEPATITIS
Portal tract
Scant mononuclear infiltrate
Macrophage aggregates
Ballooning degeneration
Necrosis
Cholestasis
Apoptosis
Central vein

CHRONIC HEPATITIS
Portal tract
Dense mononuclear infiltrate
Bridging necrosis
Central vein
Bridging fibrosis
Interface hepatitis
Portal fibrosis
Ground-glass cells (Hepatitis B)
Apoptosis
Fatty change (Hepatitis C)
Macrophage aggregate
Central vein

65. Noninvasive test to detect risk of hepatic fibrosis include?

1. Aspartate aminotransferases /platelet ratio
2. Fibro scan
3. Forns index
4. Serum laminin & serum hyaluronidase

A. 1, 2, 3, 4

B. 2, 4

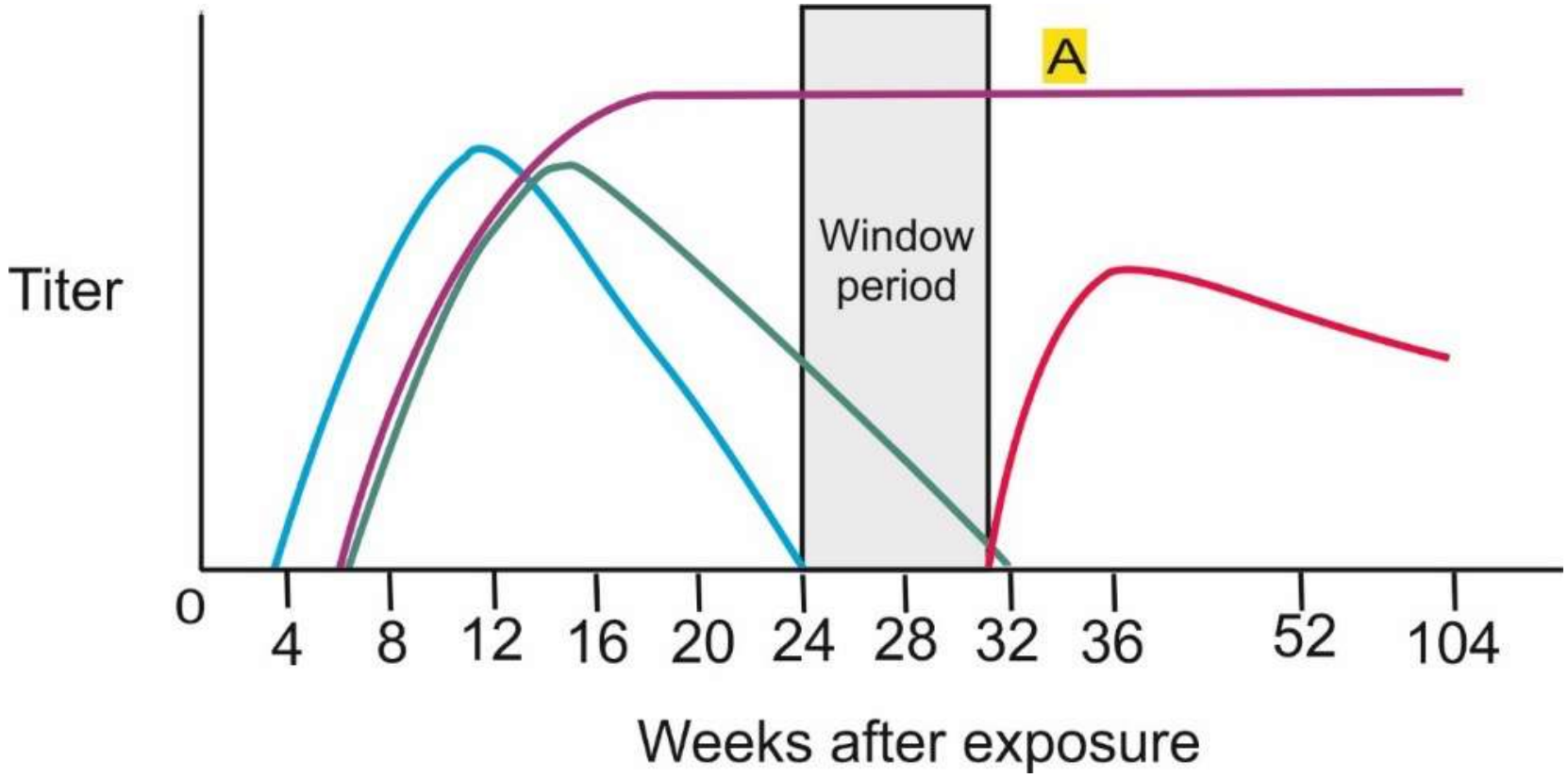
C. 1, 3

D. 2 only

Age, gamma-glutamyl transferase (GGT), cholesterol, and platelet count

66. Patient affected with acute hepatitis B infection has currently come for follow up. Identify the serological marker marked in the image? (AIIMS NOV 2019)

A. Anti-HBc Ab
B. Anti-HBe Ab
C. Anti-HBs Ab
D. HBsAg



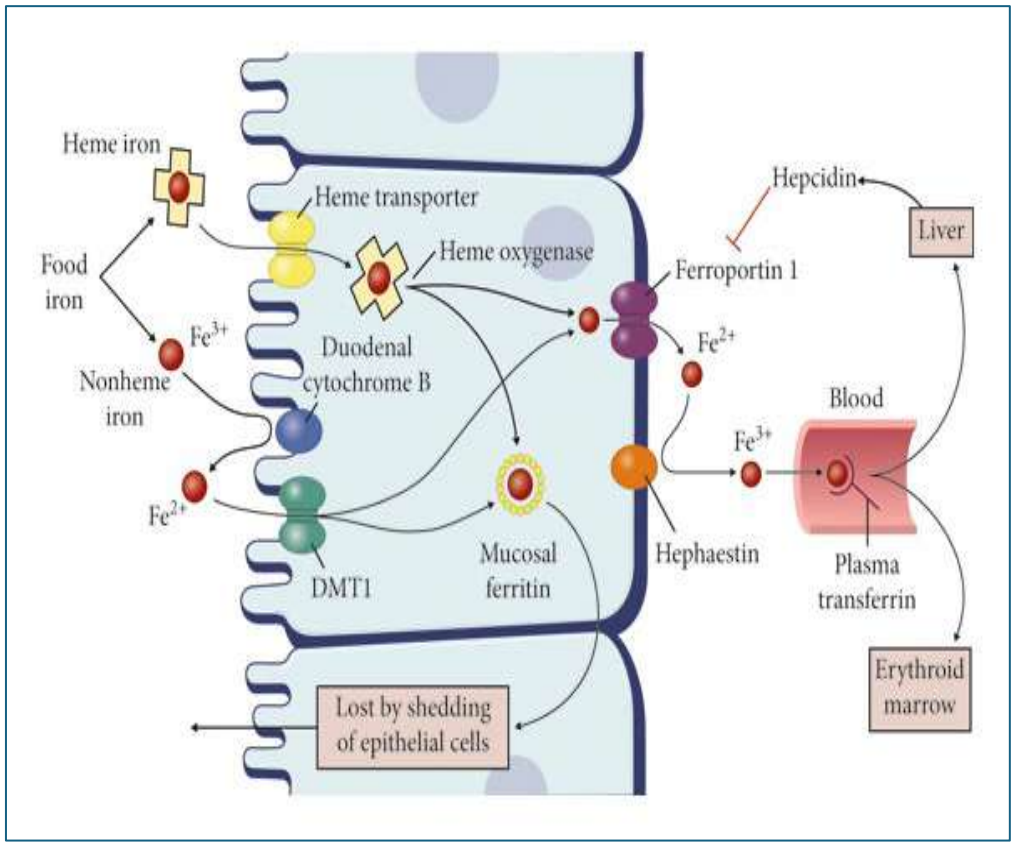
67. Which one of the following is incorrect about iron transport?

A. Iron is converted from ferrous to ferric form before absorption through apical membrane.

B. Apoferritin is the storage form.

C. Ascorbic acid helps in iron reabsorption.

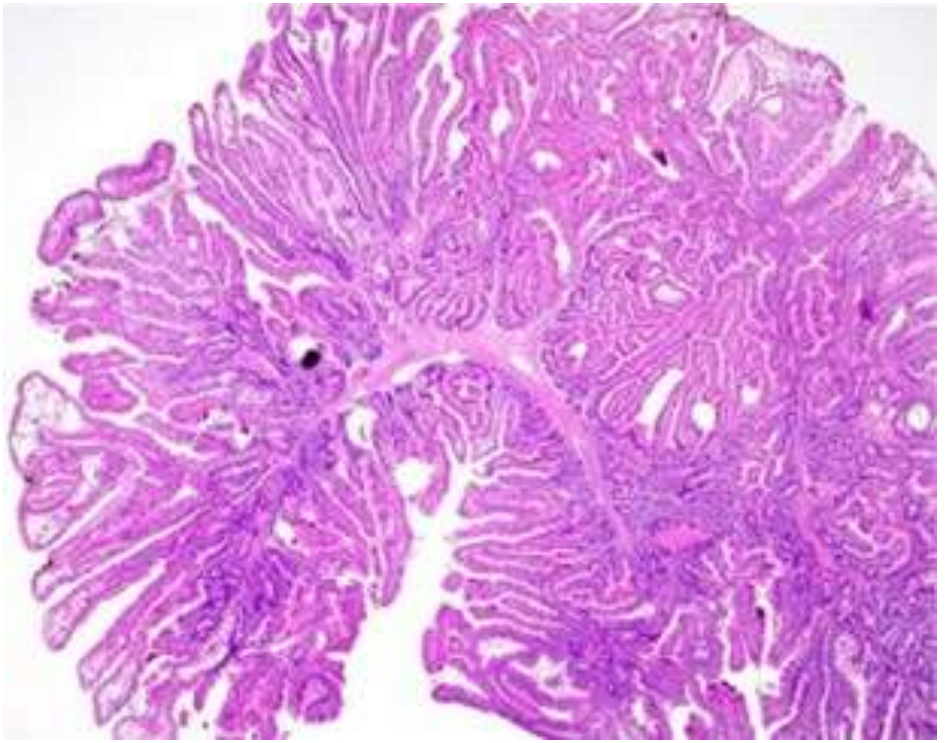
D. Transferrin transcription increases in iron deficiency anemia


Heme iron
Heme transporter
Heme oxygenase
Hepcidin
Liver
Food iron
Ferroportin 1
Fe^{3+}
Duodenal cytochrome B
Fe^{2+}
Nonheme iron
Blood
Fe^{3+}
Fe^{2+}
Mucosal ferritin
Hephaestin
Plasma transferrin
DMT1
Erythroid marrow
Lost by shedding of epithelial cells

68. Which of the following statements is correct regarding the polyposis condition shown below?

1. High risk of pancreatic carcinoma
2. Loss of heterozygosity in the STK11 gene
3. Multiple GI polyps
4. Autosomal recessive
5. Congenital hypertrophy of retinal pigment epithelium is seen

A. 2, 4 and 5
B. 1, 2 and 3
C. 1, 3 and 4
D. 2, 3 and 5



•Increased risk of cancers:
  - Colon
  - Stomach
  - Small intestine
  - Pancreas
  - Breast
  - Ovary

Distinctive PJ Tumors

•Sex cord tumor with annular tubules of ovary

•Large cell calcifying Sertoli tumor of testis

•Adenoma malignum of cervix

69. A 50-year-old man comes to the physician because of an 8-month history of intermittent watery diarrhea and abdominal pain. He has had a 12-kg weight loss during this period. He has also had episodic pain of the ankle, wrist, and knee joints during the past 5 years. An endoscopy with small bowel biopsy is performed. Histopathologic examination of a tissue specimen shows foamy macrophages in the lamina propria with periodic acid-Schiff (PAS)-positive inclusions. Further evaluation is most likely to show which of the following?

A. Multinucleated trophozoites

B. Anti-tissue transglutaminase antibodies

C. Intracellular gram positive bacteria

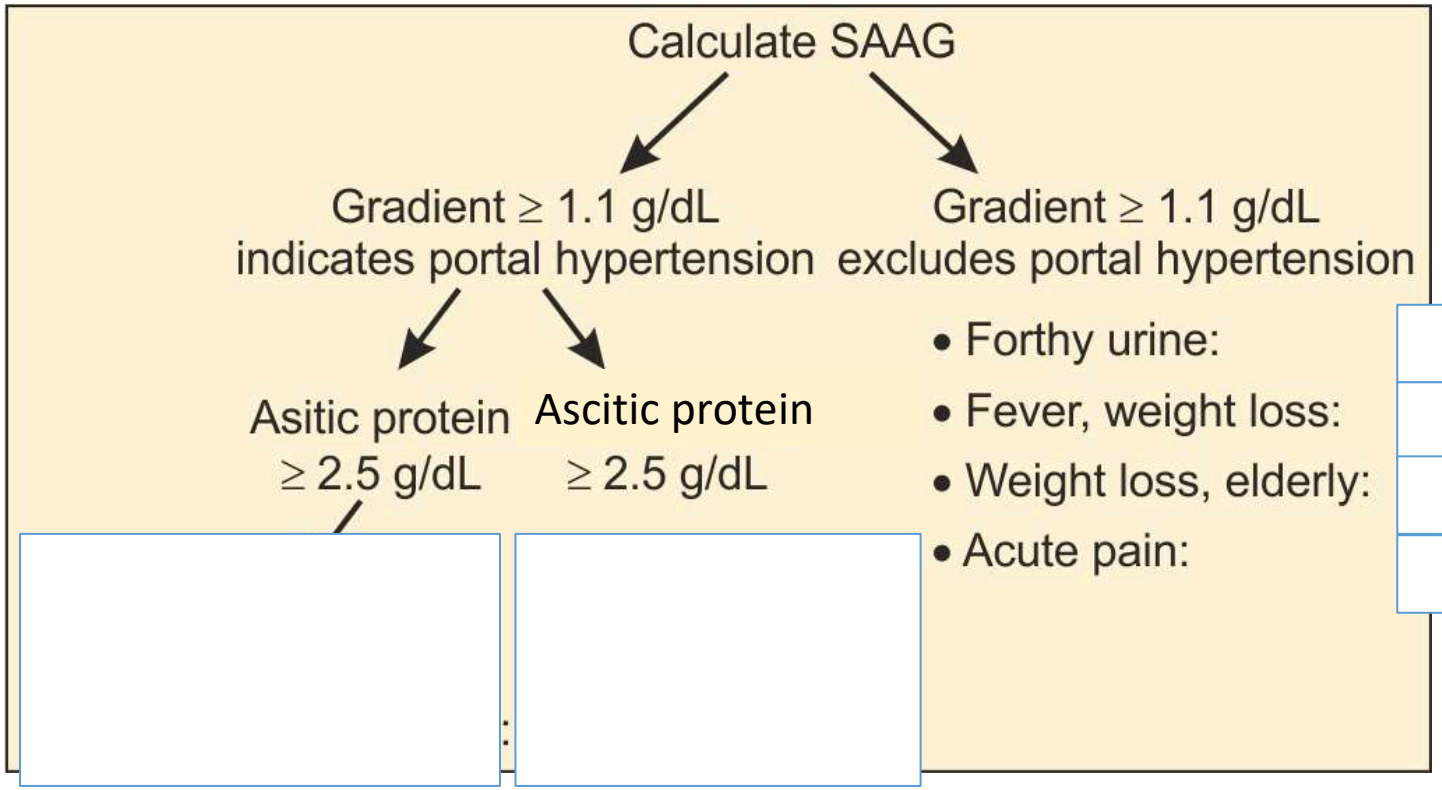
D. Anti-saccharomyces cerevisiae antibodies

70. 50-year-old gentleman presented with progressive abdominal distension with shifting dullness on examination. Ascitic fluid analysis:

Serum Albumin = 3 g/dL
Serum Protein = 7 g/dL
Ascitic Albumin = 1 g/dL
Ascitic Protein = 1.5 g/dL
Cells = 125, 90% Lymphocytes

What is the likely diagnosis?

A. Congestive heart failure
B. Budd Chiari syndrome
C. Cirrhosis
D. Tuberculosis


Calculate SAAG
Gradient ≥ 1.1 g/dL
indicates portal hypertension
Gradient ≥ 1.1 g/dL
excludes portal hypertension
Asitic protein
≥ 2.5 g/dL
Ascitic protein
≥ 2.5 g/dL
• Forthy urine:
• Fever, weight loss:
• Weight loss, elderly:
• Acute pain:

71. During a study on gastrointestinal hormones, a volunteer is administered the hormone secreted by S cells. Which of the following changes most likely represent the effect of this hormone on gastric and duodenal secretions?

A. Gastric H^+ increases, Duodenal HCO_3^- increased, Duodenal Cl^- no change

B. Gastric H^+ decreases, Duodenal HCO_3^- decreased, Duodenal Cl^- no change

C. Gastric H^+ decreases, Duodenal HCO_3^- increased, Duodenal Cl^- decreases

D. Gastric H^+ decreases, Duodenal HCO_3^- increased, Duodenal Cl^- increases

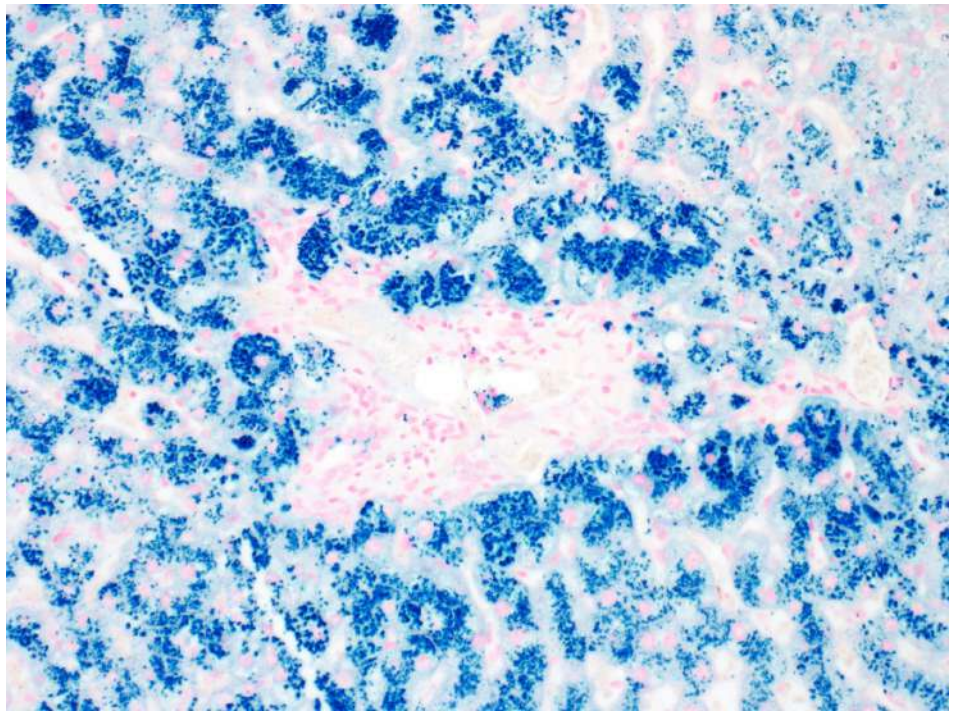
72. A 63-year-old woman dies of congestive heart failure. Autopsy shows a dilated heart with brownish pigmentation of the myocardium. Light microscopy of her liver after Prussian blue staining is shown in the image below. The patient's brother died of profuse upper gastrointestinal bleeding at age 43. Assuming this patient's disorder is hereditary, which of the following most likely contributed to the delayed onset of her disease compared to her brother?

A. Heterozygosity for HFE gene mutation

B. High-dose vitamin C intake

C. Incomplete penetrance of homozygotic HFE mutations

D. Premenopausal menstrual bleeding

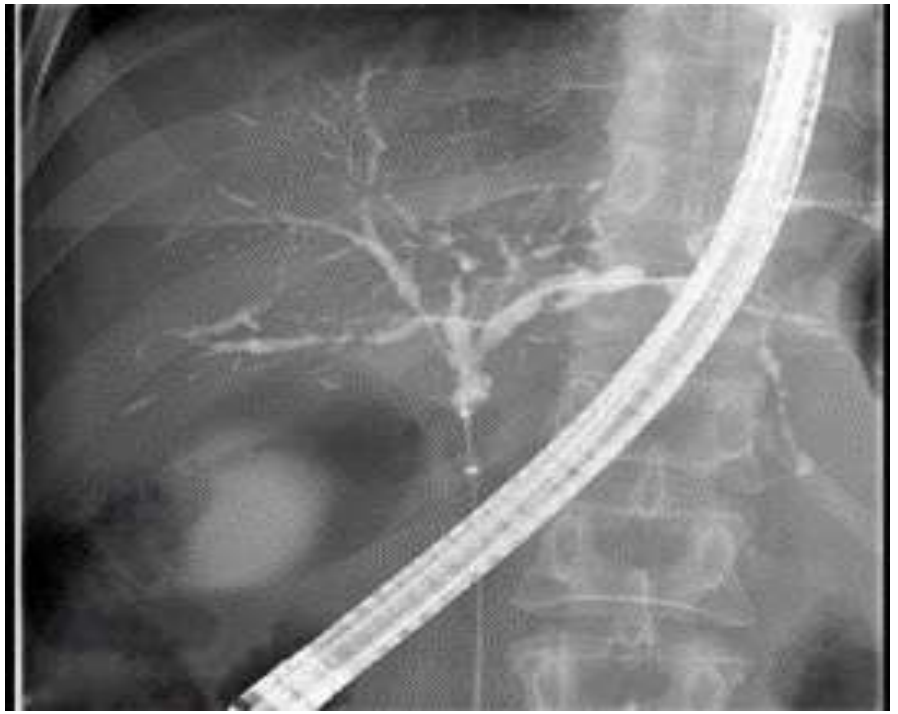


73. Which of the following drugs used in the treatment of Irritable Bowel Syndrome (IBS) has a direct spasmolytic action on gastrointestinal (GI) smooth muscle? (NEET PG 2024)

A. Dicyclomine
B. Scopolamine
C. Mebeverine
D. Racecadotril

74. A 35-year-old patient is being evaluated for jaundice. ERCP and lab values are shown below.
Aspartate Aminotransferase (AST) - 55 U/L
Alanine Aminotransferase (ALT) - 56 U/L
Alkaline phosphatase (ALP) - 213 U/L
Gamma-glutamyl transferase (GGT) - 75 U/L
Total Bilirubin - 1.2 mg/dL
Which of the following statement is false about this condition?

A. It is associated with ulcerative colitis
B. It is a premalignant condition
C. Biopsy shows florid duct lesion
D. There is no effective medical therapy



75. The blood investigation of a patient is given below. What is the probable diagnosis?

HBsAg - NR

Anti HBs - NR

Anti HBc IgM - NR

Anti HBc total - positive

HBeAg - NR

Anti HBe – NR (NR – Non reactive)

A. Acute HBV infection in window period
B. Immune with recombinant HBV Vaccine
C. HBV infection in the remote past, completely recovered
D. Chronic HBV infection inactive carrier

76. A 45-year-old man comes to the clinic for evaluation of chronic diarrhea. He has lost almost 7 kg over the past year. He has no blood in the stool. A 24-hour stool collection shows fecal fat content of 10 g/day (normal <6 g/day). Stool microscopy shows no pathogens and no leukocytes. Serum electrolytes and renal function are within normal limits. The patient is given 25 g oral D-xylose solution, and his urinary excretion of D-xylose at 5 hours is 1.2 g (normal 4.5-7.5 g). After 4 weeks of treatment with rifaximin, the D-xylose test is repeated, and the urinary excretion at 5 hours is 1.3 g. Based on these findings, which of the following is the most likely diagnosis in this patient?

A. BOGS

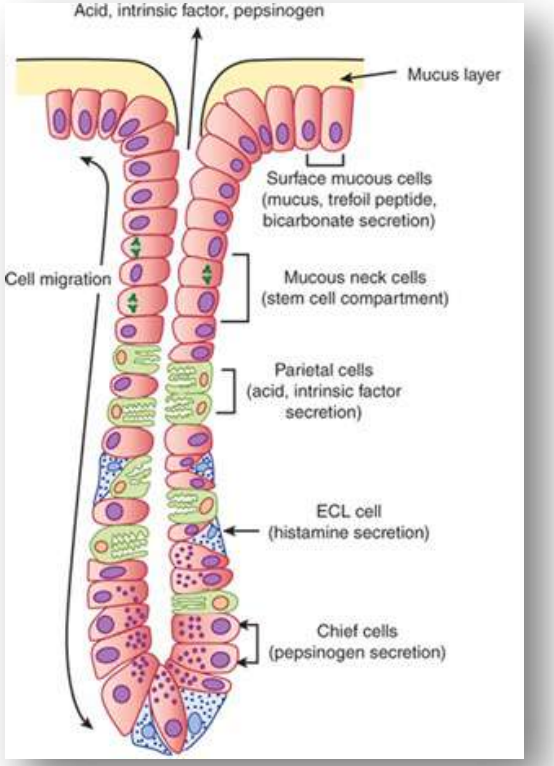
B. Celiac disease

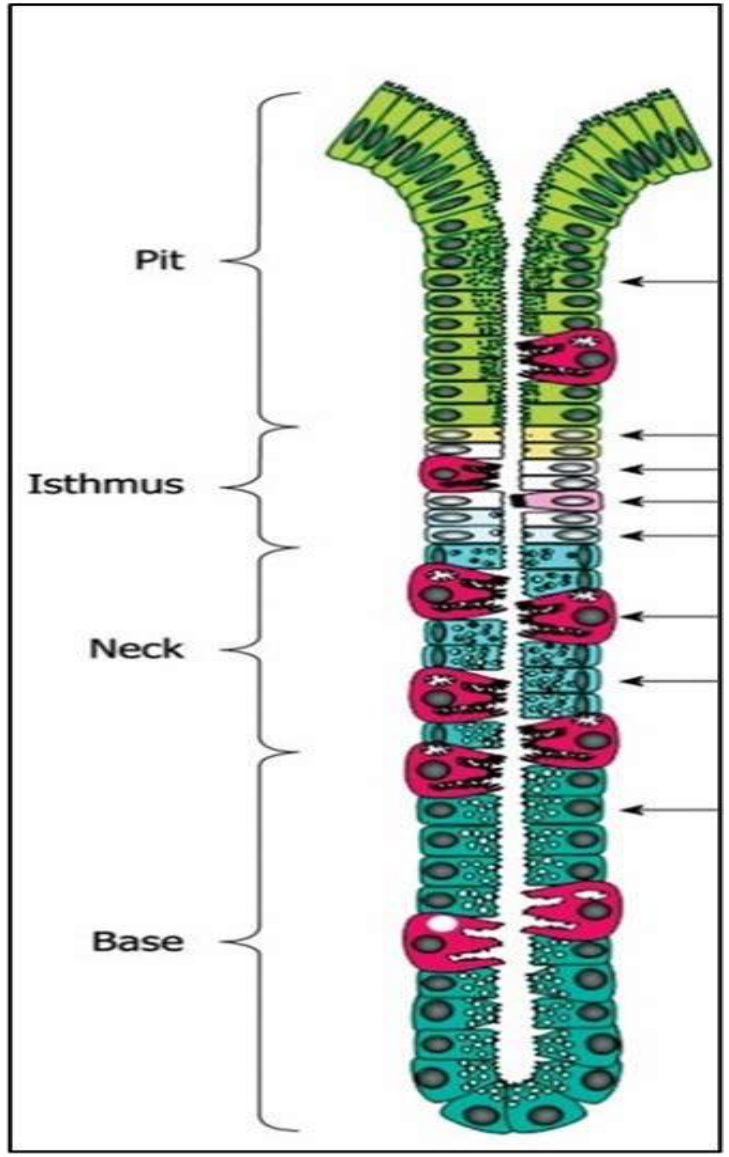
C. Lactose intolerance

D. Pancreatic insufficiency

77. Which of the following are cells lining the isthmus of the gastric pits?

A. Chief cells
B. Stem cells
C. Parietal cells
D. Mucous cells





78. Identify the true statements about IBD:

1.Smoking and appendicectomy decrease the risk of UC

2.NOD2 and PTPN22 genes are implicated in the pathophysiology of CD

3.Uveitis, peripheral arthritis, EN are more common with UC while PSC is more common with CD

4.Rectal involvement with continuous disease and crypt abscess is associated with UC

A. 1, 2, 3, 4

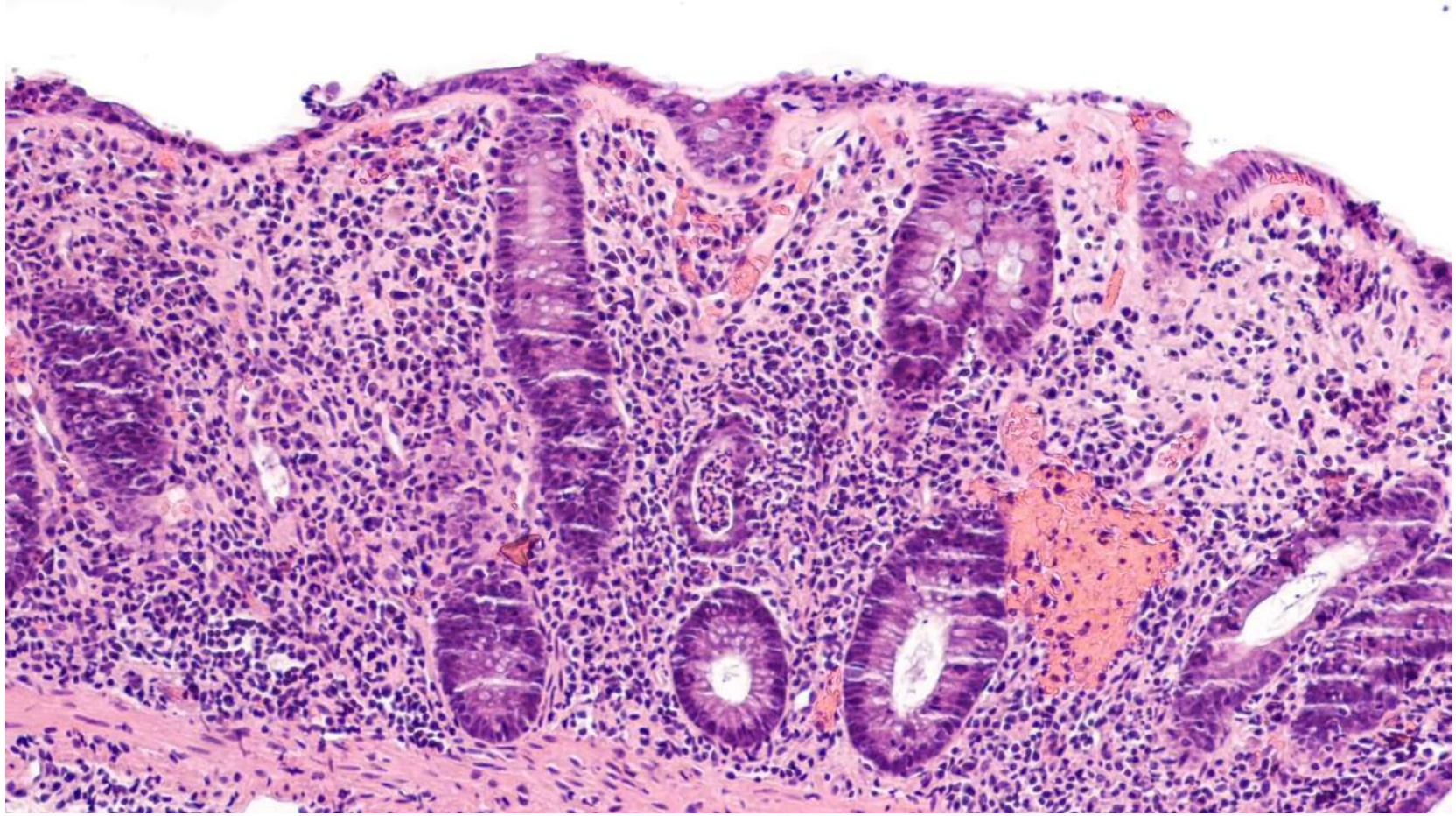
B. 2, 3, 4

C. 1, 2, 4

D. 2, 4

79. A 45 year old female patient presents to the OPD with intermittent rectal bleeding, tenesmus, and mucous discharge. Histological examination showed the following lesion. What is the first-line management of this condition?

A. Sulfasalazine
B. Surgical resection
C. NSAIDs
D. Antibiotics



80. A 33-year-old woman, gravida 2, para 1, at 24 weeks' gestation is brought to the emergency department by her husband for lethargy, nausea, and vomiting for 4 days. She returned from a trip to Thailand 2 weeks ago. Her immunizations are up-to-date and she has never received blood products. Her temperature is 38.9°C (102°F). She is not oriented to person, place, or time. Examination shows jaundice and mild asterixis. Her prothrombin time is 18 sec (INR=2.0), serum alanine aminotransferase is 3911 U/L, and serum aspartate aminotransferase is 3724 U/L. This patient's current condition is most likely associated with increased titers of which of the following serum studies?

A. Anti-HBe IgM

B. HBsAg

C. Anti-HEV IgM

D. Anti-HCV IgG

81. Which of the following regarding Obstructive jaundice is incorrect statement

A. Increased direct bilirubin
B. Increased alkaline phosphatase
C. Presence of bilirubin in the urine
D. Increased urobilinogen

82. Which of the following regarding Celiac disease – incorrect statement

A. Anti-IgA TTG is a key diagnostic marker
B. Modified Marsh criteria is used histologically
C. Anti-IgG gliadin antibodies are highly specific
D. HLA-DQ6/DQ11 are associated

83. A previously healthy 41-year-old man comes to the physician for evaluation of a 1-month history of painless, intermittent bleeding on defecation, which he discovered while wiping. His younger sister was recently diagnosed with endometrial cancer, and his mother was diagnosed with gastric cancer at 58 years of age. Colonoscopy shows a tumor in the ascending colon. A mutation of which of the following genes is most likely responsible for this patient's condition?

A. MLH-1

B. Tp53

C. KRAS

D. APC

Revised criteria (Amsterdam criteria II)
At least three relatives with an HNPCC-associated cancer (colorectal cancer, cancer of endometrium, small bowel, ureter, or renal pelvis)
One should be a first-degree relative of the other two
At least two successive generations should be affected
At least one should be diagnosed before age 50 years

84. A 66-year-old woman presents with bloating, flatulence, crampy abdominal pain, and chronic watery diarrhea. She has poorly controlled diabetes and chronic opioid use. Carbohydrate breath testing using glucose is abnormal. Which of the following is the most appropriate initial therapy?

A. Gluten-free diet

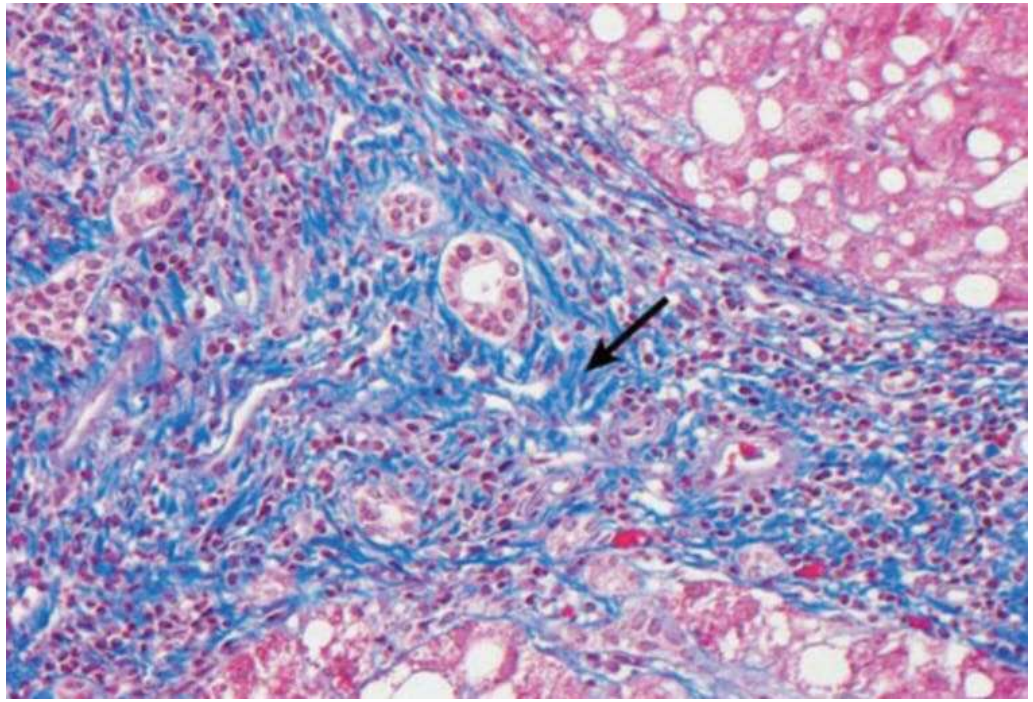
B. PPI

C. Pancreatic enzyme replacement

D. Rifaximin

85. 62-year-old man comes for the evaluation of jaundice. Medical history is significant for uncontrolled type 2 diabetes mellitus and morbid obesity. He does not use tobacco, alcohol, or illicit drugs. BMI is 47 kg/m2. Laboratory studies reveal elevated transaminases. A liver biopsy is obtained, and trichrome staining shows the following.
Which of the following cells is directly responsible for the histologic finding indicated by the arrow?

A. Cholangiocytes
B. Hepatocytes
C. Kupffer cells
D. Stellate (Ito) cells



86. 34-year-old woman comes to the OPD with recent onset of malaise. The patient works as a nurse at a local hospital and lives at home with her husband and 2-year-old son. Physical examination is notable for hepatomegaly. Laboratory results are as follows:
Anti-HAV IgM Positive
Anti-HAV IgG negative
HBsAg negative
HBeAg negative
Anti-HBs positive
Anti-HBc negative
Anti-HBe negative
Anti-HCV negative
Which of the following is most likely to be elicited on further history taking?

A. Had an accidental needlestick exposure at work
B. Had a blood transfusion
C. Had steamed oysters at a neighborhood restaurant
D. Had unprotected sexual intercourse with a new partner

87. A 64-year-old man comes to the OPD due to acute-onset right upper quadrant abdominal pain, nausea, and vomiting. The patient had an extensive small bowel resection due to bowel ischemia a year ago and has been receiving total parenteral nutrition since then. Abdominal ultrasonography is shown below. Which of the following is most likely factor responsible?

A. Decreased cholecystokinin release due to lack of enteral stimulation

B. Decreased cholesterol conversion to bile acids due to liver dysfunction

C. High cholesterol content of the nutritional fluids

D. Inadequate supplementation of essential fatty acids

88. A 38-year-old man comes to the emergency department with severe abdominal pain and vomiting. The patient is admitted to the hospital and treated with intravenous fluids and pain medication, but his condition fails to improve. An abdominal CT scan is shown below. The inappropriate activation of which of the following most likely initiated this patient's condition?

A. Lipase

B. Proelastase

C. Prophospholipase

D. Trypsinogen

89. A 50-year-old woman comes to the physician due to periodic reddening of her skin that is starting to become bothersome. The patient has also had persistent watery diarrhea and associated abdominal cramping for the last several months. Physical examination shows several, purple vascular lesions surrounding her nose. Urinary excretion of 5- hydroxyindoleacetic acid (5-HIAA) over 24 hours is increased. Abdominal imaging shows a tumor in the small intestine. Which of the following is most likely responsible for this patient's condition?

A. Localized adenocarcinoma

B. Localized carcinoid

C. Metastatic carcinoid

D. Metastatic lymphoma

90. A 56-year-old man is brought to the emergency department by his wife because of increasing confusion and lethargy for the past 12 hours. He is oriented only to person. His temperature is 37.3°C (99.1°F), pulse is 109/min, respirations are 18/min, and blood pressure is 108/67 mm Hg. Examination shows abdominal distention and several erythematous, lacy lesions on the chest that blanch with pressure. His hands make a flapping motion when they are dorsiflexed. Which of the following is the most likely precipitating factor for this patient's symptoms?

A. Elevated systemic vascular resistance

B. Destruction of gut anaerobes

C. Thiamine pyrophosphate deficiency

D. Accumulation of hemoglobin in the intestine

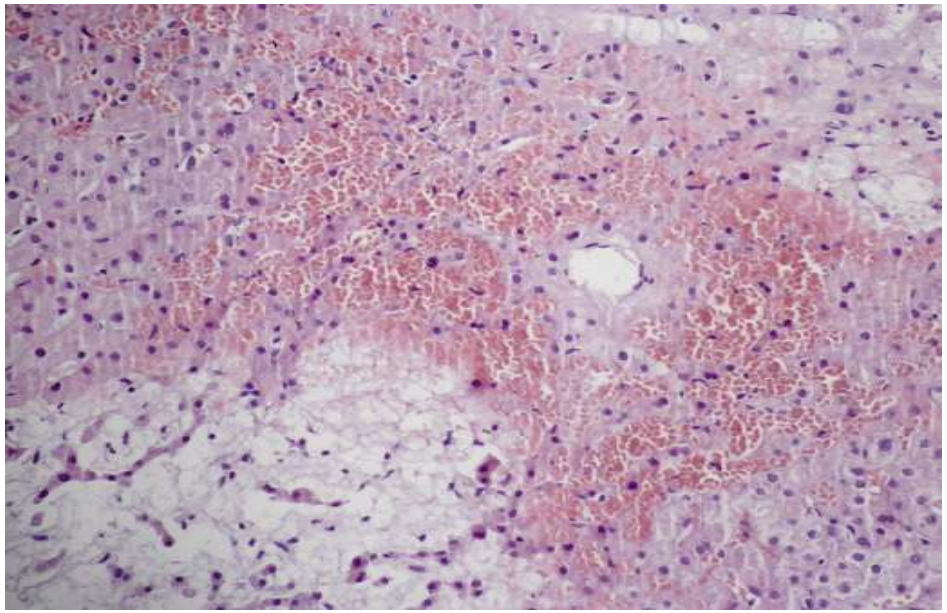
91. A 70-year-old man comes to the emergency department due to shortness of breath, poor appetite, and abdominal distension for the past 3 months. His symptoms have progressively worsened, and he is now unable to perform his daily activities. The patient has a history of ischemic heart disease and underwent coronary artery bypass grafting 5 years ago. Physical examination shows jugular venous distension, abdominal distension, hepatomegaly, and bilateral lower extremity edema. A representative liver biopsy image is shown in the exhibit. Which of the following is the most likely cause of this patient's liver findings?

A. Autoimmune biliary destruction

B. Excessive deposition of iron

C. Hepatitis virus infection

D. Passive hepatic congestion



92. A 54-year-old man with epigastric pain and positive occult blood test undergoes endoscopy, revealing hyperemic nodular mucosa. Biopsy shows submucosal glands producing alkaline mucus. Which part of the GI tract was biopsied?

A. First part of the duodenum

B. Mid-jejunum

C. Antrum of the stomach

D. Terminal ileum

93. Which of the following is not part of the diagnostic criteria of hepatorenal syndrome?

A. No recent use of nephrotoxic agent

B. Presence of shock

C. Rise in creatinine of 0.3 mg/dl in 48 hours

D. 50% increase in creatinine from baseline within 7 days

Diagnostic Criteria of Hepatorenal Syndrome

- **Cirrhosis with Ascites**
- **Diagnosis of AKI**
- **No or inefficient response** in 48 hours after diuretic withdrawal and adequate volume expansion with IV Albumin
- **Absence of shock**
- **No evidence of recent use of nephrotoxic drugs**
- **Absence of intrinsic renal disease**

94. Which is not used in management in Wilson's disease?

A. Trientine
B. Zinc
C. Calcium citrate
D. Penicillamine

95. A patient undergoing chemotherapy was given an antiemetic, after which he developed symptoms like acute dystonia, bradykinesia, and tremors. Which of the following drugs would have caused these symptoms?

A. Scopolamine
B. Ondansetron
C. Metoclopramide
D. Meclizine

96. As a part of cranial nerves examination, swallowing reflex is performed on a patient. Which of the following is not involved in afferent limb of this reflex?

A. Glossopharyngeal nerve
B. Vagus nerve
C. Facial nerve
D. Trigeminal nerve

97. Which of the following is the most potent choleretic?

A. Pancreatic juices
B. Bile salts
C. CCK
D. Fatty acids

98. A drug known to cause the following side effect is:

A. Rasburicase
B. Sucralfate
C. Colloidal bismuth subsalicylate
D. Senna

99. Which of the following fluids have the highest daily secretion of potassium?

A. Bile

B. Jejunal secretion

C. Pancreatic secretion

D. Saliva

100. Which part of the GIT has the longest transit time?

A. Colon
B. Ileum
C. Stomach
D. Jejunum

Cerebellum

Get the balance right

Thank you

Best wishes!

Cerebellum

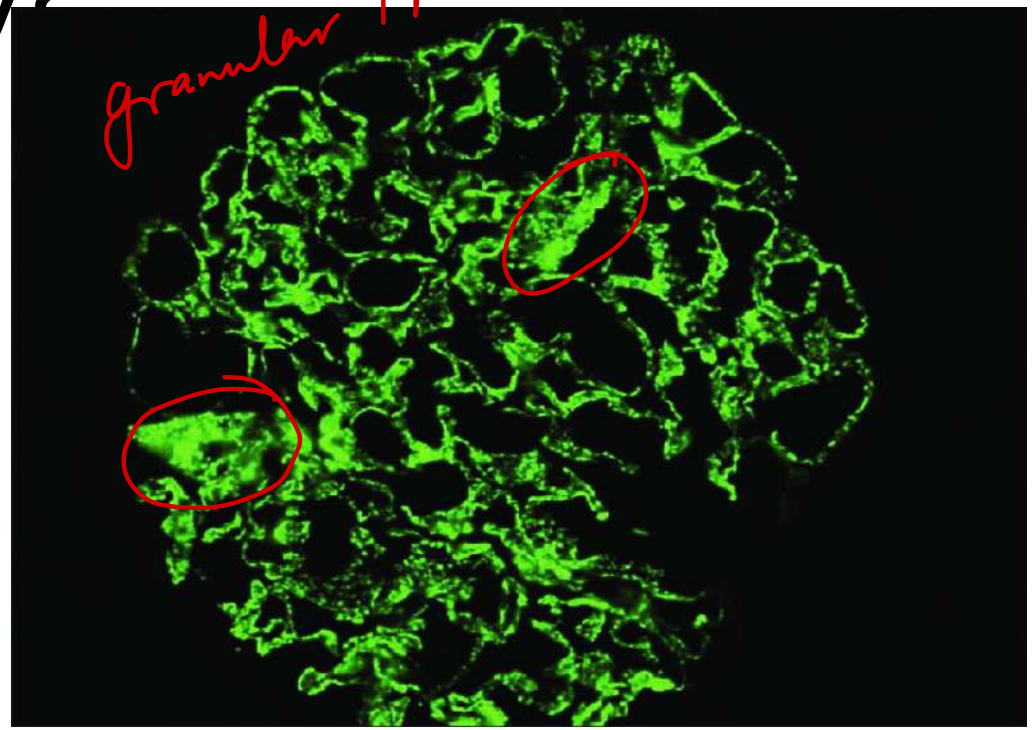
Get the balance right

Integrated Renal + GI - 31-08-2025

Dr. Zainab Vora

1. A 13-year-old boy comes to the clinic due to shortness of breath and fatigue over the past 2 weeks. He reports significant weight gain, swelling around the ankles, and profound fatigue. Laboratory findings include red blood cell casts in urine and elevated creatinine. Immunofluorescence microscopy shown. Which of the following light microscopy findings is most likely to be seen in this patient's renal biopsy?

A. Subepithelial deposits
B. Crescent formation
C. Nodular glomerulosclerosis
D. Normal glomeruli



2. Which of the following is most likely based on the lab values given?

Blood pH: 7.3
Na+: 134 mEq/L
K+: 2.8 mEq/L
Cl: 113mEq/L
HCO3-: 12mEq/L
BUN: 3 mg/dL
Creatinine: 0.6mg/dL
Urinary pH: 4.4

3.5 - 5

AG

Na − (HCO3 + Cl)

134 − (12 + 113)

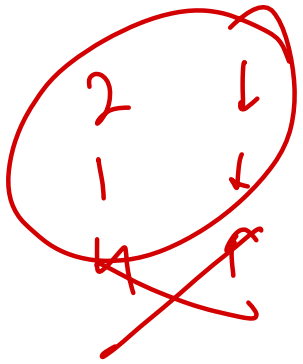
134 − 125

9

NAGMA

8 - 12

A. Type 4 RTA
B. Type 1 RTA
C. Type 2 RTA
D. HAGMA



3. Which of the following changes are most likely to occur in this patient's kidney function after starting therapy with NSAID?

RPF ↓ GFR ↓ FF = GFR / RPF

A. Decreased renal perfusion, decreased intraglomerular pressure, and constant filtration fraction

B. Increased renal perfusion, decreased intraglomerular pressure, and decreased filtration fraction

C. Decreased renal perfusion, increased intraglomerular pressure, and decreased filtration fraction

D. Decreased renal perfusion, decreased intraglomerular pressure, and constant filtration fraction

PDA ACE

RG dilate efferent

4. Low Renin Hypertension is seen in which of the following:

A. Liddle syndrome
B. Reninoma
C. Renovascular hypertension
D. Fibromuscular dysplasia

ENac (+) Renin ↓

RAS

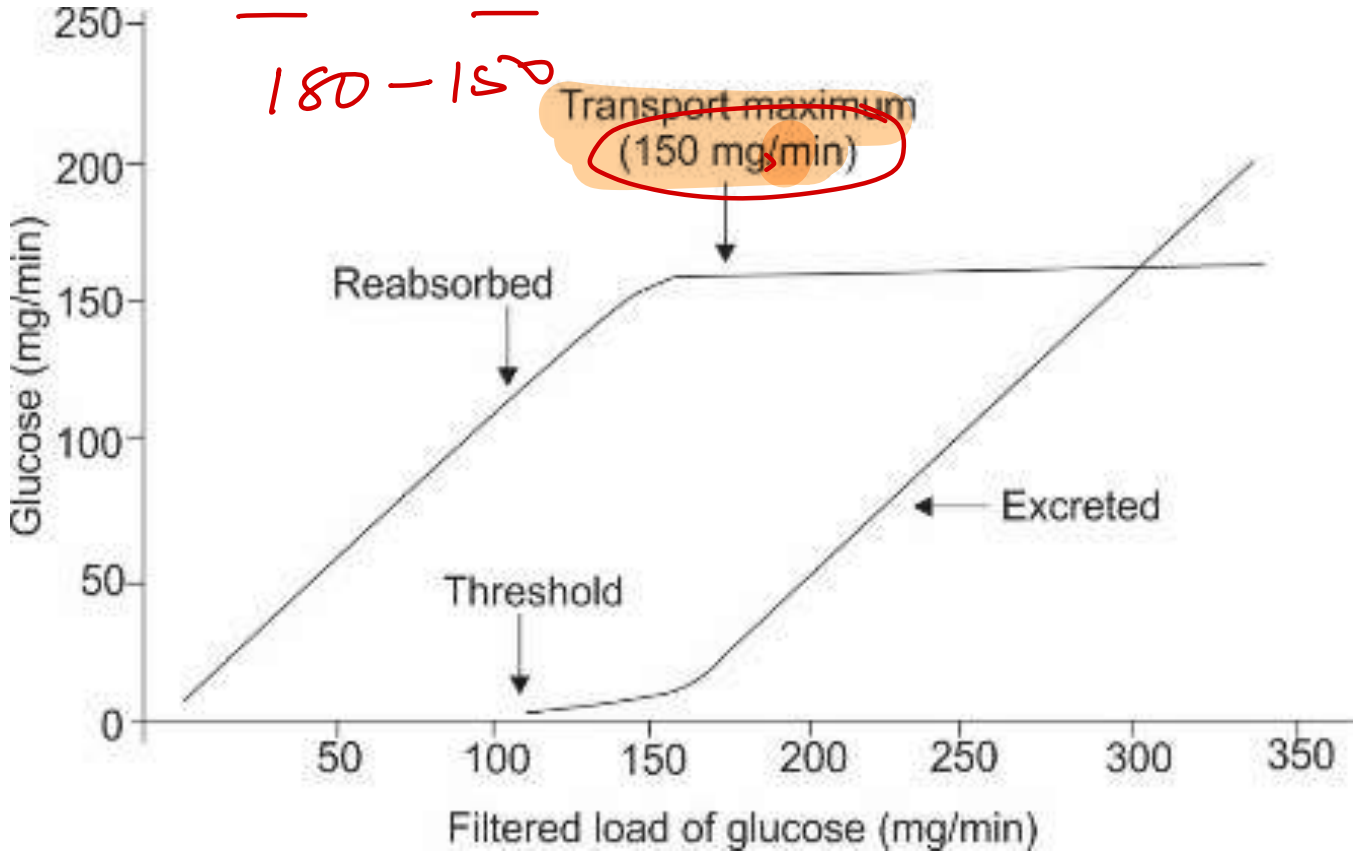
GFR ↓

Renin ↑

5. A patient has a blood glucose level of 200 mg/dL and GFR of 90 ml/min. What is the amount of glucose excreted if the transport maximum of the patient is as shown below?

A. 80 mg/min
B. 50 mg/min
C. 40 mg/min
D. 30 mg/min

200 x 90
180 − 150



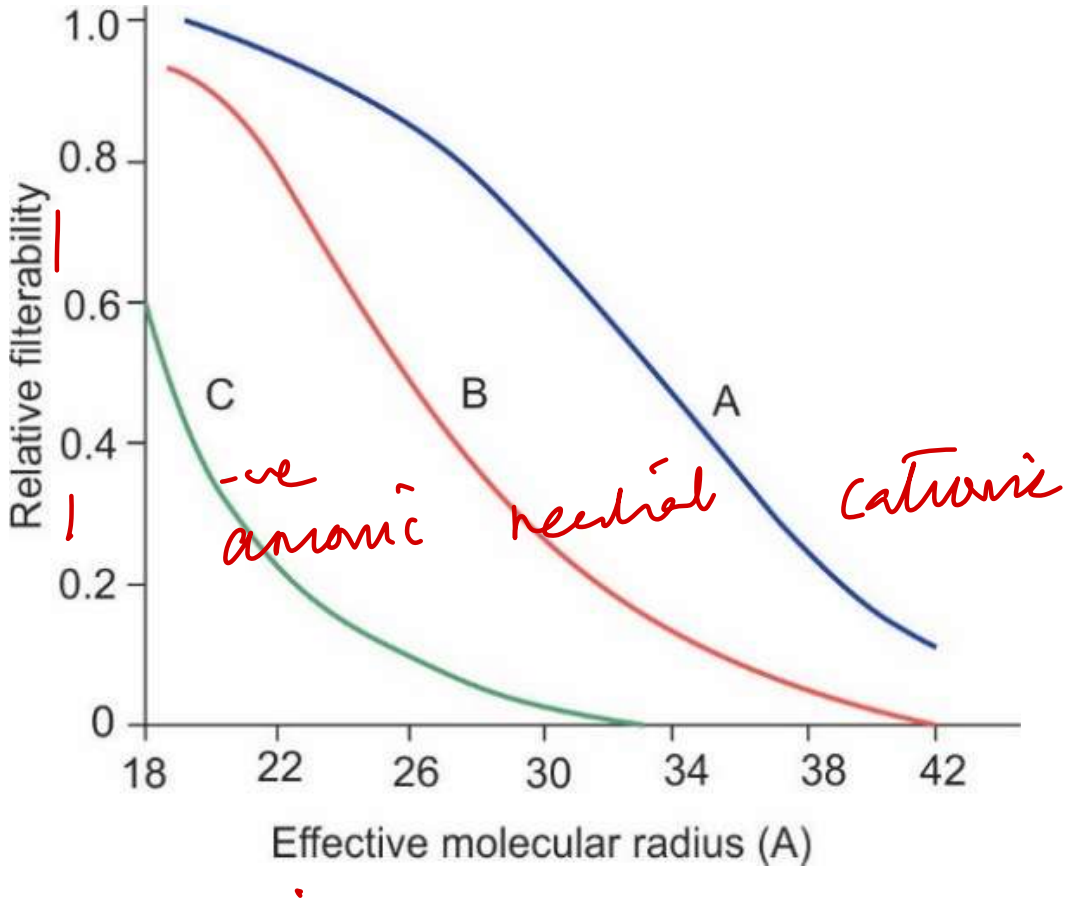
6. This is the graph depicting the filterability of dextran through the kidney, 1 representing complete filtration and 0 representing no filtration. Choose the substance A, B, C respectively?

A. Polycationic, Neutral, polyanionic

B. Polyanionic, neutral, polycationic

C. Neutral, polycationic, polyanionic

D. Polyanionic, Polycationic, Neutral



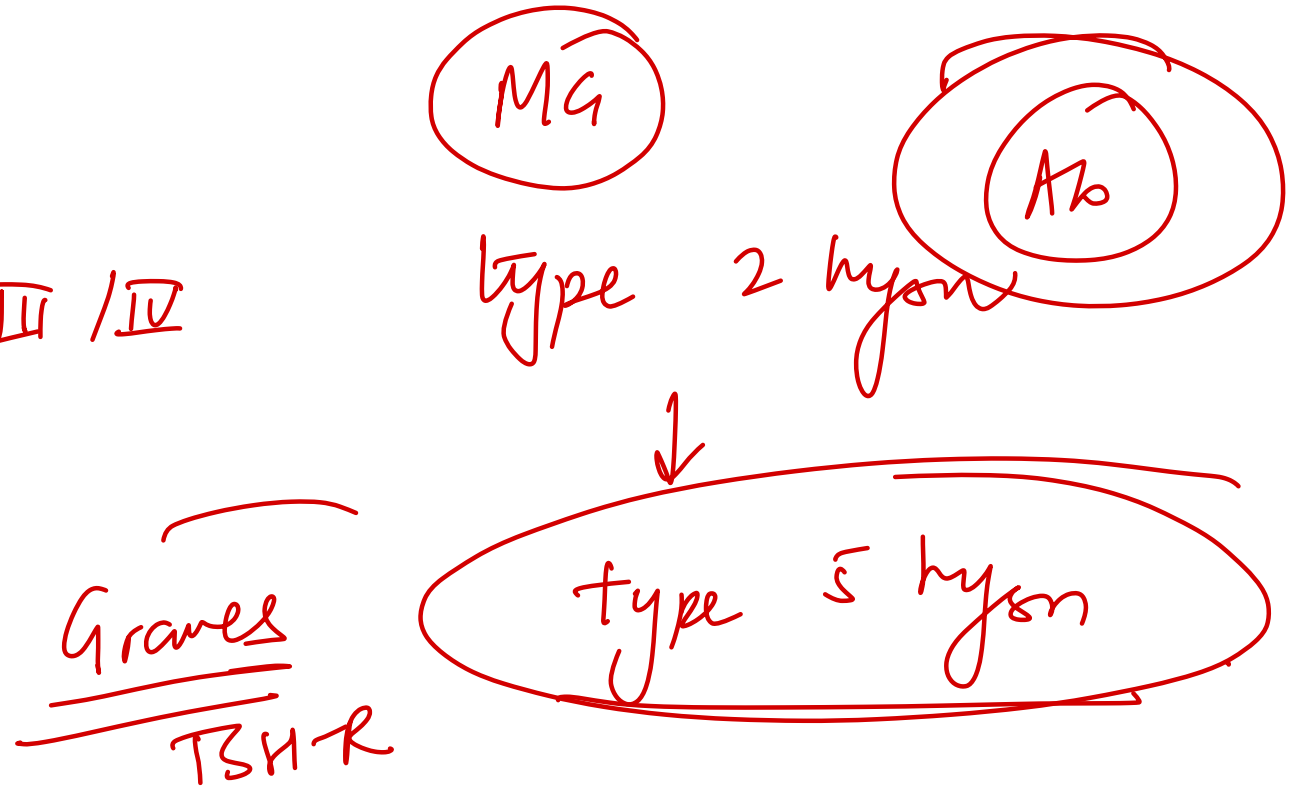
7. A 34-year-old woman comes to the OPD with several months of vision problems, difficulty chewing, and trouble speaking. The symptoms fluctuate, but the patient has noticed that they are worse after a long day. During physical examination, the patient is asked to keep her eyes focused on a spot on the ceiling, and after 2 minutes she develops diplopia. The pathogenesis of this patient's disease is most similar to which of the following conditions?

A. Atopic dermatitis type I

B. Contact dermatitis IV

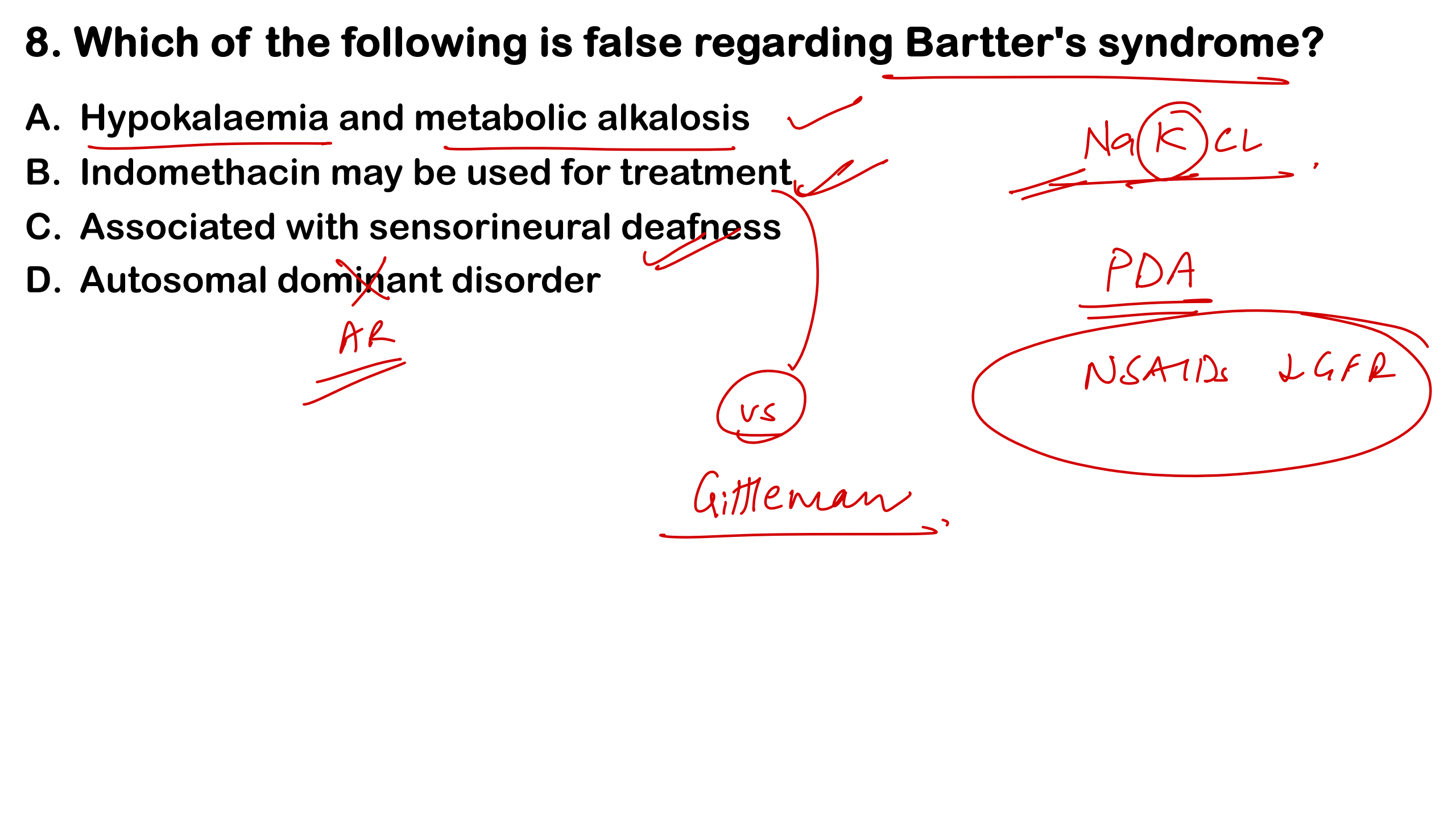
C. Goodpasture syndrome II

D. Hypersensitivity pneumonitis III / IV



8. Which of the following is false regarding Bartter's syndrome?

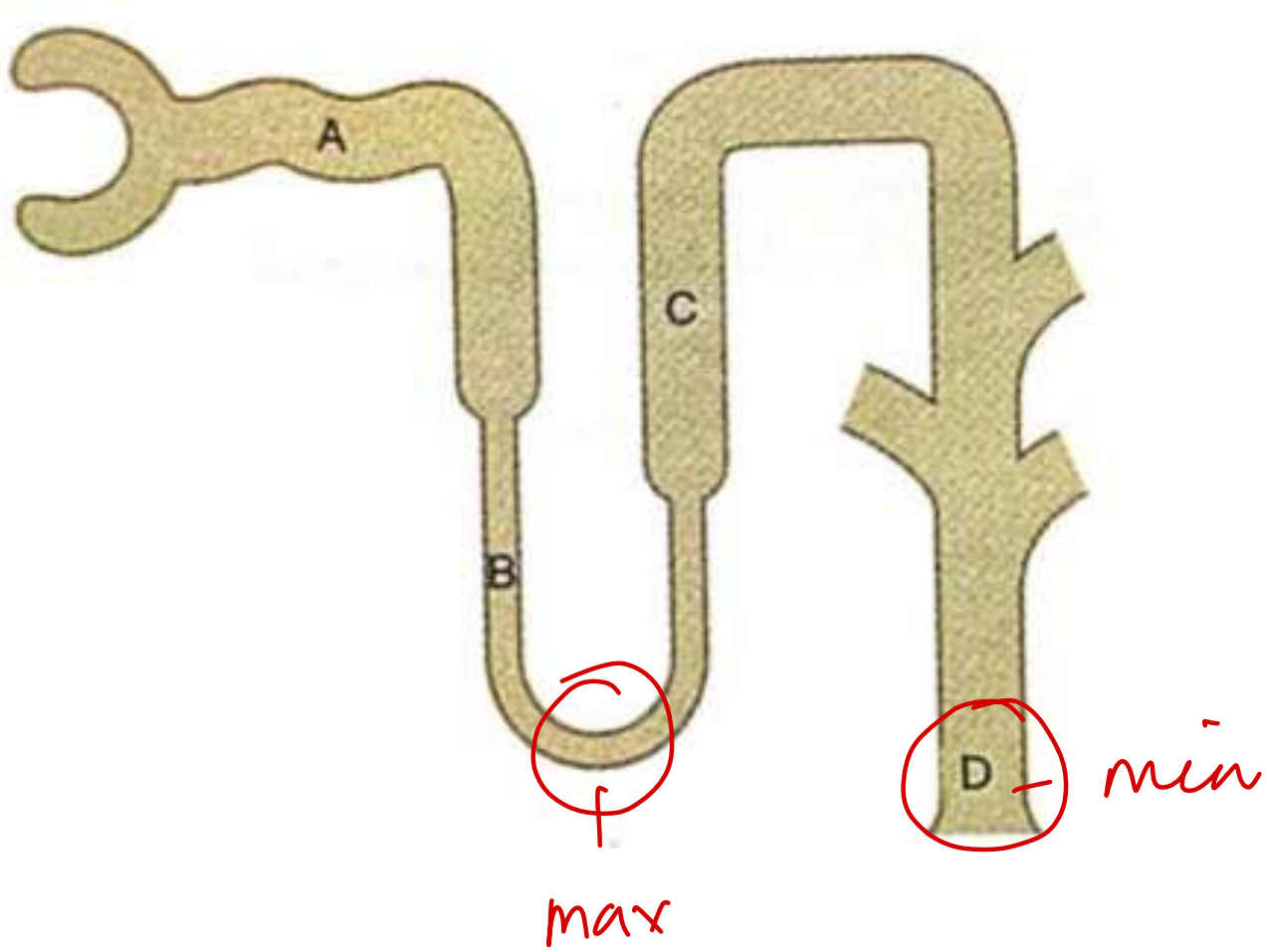
A. Hypokalaemia and metabolic alkalosis
B. Indomethacin may be used for treatment
C. Associated with sensorineural deafness
D. Autosomal dominant disorder



	Gene	OMIM	Inheritance	Protein	Clinical findings
Type I	*SLC12A1*	601678	AR	NKCC2	Prematurity, polyhydramnios, nephrocalcinosis, hypokalemic alkalosis, hyposthenuria
Type II	*KCNJ1*	241200	AR	ROMK1	Prematurity, polyhydramnios, nephrocalcinosis, hypokalemic alkalosis, hyposthenuria, transient hyperkalemia
Type III	*CLCNKB*	607364	AR	CLC-Kb	Hypokalemia, hypochloremic alkalosis
Type IVa	*BSND*	602522	AR	Barttin	Prematurity, polyhydramnios, sensorial deafness, hypokalemia, hypochloremic alkalosis
Type IVb	*CLCNKA* *CLCNKB*	613090	AR	CLC-Ka CLC-Kb	Prematurity, polyhydramnios, sensorial deafness, hypokalemia, hypochloremic alkalosis
Transient BS	*MAGE-D2*	300971	XLR	MAGE-D2	Transient salt wasting, polyhydramnios
AD hypocalcemic hypercalciuria	*CASR*	601198	AD	CaSR	Hypocalcemic hypercalciuria

9. Where in the tubule would a patient with severe central diabetes insipidus have the lowest tubular fluid osmolality?

A. A
B. C
C. B
D. D



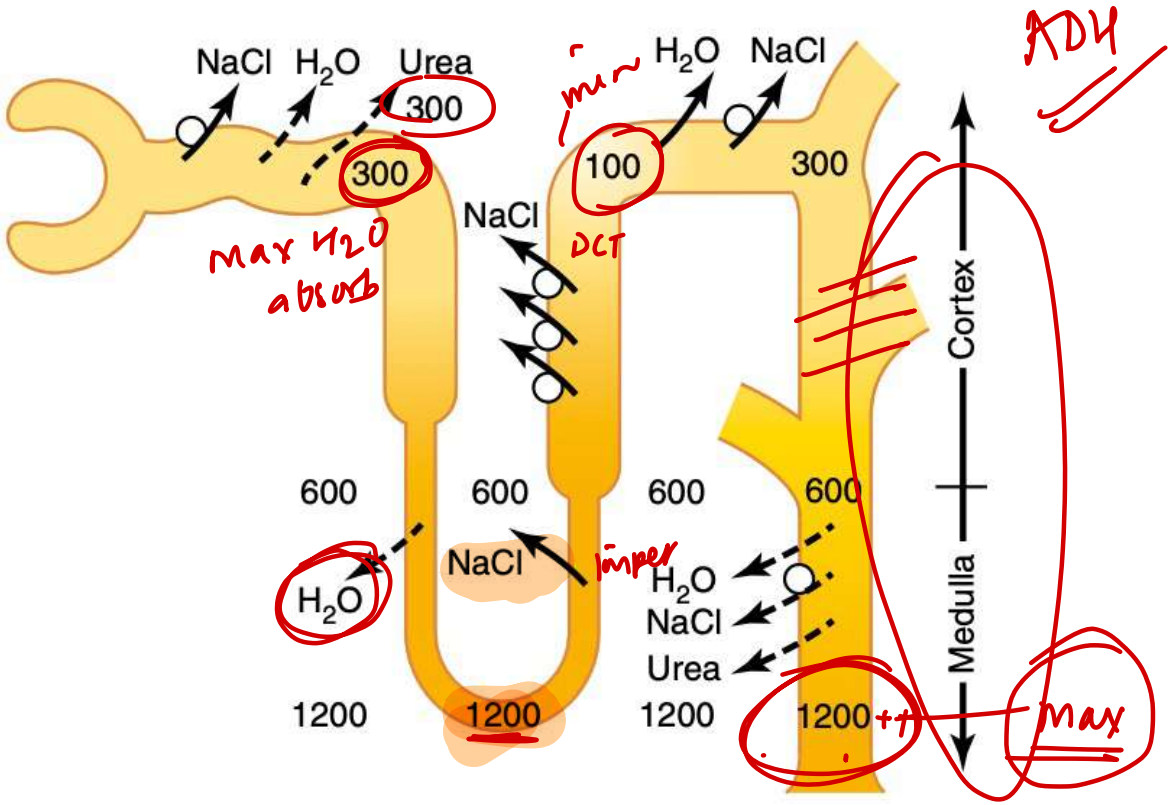


Figure 28-5 Formation of a concentrated urine when antidiuretic hormone (ADH) levels are high. Note that the fluid leaving the loop of Henle is dilute but becomes concentrated as water is absorbed from the distal tubules and collecting tubules. With high ADH levels, the osmolarity of the urine is about the same as the osmolarity of the renal medullary interstitial fluid in the papilla, which is about 1200 mOsm/L. (Numerical values are in milliosmoles per liter.)

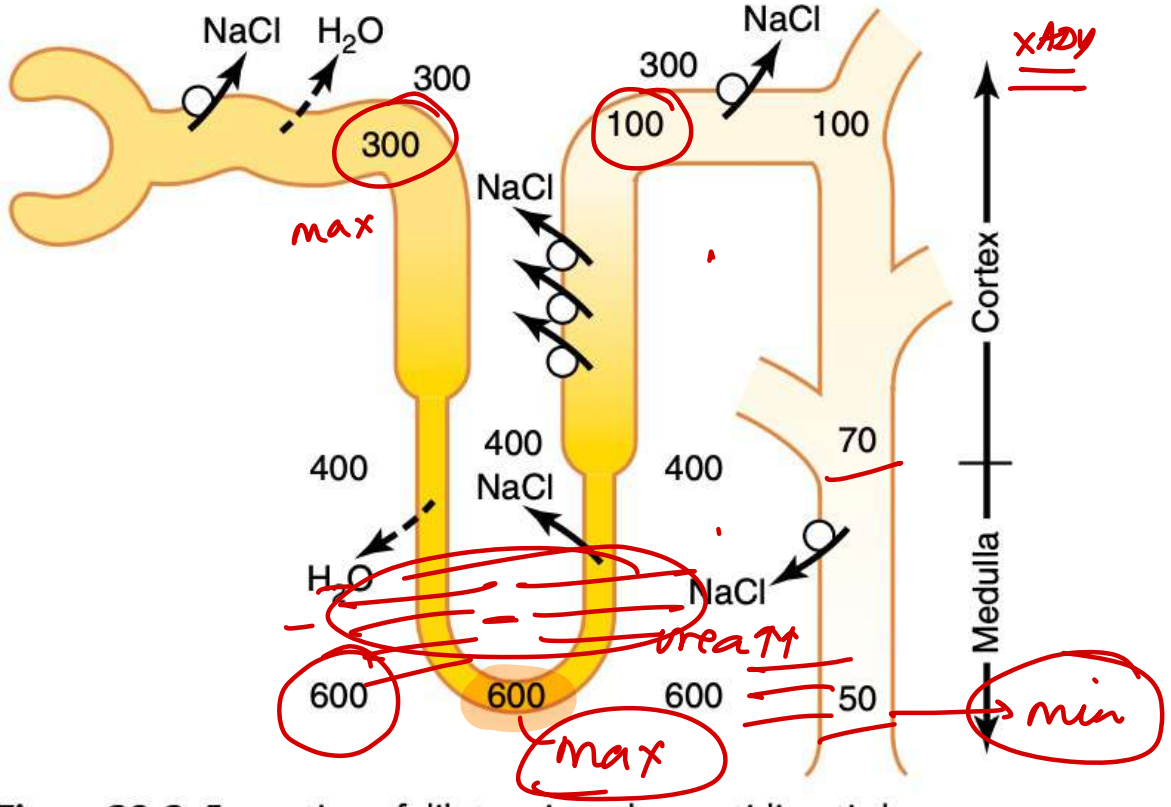


Figure 28-2 Formation of dilute urine when antidiuretic hormone (ADH) levels are very low. Note that in the ascending loop of Henle, the tubular fluid becomes very dilute. In the distal tubules and collecting tubules, the tubular fluid is further diluted by the reabsorption of sodium chloride and the failure to reabsorb water when ADH levels are very low. The failure to reabsorb water and continued reabsorption of solutes lead to a large volume of dilute urine. (Numerical values are in milliosmoles per liter.)

10. A 47-year-old male presents with 400 ml urine output in 24 hours. On biopsy he had crescents with pauci immune glomerulonephritis. What is the next step?

NEET '24

RPGN

Small-vessel

A. Anti GBM antibody

B. ANCA

C. Anti phospholipase A2 receptor antibody

D. Anti nculear antibody

Membranous

11. Which of the following statements is false regarding the role of urea in renal function?

↑uric acid

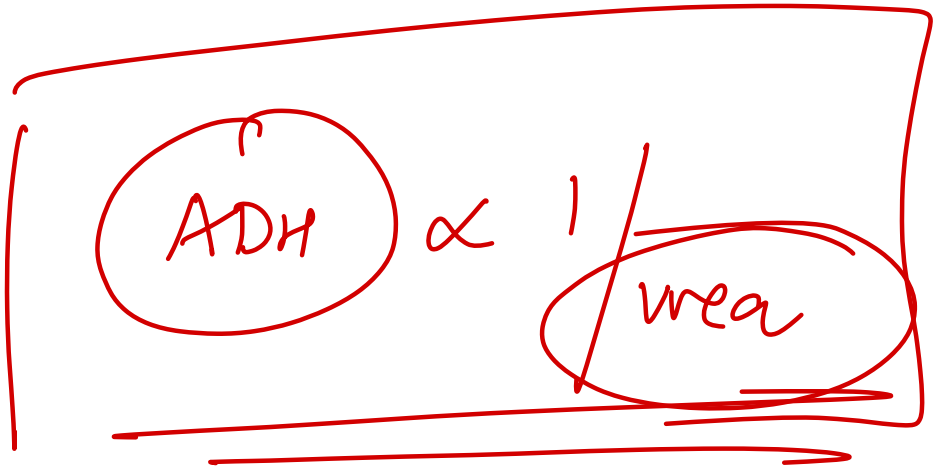
A. A high-protein diet increases the kidneys ' ability to concentrate urine

B. High vasopressin increases the urea deposition in the medullary interstitium

C. Urea is transported by urea transport proteins (UT-A) by primary active transport

facilitated diffusion

D. Helpful in creation of counter current mechanism



12. Which of the following statements is true regarding clear cell carcinoma of the kidney?

1. It is the most common sporadic renal tumor
2. Associated with loss of long arm of chromosome 3
3. Arises from distal convoluted tubule
4. Cells show intracellular accumulation of PAS + Diastase sensitive substance

A. 1, 2, 4

B. 2, 3

C. 1, 3

D. 1, 4

13. A 10-year-old child presented with sore throat, for which oral amoxicillin was prescribed. In a few days, the child developed flank pain and rash. Peripheral blood demonstrated eosinophilia, and urinalysis showed WBC casts. What is the likely diagnosis?

PYQ NEET '24 / INI '24

A. Allergic Interstitial Nephritis

B. Post-streptococcal glomerulonephritis

C. Berger Disease

D. Urinary Tract Infection

EBV - infectious mono

↓

amox

+

RASH

Eosinophilia

AIN

antibiotics

fever

atheroembolic

↓

h/o PCI

14. A 20-year-old male patient arrives at the emergency department. Laboratory results are as follows: pH: 7.34, Sodium: 135 mmol/L, Potassium: 5 mmol/L, Bicarbonate: 12 mmol/L, Chloride: 92 mmol/L, RBS: 450 mg/dL, pCO2 30mmHg. Given these laboratory findings, which of the following statements best describes the patient's acid-base status?

A. DKA
B. RTA
C. High-altitude travel
D. Myasthenia gravis

acidosis HAGMA

$135 - (12 + 92)$

$135^{+5} - 104$

15. A decrease in GFR is associated with which of the following?

A. Increased Renal Blood Flow ↑

B. Increased Glomerular hydrostatic pressure ↑

C. Decreased Bowman's oncotic pressure

D. Decreased Glomerular oncotic pressure ↓

16. Identify the correct match out of the following diuretics and the respective site of action:

A. Osmotic diuretics → Collecting duct

B. Carbonic Anhydrase inhibitors → Proximal convoluted tubule

C. Thiazides → Loop of Henle

D. Aldosterone antagonists → Distal Convoluted tubule

17. A 25 year old patient of bipolar disorder on lithium therapy presented with polydipsia and polyuria. Investigations revealed increased low urinary osmolality. Which of the following channels are involved here?

A. AQP-1
B. AQP-2
C. AQP-3
D. AQP-4 → NMO

Ependymal

NDI

ADH

18. Dialysis will be effective for which of the following?

1. Seizures
2. Metabolic acidosis
3. Peripheral neuropathy
4. Uremic pericarditis
5. Hyperkalemia

reversible

A. 1, 2, 3, 4, 5

B. 2, 3

C. 1, 2, 4, 5

D. 1, 3, 5

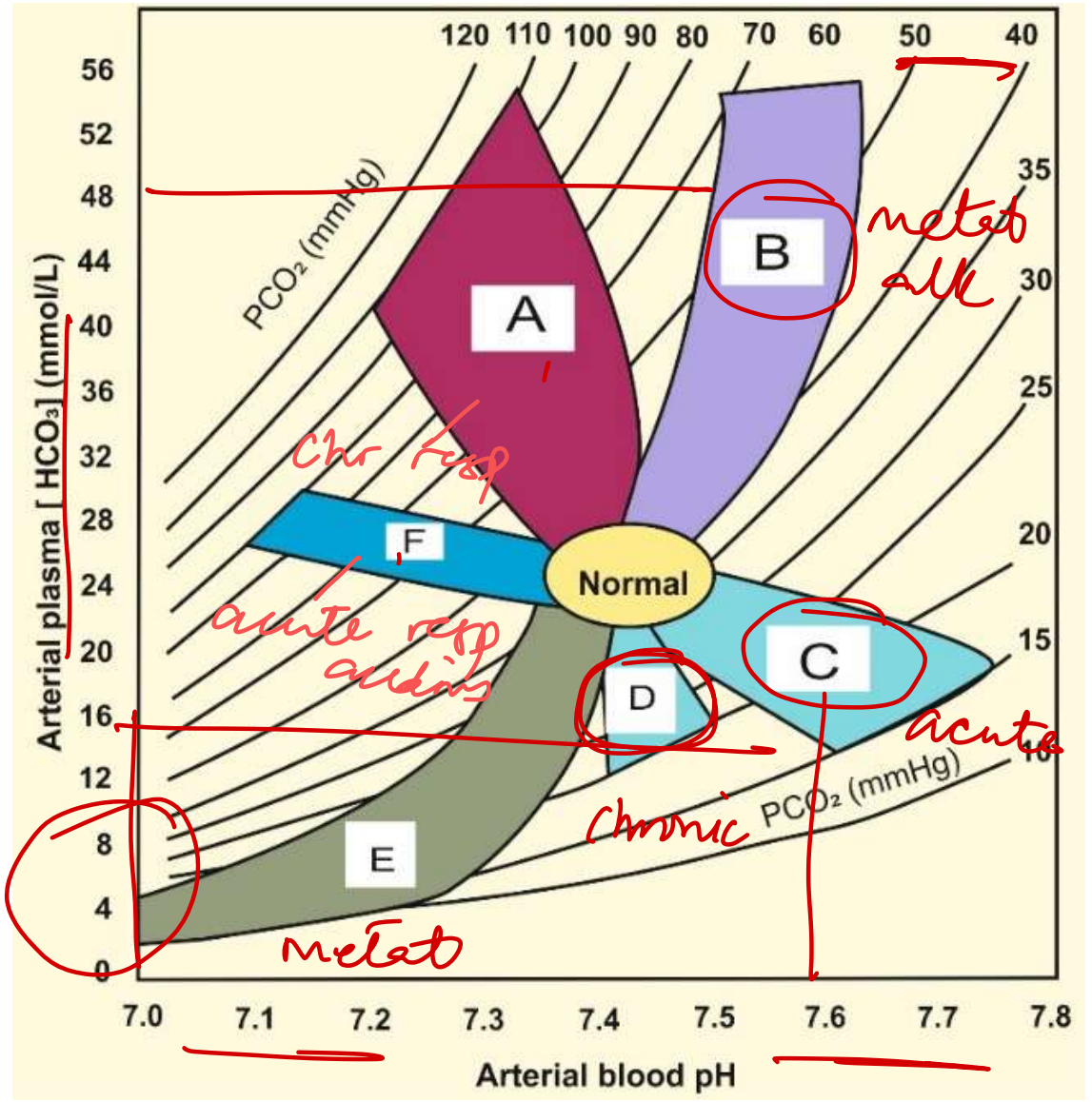
Uremia:
Pericarditis
P.Edema
Ph <7.2
Potassium >6.5
Encephalopathy
Bleeding diathesis

dialysis

plt fn disorders

19. Identify the areas marked C in the following diagram:

A. Acute metabolic alkalosis
B. Acute respiratory alkalosis
C. Chronic respiratory alkalosis
D. Chronic metabolic alkalosis



20. Which of the following medications is incorrect about microalbuminuria?

A. Urine protein levels range from 30 mg/d to 300 mg/d

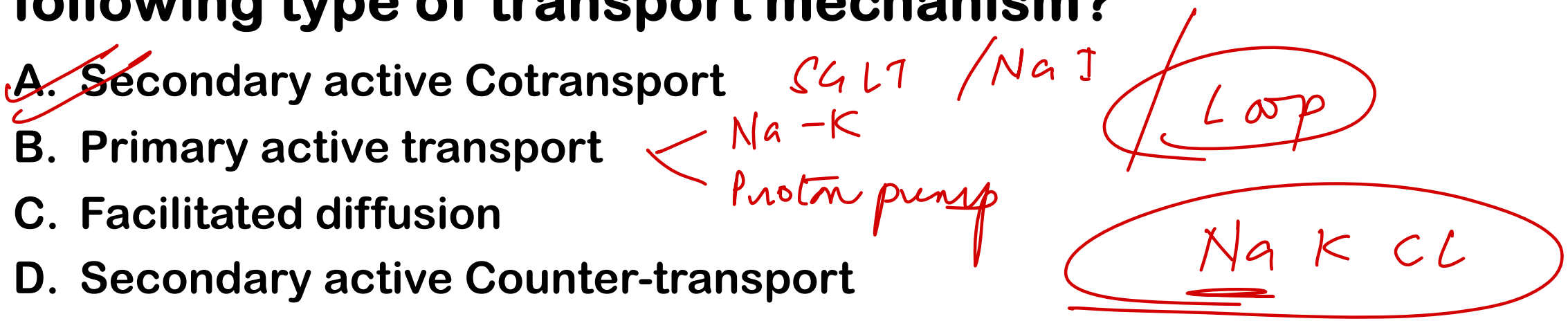
B. It is an independent risk factor for cardiovascular morbidity in diabetic patients

C. It is the earliest marker of diabetic nephropathy

D. It is detected by routine dipstick method

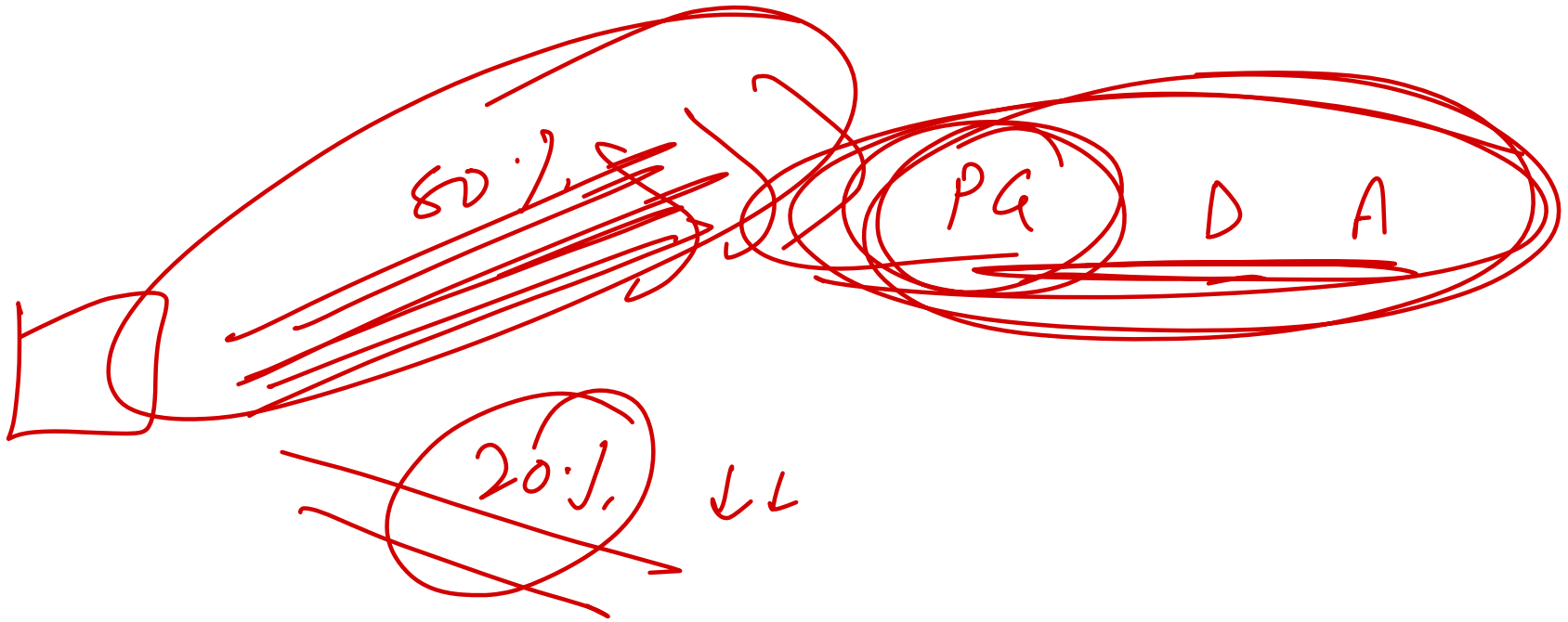
21. A patient presents to the OPD with complaints of breathlessness on lying down and chest pain. He was diagnosed to have congestive cardiac failure and was administered torsemide. This drug inhibits which of the following type of transport mechanism?

A. Secondary active Cotransport
B. Primary active transport
C. Facilitated diffusion
D. Secondary active Counter-transport



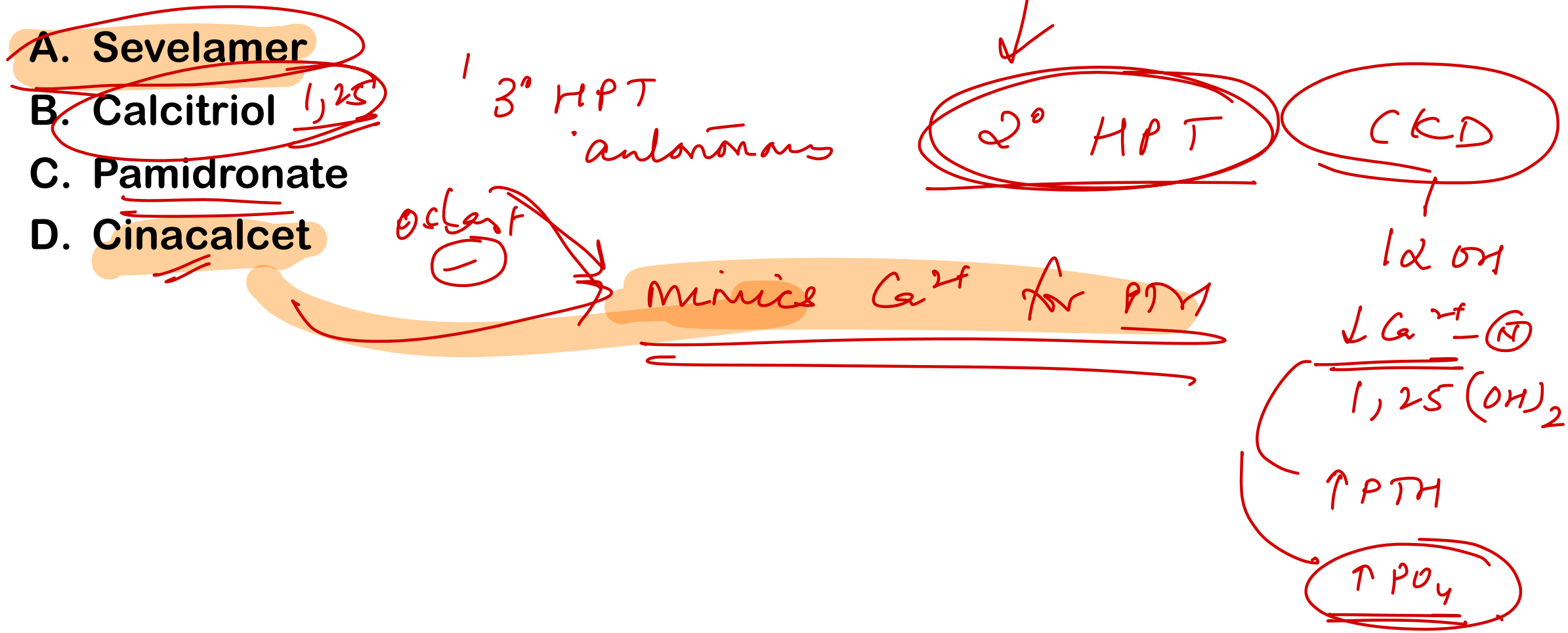
22. What is the effect of prostaglandins on renal blood flow?

A. Increase blood flow to cortex and medulla
B. Increase blood flow to cortex and decrease blood flow to medulla
C. Decrease blood flow to cortex as well as medulla
D. Decrease blood flow to cortex and increase blood flow to medulla



23. A 50-year-old man who has been on dialysis for 2 years presents with bone pain and bowing of legs. Further evaluation reveals hyperparathyroidism and hyperphosphatemia. What is the initial treatment of choice in this patient?

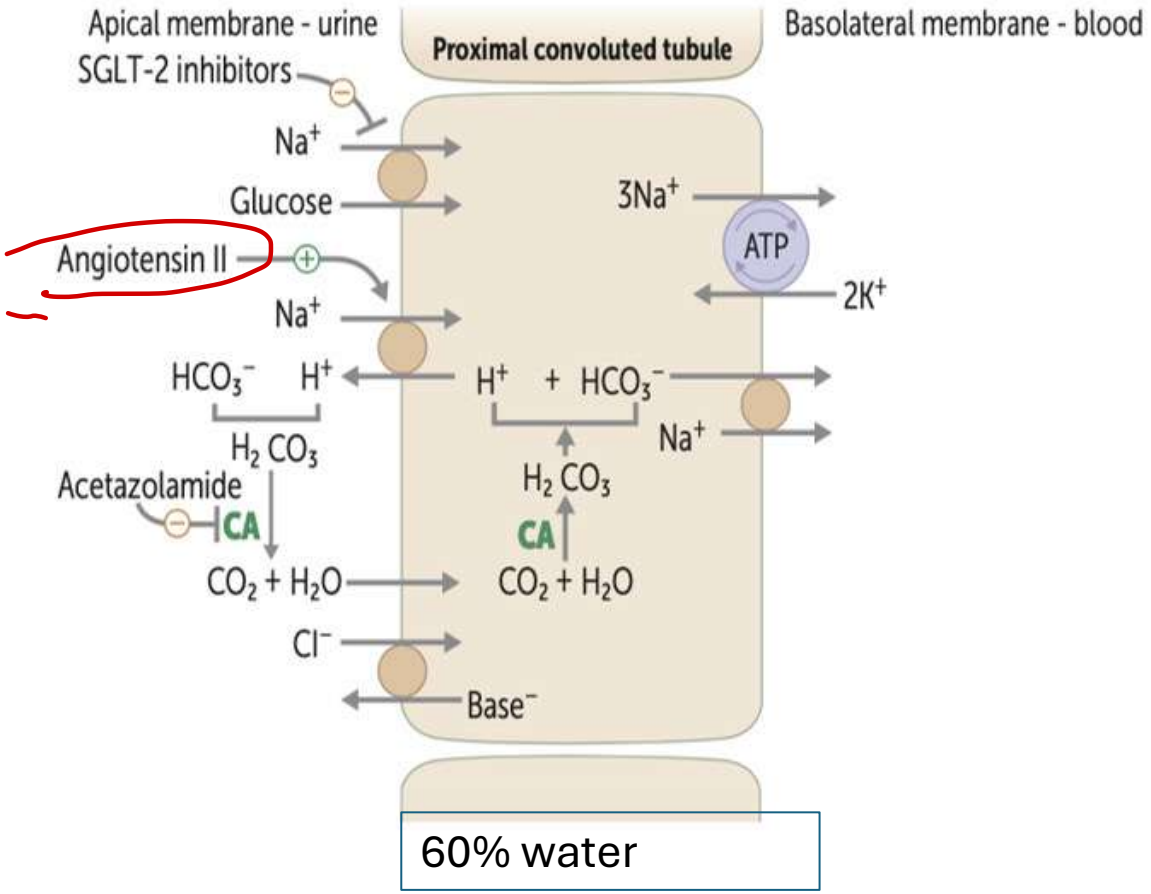
A. Sevelamer
B. Calcitriol
C. Pamidronate
D. Cinacalcet



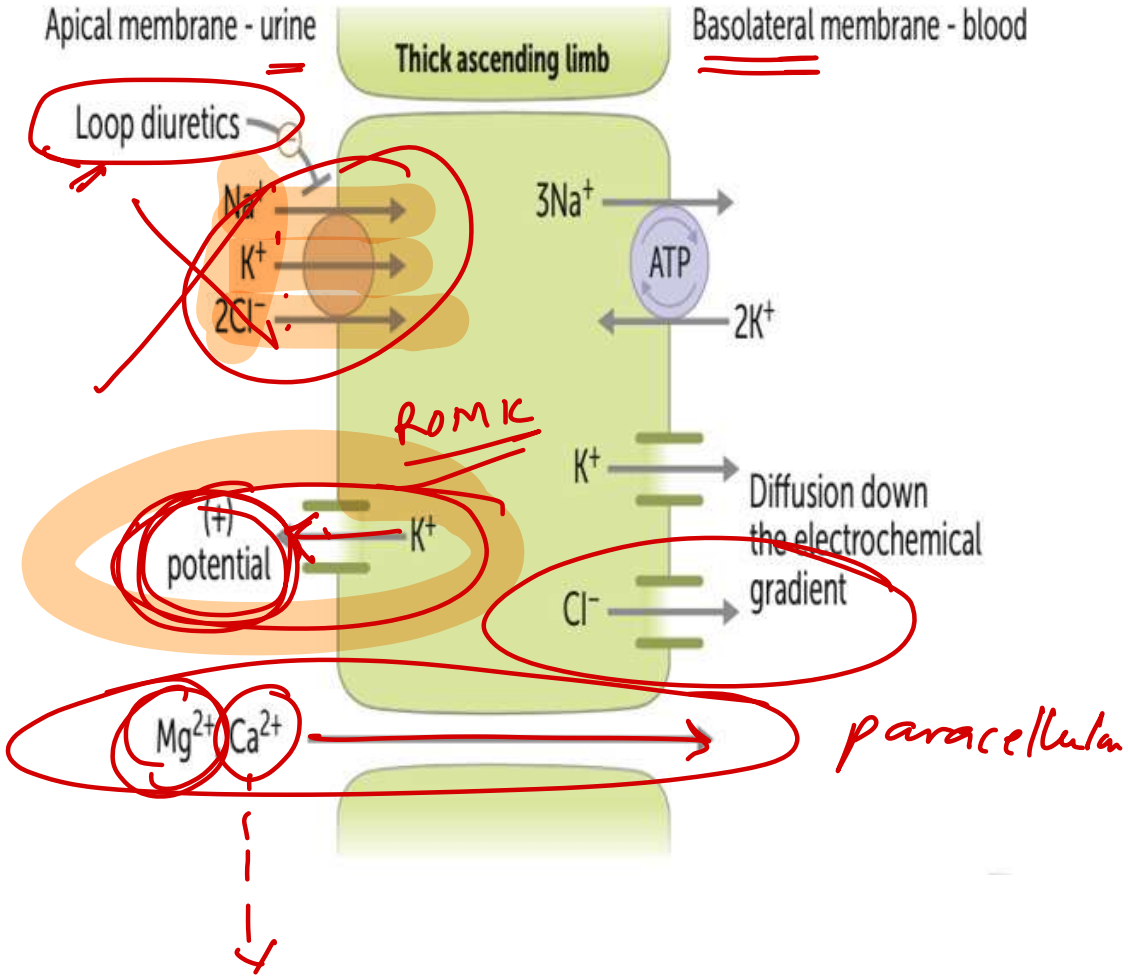
24. Several hormones regulate the tubular reabsorption of water and electrolytes at different sites in the nephron physiologically in a patient. Which of the following combination is correct?

A. Angiotensin in distal tubule PCT
B. Aldosterone in cortical collecting duct (T)
C. ADH in proximal tubule
D. ANP in loop of Henle PCT.

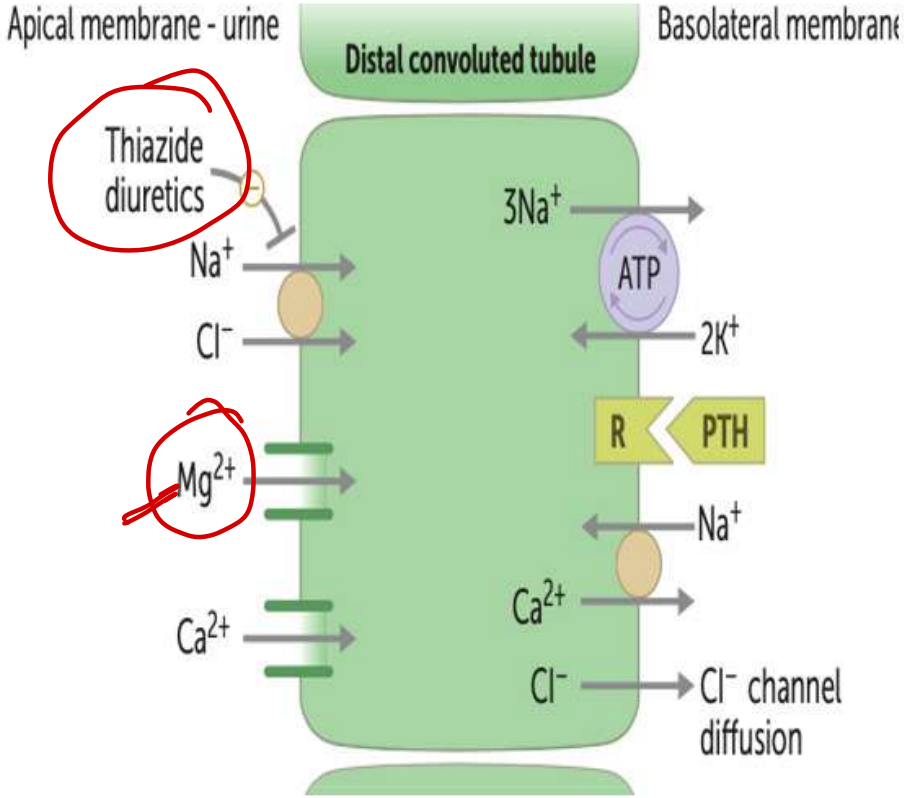
RENAL TUBULES

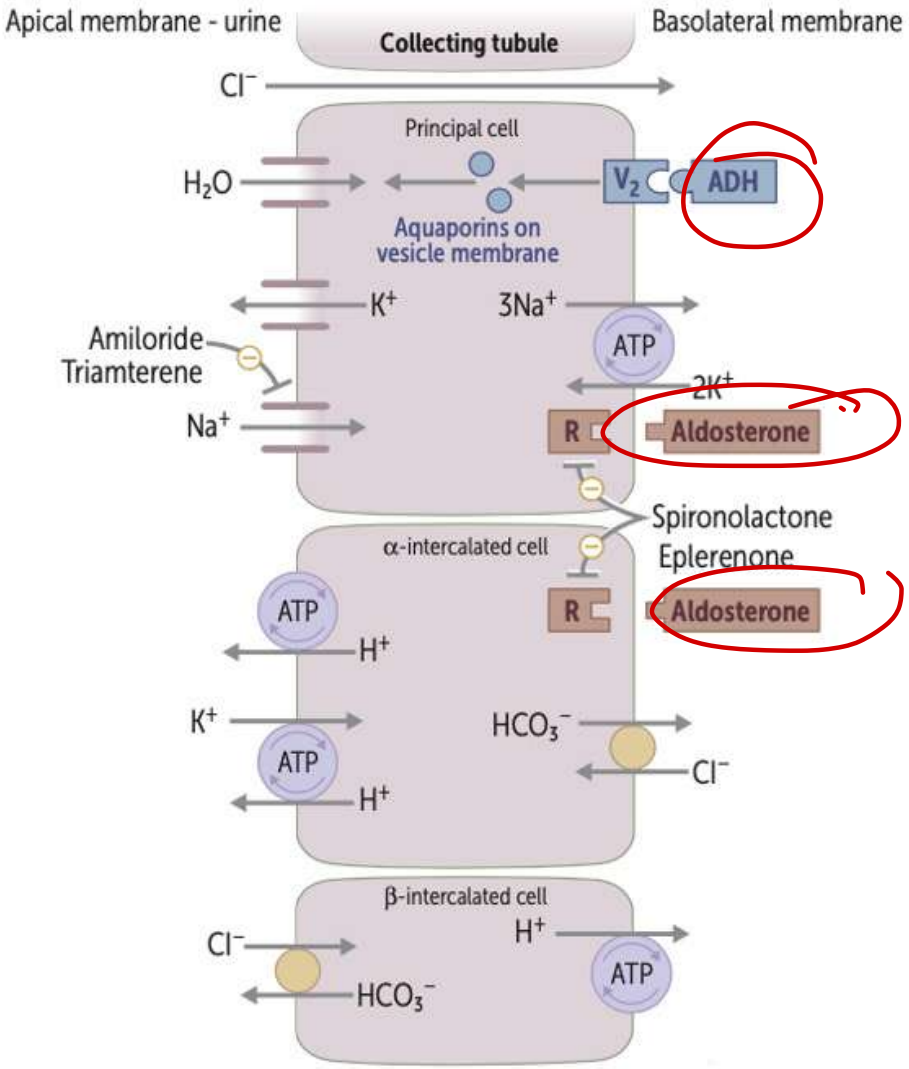


60% water



THIN DESCENDING LOH:





1-2% water absorption: no ADH
10% water absorption: ADH

25. Which of the following ions in the thick ascending limb of the loop of Henle is responsible for the resorption of divalent ions?

A. Na^+

B. K^+

C. HCO_3^-

D. H^+

26. n a patient, urine flow rate is 10 mL/min; plasma inulin is 2 mg/mL; and urine inulin is 25 mg/mL. Which of the following is true assuming GFR to be normal?

A. Inulin clearance = GFR
B. Inulin clearance > GFR
C. Inulin clearance < GFR
D. GFR cannot be calculated

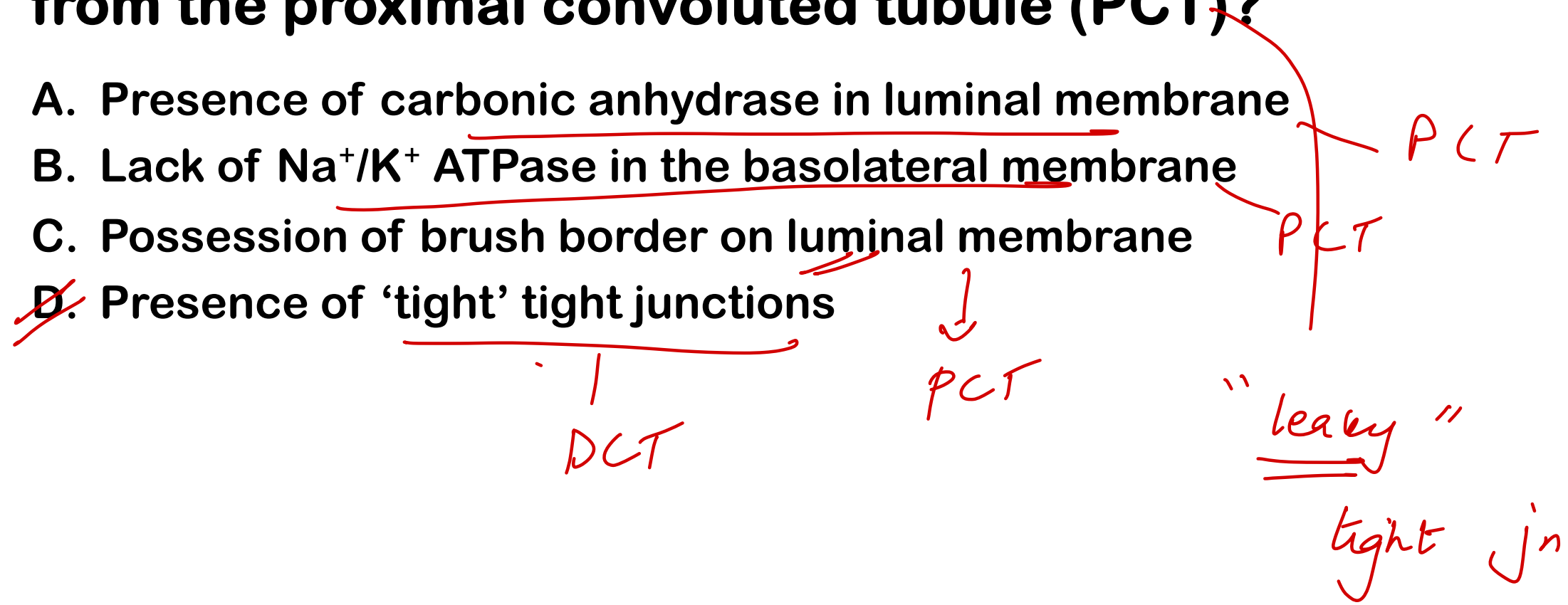
$$= \frac{U \times V}{P}$$

$$= \frac{10 \times 25}{2}$$

$$= 125$$

27. What differentiates the distal convoluted tubule (DCT) from the proximal convoluted tubule (PCT)?

A. Presence of carbonic anhydrase in luminal membrane
B. Lack of Na^+/K^+ ATPase in the basolateral membrane
C. Possession of brush border on luminal membrane
D. Presence of 'tight' tight junctions



28. A 4-week-old, full-term boy is brought to the emergency department due to vomiting. His parents describe the emesis as undigested formula without blood or bile. The vomiting occurs after feeds and has increased in frequency and force over the past 3 days. Examination shows a sunken anterior fontanelle and dry mucous membranes. Arterial blood gas analysis is most likely to reveal which of the following sets of values?

A. pH 7.29, PaCo2 30, HCO3 14, Anion gap Elevated

B. pH 7.30, PaCo2 50, HCO3 28, Anion gap normal

C. pH 7.48, PaCo2 46, HCO3 34, Anion gap normal

D. pH 7.53, PaCo2 22, HCO3 22, Anion gap normal

metab alkalosis

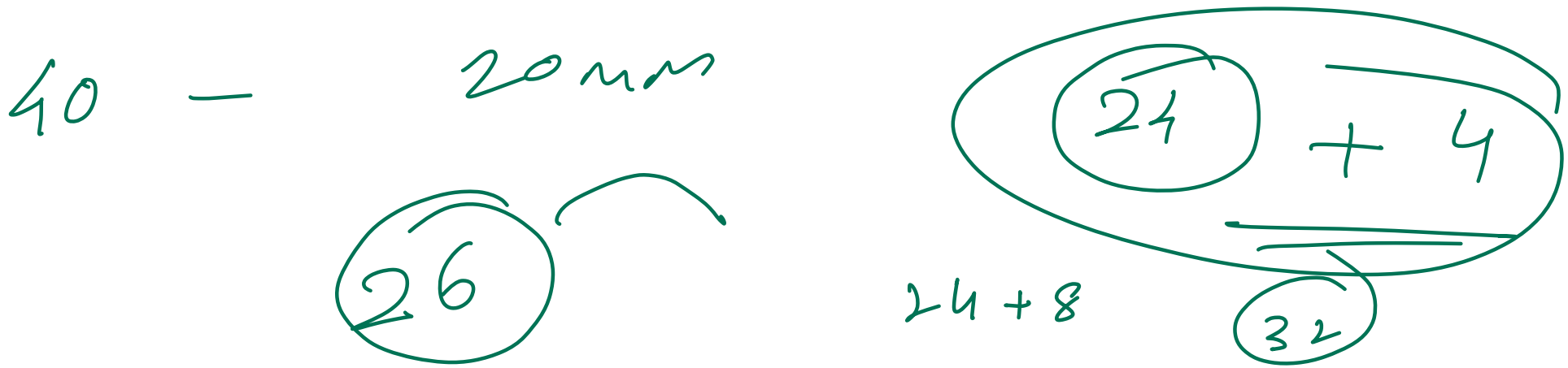
29. A 44-year-old man comes to the physician because of a 2-week history of lower extremity swelling and frothy urine. He has a history of chronic hepatitis C infection. Physical examination shows 3+ pitting edema of the lower legs and ankles. Further evaluation of this patient is most likely to show which of the following?

A. Decreased cholesterol
B. Increased lipoproteins
C. Increased antithrombin III
D. Increased immunoglobulins

NS
↑ lipid
↓ — Thrombosis
Ig ↓ — recurrent infn
Renal vein Thrombosis

30. A 60-year-old with a history of COPD is brought to the clinic with worsening dyspnea. ABG was done and pH was 7.3, pCO2 was 60 mmHg with HCO3- being 28 mEq/L. Which of the following is seen in this patient?

A. Respiratory acidosis, hyperventilation, inadequate metabolic compensation
B. Respiratory alkalosis, hypoventilation, inadequate metabolic compensation
C. Respiratory acidosis, hypoventilation, inadequate metabolic compensation
D. Respiratory acidosis, hypoventilation, adequate metabolic compensation



Acid-base imbalance

pH
Co2
HCo3-

	pH	PRIMARY CHANGE	COMPENSATION
METABOLIC ACIDOSIS	↓	HCO_3 ↓	CO_2 ↓
METABOLIC ALKALOSIS	↑	HCO_3 ↑ 1 meq ↑	CO_2 ↑ 0.7 ↑
RESPIRATORY ACIDOSIS	↓	CO_2 ↑ 10 mm ↑	HCO_3 ↑ A – 1. C – 1.
RESPIRATORY ALKALOSIS	↑	CO_2 ↓	HCO_3 ↓ A – 2. C – 5.

10 mm ↓

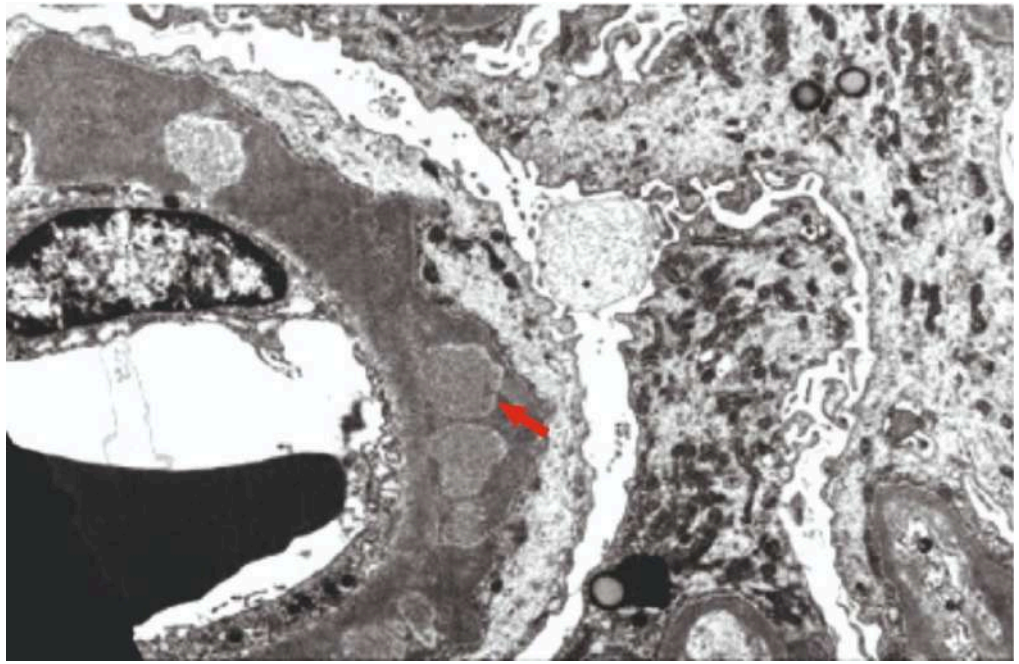
Winter's

Pco2 =1.5[HCO3]+8 ± 2

2

31.Given below is an electron microscopy image showing deposits in the kidney. What could be the diagnosis?

A. Goodpasture syndrome
B. Membranoproliferative glomerulonephritis
C. Membranous nephropathy
D. Minimal change disease



32. 71-year-old man has had decreased urine output <500 mL per day for the past 3 days. Physical examination shows vital signs with temperature 37° C, pulse 88/min, respiratory rate 18/min, and blood pressure 85/60 mm Hg. He has peripheral edema and diffuse rales on auscultation of the chest. Urinalysis shows specific gravity 1.019 and no protein, blood, glucose, ketones, WBCs, RBCs, or casts. His serum creatinine is 3.3 mg/dL, and urea nitrogen is 62 mg/dL. The fractional excretion of sodium (FENa) is <1%. Which of the following underlying conditions is he most likely to have?

A. Dilated cardiomyopathy

B. Membranous nephropathy

C. ATN

D. Urothelial carcinoma

BUN / Cr = 62 / 3.3

Renal

Renal

Post renal -

Pre-renal

20 : 1

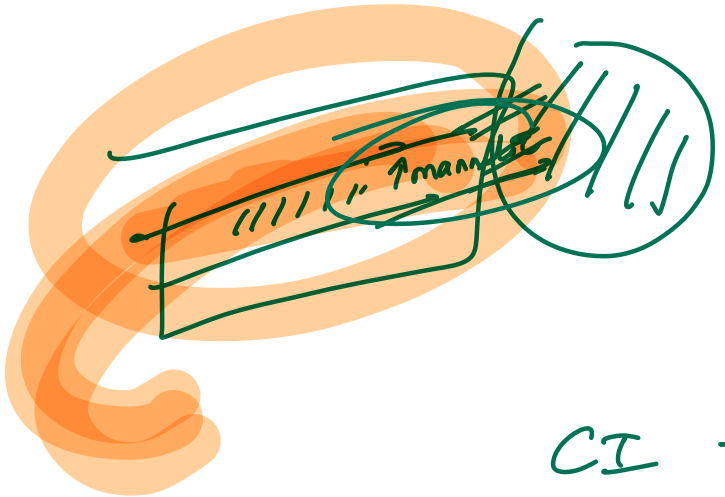
33. Which of the following can be given to a patient with eGFR of <30?

pya

A. Chlorothiazide
B. Chlorthalidone
C. Metolazone
D. Hydrochlorothiazide

34. A 62-year-old hypertensive man presents with headache and altered consciousness. CT shows right basal ganglia hemorrhage with midline shift. Mannitol is given IV. What is the expected acute effect of this medication?

A. Serum sodium ↓, Tubular flow ↑, Filtrate osmolality ↑
B. Serum sodium ↓, Tubular flow ↓, Filtrate osmolality ↓
C. Serum sodium ↑, Tubular flow —, Filtrate osmolality ↑
D. Serum sodium —, Tubular flow ↓, Filtrate osmolality ↑



↑ Intravasc fluid volume

CI — P. edema CHF

35. What is a patient's urine analysis most likely to show if they have hematuria and hypercalciuria?

A. Isomorphic RBCs
B. RBC casts
C. Nephrotic range proteinuria
D. Eosinophiluria

INI

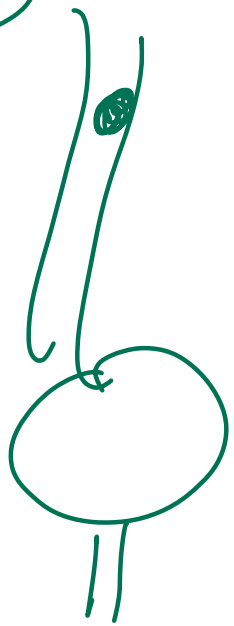
Glomerular — dysmorphic
RBC cast

VS

Non glomerular

Isomorphic

Crystals
++
Ca^{++}



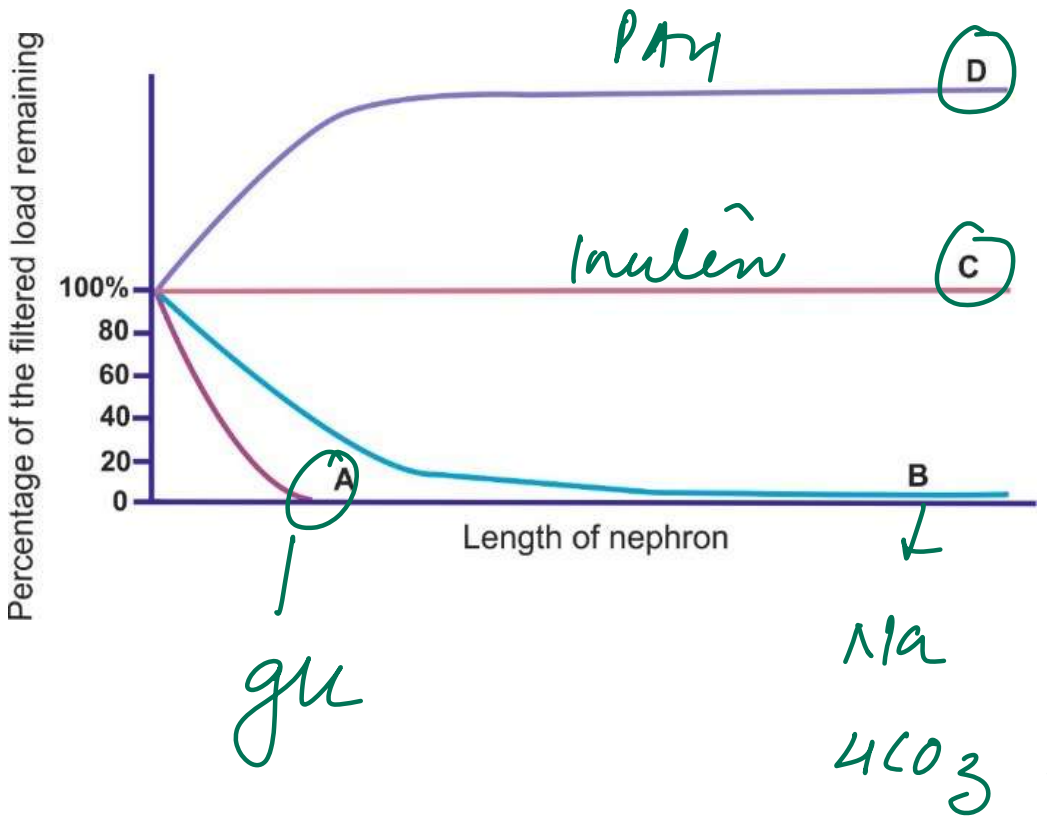
36. Identify the correctly matched pair of substances with their renal clearance from the graph given below?

A. A - Glucose, B - PAH, C - Bicarbonate and D - Inulin

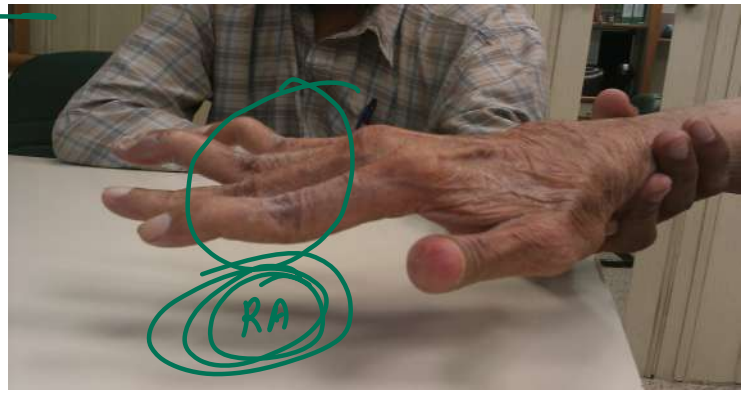
B. A - Glucose, B - Bicarbonate, C - Inulin and D - PAH

C. A - PAH, B - Inulin, C - Glucose and D - Bicarbonate

D. A - Inulin, B - Glucose, C - Bicarbonate and D – PAH



37. 72-year-old woman is brought to the office by her daughter for evaluation of leg swelling since 3 months. The patient has had fatigue and joint pains for the past several years, which she attributes to old age. The daughter states that the patient seems tired all the time, barely eats anything, and "is just not herself." The patient takes no medication and does not use tobacco, alcohol, or illicit drugs. Blood pressure is 116/72 mm Hg and pulse is 78/min and regular. The lungs are clear on auscultation and heart sounds are normal. The abdomen is soft and nontender. Examination of the lower extremities reveals 3+ pitting edema. There are scattered ecchymoses, and hand examination findings are shown.



Laboratory results are as follows:

Creatinine: 0.9 mg/dL

Calcium: 9.1 mg/dL

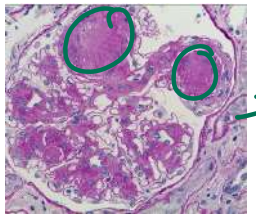
Glucose: 94 mg/dL

Allbumin: 2.8 g/dL

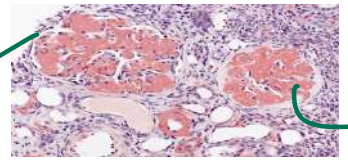
Urinalysis reveals 4+ protein with no cells or casts. A renal biopsy of this patient is most likely to show which of the following findings?

A.

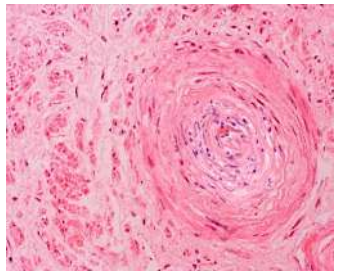
B.



C.



D.



38. A 40-year-old man comes to the physician because of a two-week history of fatigue, lower extremity edema, and frothy urine. He has no history of serious illnesses. Physical examination shows symmetric pitting edema of lower extremities. Laboratory studies show a serum creatinine level of 1.1 mg/dL. Urinalysis shows 4+ proteinuria. Electron microscopy of the specimen obtained from kidney biopsy shows dense deposits within glomerular basement membrane. Immunofluorescence microscopy is positive for C3, not immunoglobulins. Which of the following is the most likely pathophysiologic mechanism that explains this patient's condition?

MPGN type 2

A. Anti-GBM-antibodies

B. Circulating immune complexes

C. Persistent activation of the alternative complement pathway

C3

D. Cell-mediated injury

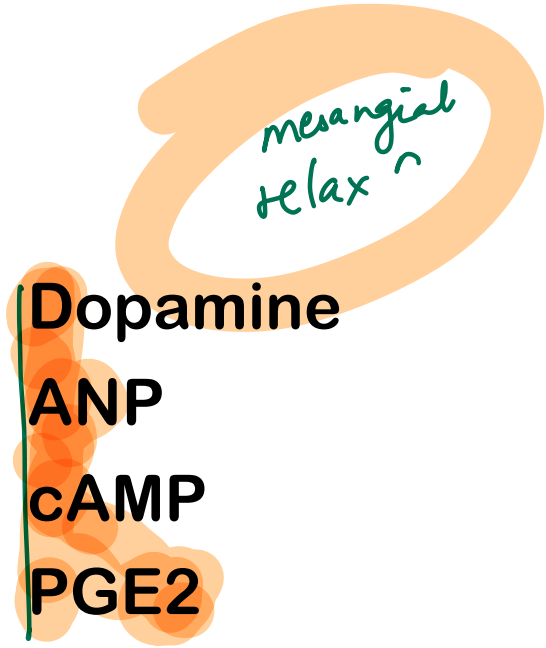
39. Which of these is not an action of atrial natriuretic peptide?

A. Afferent arteriole dilation

B. Mesangial constriction

C. Decreased sodium absorption in PCT

D. Inhibition of sodium reabsorption in medullary collecting duct


mesangial
relax
Dopamine
ANP
cAMP
PGE2

40. A 27-year-old man comes to the physician because of a 1-day history of fever and joint pains. He is being treated with cephalexin for a skin infection. His urine has turned darker. His temperature is 38.5° C (101.3° F), blood pressure is 125/70 mm Hg, pulse is 90/min, and respirations are 15/min. Examination shows a skin rash; examination otherwise shows no abnormalities. Urinalysis shows: 8 RBCs/HPF, 12 WBCs/HPF with white cell casts, eosinophiluria, and a mild degree of proteinuria. Laboratory studies show a BUN of 40 mg/dl and serum creatinine of 2.2 mg/dl. Which of the following is the most appropriate next step in management?

A. Discontinue cephalexin
B. Start iv fluids
C. Start oral ciprofloxacin
D. Get USG to rule out obstructive uropathy

AIN

1st - discontinue offending

41. Which of the following sodium transporters are present maximally in early part of PCT?

PYQ AIIMS

Na-K-ATPase

Na-glucose cotransport

Na-H antiporter

Na-HCO3 symporter late

A. 3, 4, 1

B. 4, 2

C. 1, 2, 3

D. 1, 4

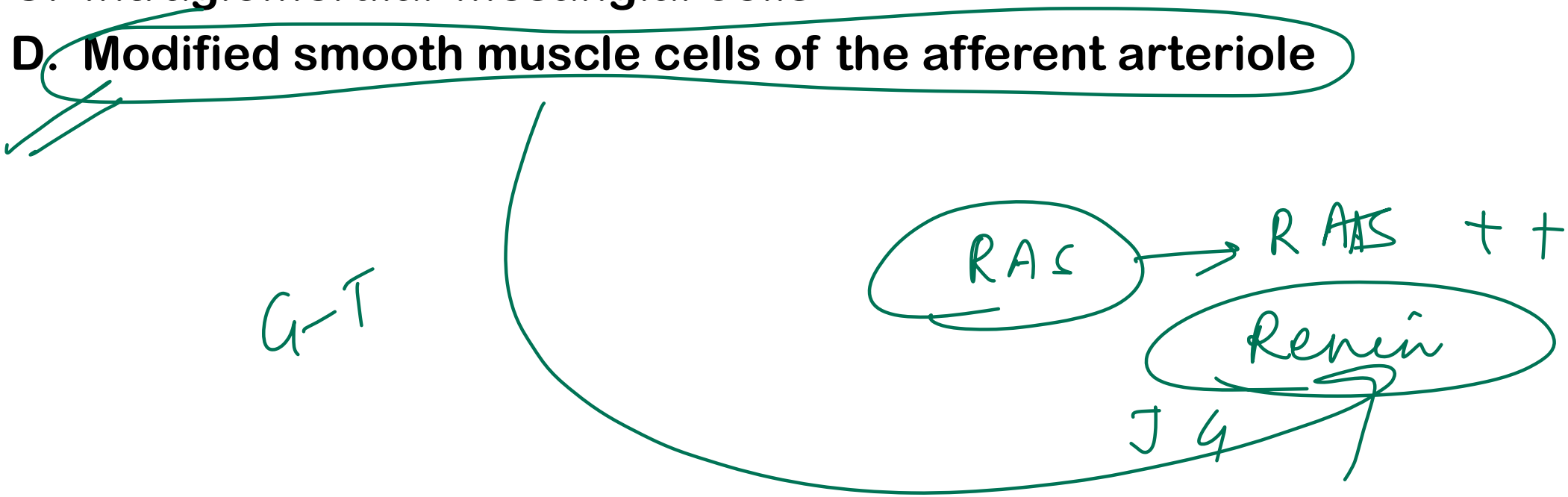
42. Scientists studying the kidney's response to hypoperfusion apply a clip to a pig's right renal artery that reduces blood flow to the kidney by about 7 %. After 6 months, they perform a right nephrectomy and examine the glomeruli and tubules microscopically. Which of the following cell types would be most likely to undergo hyperplasia as a result of the clip placement?

A. Cuboidal epithelial cells of the proximal tubules

B. Endothelial cells of the efferent arteriole

C. Intraglomerular mesangial cells

D. Modified smooth muscle cells of the afferent arteriole



43. Erythropoietin is produced by:

Kidney

Liver

Spleen

Lung

Select the correct answer given below code:

A. 1 only

B. 2 only

C. 1 and 2

D. 2, 3, and 4

44. A 70-year-old man is brought to the emergency department by staff of the group home where he resides because of worsening confusion for the past week. He has a history of major depressive disorder and had an ischemic stroke 4 months ago. Current medications are aspirin and sertraline. His pulse is 78/min, and blood pressure is 135/88 mm Hg. Physical examination shows moist oral mucosa, normal skin turgor, and no peripheral edema. While in the waiting room, he has a generalized, tonic-clonic seizure. Laboratory studies show a serum sodium of 119 mEq/L and an elevated serum antidiuretic hormone concentration. Which of the following sets of additional laboratory is likely in the patient?

A. Serum osmolarity increased, Urine sodium increased, Serum aldosterone increased

B. Serum osmolarity decreased, Urine sodium increased, Serum aldosterone decreased

C. Serum osmolarity increased, Urine sodium decreased, Serum aldosterone increased

D. Serum osmolarity decreased, Urine sodium increased, Serum aldosterone increased

45. A 47-year-old woman comes to the physician because of a 2-week history of gradually worsening facial and lower extremity swelling. She has had a 4-kg weight gain during this time. Her blood pressure is 150/88 mm Hg. Examination shows periorbital edema and 2+ pretibial edema bilaterally. A 24-hour collection of urine shows 4.0 g of proteinuria. Microscopic examination of a kidney biopsy specimen shows thickening of the glomerular basement membrane. Electron microscopy shows dense subepithelial deposits. Further evaluation is most likely to show which of the following?

A. Anti-phospholipase A2 receptor antibodies

B. Anti-myeloperoxidase antibodies

C. Anti-streptolysin O antibodies

D. Anti-proteinase 3 antibodies

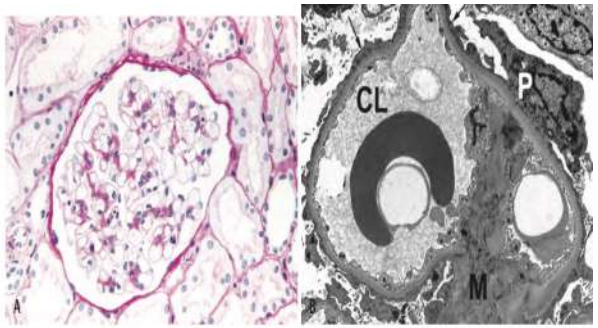
NS

membranous

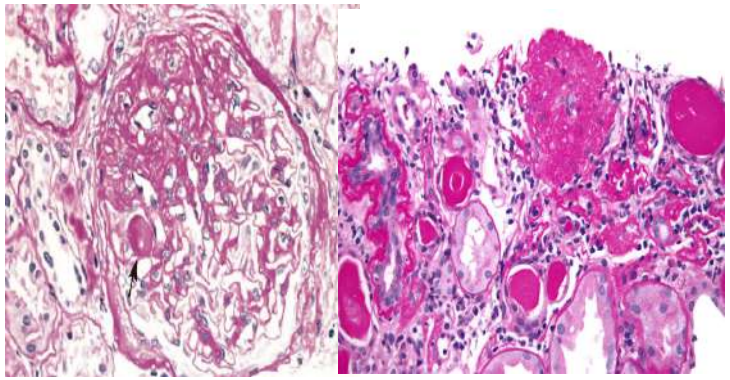
NEPHROTIC SYNDROME

Proteinuria >3.5g/d, Edema, frothy urine

Child
Prior URTI/ immunisation
NSAIDS, Hodgkin's lymphoma

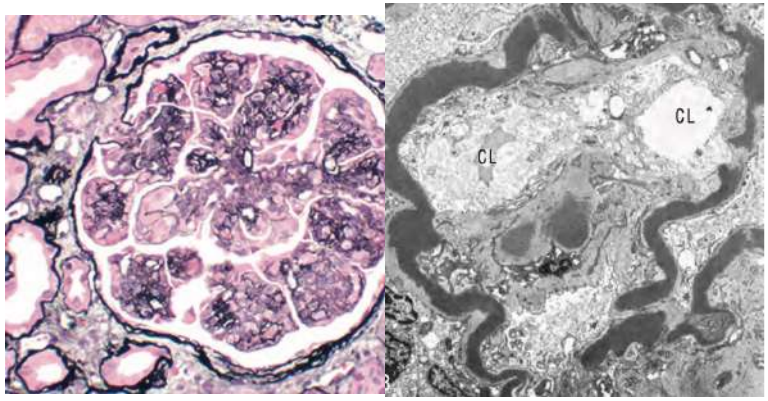


Adults
Heroin
HIVAN:APOL1 polymorphism
Reflux nephropathy
Obesity
Sickle cell anemia
NPHS2: Podocin-AR FSGS
Actinin 4: AD FSGS
TRPC6: Adult FSGS



MC in elderly
Adenoca lung / colon/ melanoma
PLAR2
Thrombospondin, CD10

Adult
HBV/HCV /malaria



SRNS:
DOC:
Steroid dependent NS:
MMF
Cyclophosphamide
Levamisole

Nephrin NPHS1-Finnish type: Congenital NS

46. A 54-year-old man is brought to the emergency department by his wife because of high fever and confusion for the past 10 hours. His wife reports that 1 week ago he underwent an emergency appendectomy. His temperature is 40.1°C (104.2°F), pulse is 132/min, and blood pressure is 74/46 mm Hg. He is oriented only to person. Physical examination shows a surgical wound in the right lower quadrant with purulent discharge. The skin is warm and dry. Serum studies show a sodium concentration of 138 mEq/L, potassium concentration of 3.7 mEq/L, and lactate concentration of 3.5 mEq/L (N = 0.5-2.2 mEq/L). Arterial blood gas analysis on room air shows:

pH	7.21
pCO_2	36
HCO_3^-	12
O_2 saturation	87%

metab acidosis + resp acidosis

Lactic acidosis

Which of the following is the most likely explanation for these laboratory changes?

A. Hyperventilation
B. Primary adrenal insufficiency
C. Salicylate toxicity
D. Respiratory fatigue

CO_2 ↓ resp alk

HAGMA + ↑ventil^n

Hyperventn

CO_2 ↑

Winter's formula

$CO_2 = 26 \pm 2$

$(1.5 \times HCO_3) + 8 \pm 2$

$(1.5 \times 12) + 8 \pm 2$

$18 + 8 \pm 2$

47. A 32-year-old man is brought to the emergency department due to progressive confusion and lethargy over the past several hours. The patient has no significant medical history but he has been depressed since a recent breakup with his girlfriend. He works at an automotive repair shop, and one of his coworkers reported seeing the patient consume antifreeze prior to symptom onset. Blood pressure is 110/66 mm Hg, pulse is 110/min, and respirations are 24/min. Bilateral costovertebral angles are tender to percussion. Bladder catheterization yields a small amount of bloody urine. Which of the following is most likely to be seen on this patient's arterial blood gas analysis?

A. pH 7.3, pO2 95, pCO2 24, HCO3 19
B. pH 7.1, pO2 47, pCO2 45, HCO3 19
C. pH 7.6, pO2 95, pCO2 18, HCO3 40
D. pH 7.4, pO2 95, pCO2 24, HCO3 29

Ethylene glycol

HAGMA

48. 54-year-old woman comes to the emergency department due to several hours of severe epigastric abdominal pain radiating to her back. She has also had nausea and several episodes of vomiting. The patient has a history of occasional upper abdominal pain after eating but has never had such severe symptoms. She has no other medical issues and takes no medications. Temperature is 37.6 C (99.6 F), blood pressure is 110/66 mm Hg, pulse is 118/min, and respirations are 24/min. The patient appears to be in moderate distress. Mucous membranes are dry. The abdomen is distended with marked epigastric tenderness. Bowel sounds are decreased. Laboratory results are as follows:
Hematocrit: 48%
Leukocytes: 18,800/mm^3
Total bilirubin: 2.2 mg/dL
Alkaline phosphatase: 370 U/L
Lipase: 2,192 U/L

Hypovolemic

Which of the following sets of renal findings are most expected in this patient?

RAAS ↑

	Renin secretion	Efferent arteriolar resistance	Tubular sodium reabsorption
a)	High	High	High
b)	High	Low	High
c)	Low	Low	Low
d)	Low	High	Low

ACE

49. 37-year-old woman comes to the OPD due to worsening leg swelling for the past 2 months. She has also felt excessively tired and has had achy pain in her hands. Serum creatinine level is 1.8 mg/dL. Urinalysis is positive for proteinuria and hematuria. Light microscopy of samples from a kidney biopsy shows diffuse, global endocapillary hypercellularity. Direct immunofluorescence demonstrates staining with diffuse, global, granular staining of glomerular capillary walls by IgG, IgM, IgA, C1q, and C3. Electron microscopy will demonstrate which of the following changes?

A. Subendothelial deposits

B. Mesangial deposits

C. Subepithelial deposits

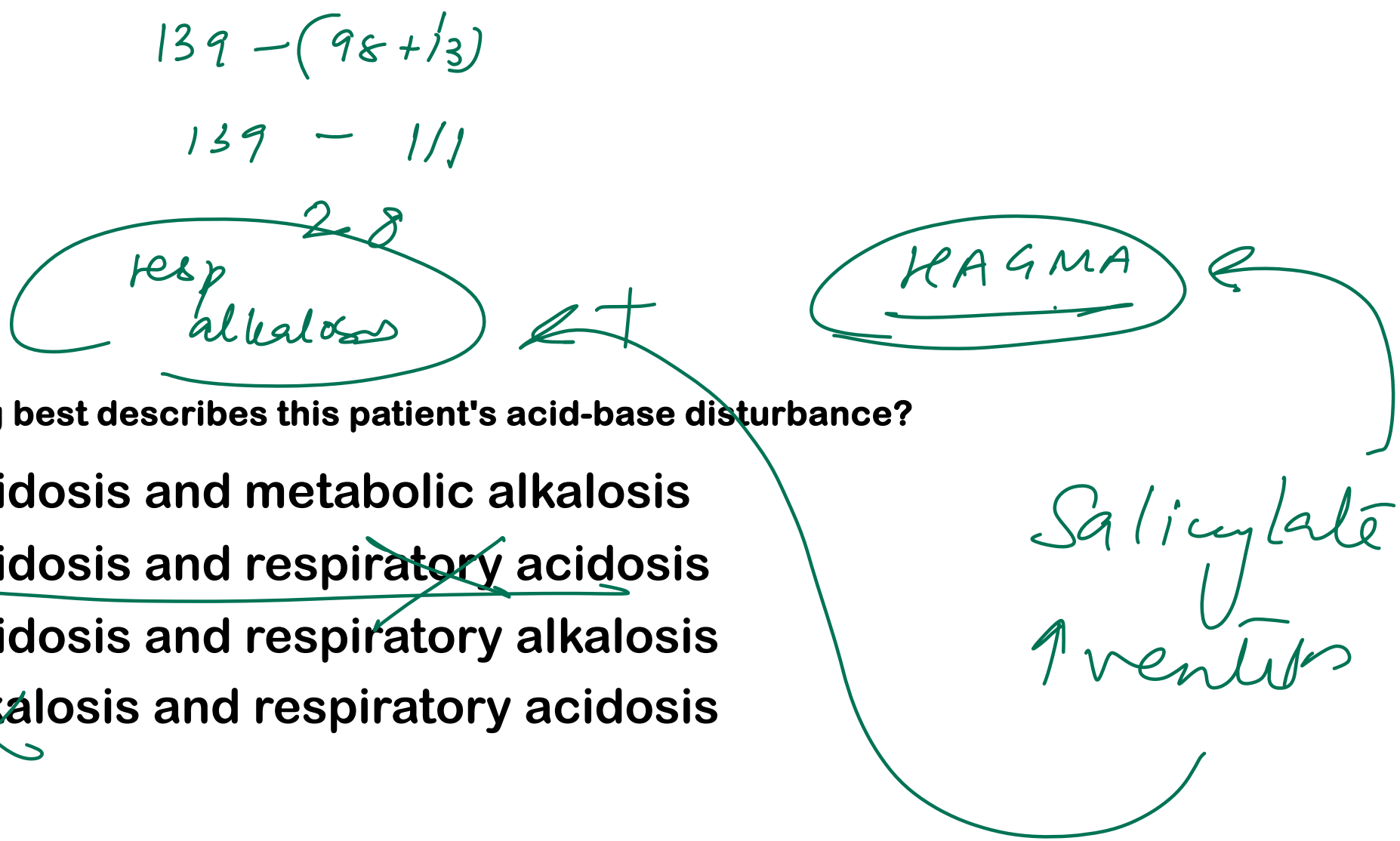
D. Intra-membranous deposits

SLE

50. A 43-year-old woman with borderline personality disorder is brought to the emergency department after taking an undetermined number of pills. She is lethargic but arousable. She refuses to answer questions. Blood pressure is 110/60 mm Hg and heart rate is 120/min and regular. Laboratory results are as follows:

Na+: 139 mEq/L
K+: 3.3 mEq/L
Cl-: 98 mEq/L
HCO3-: 13 mEq/L

ABG on room air:
pH: 7.46
PaCO2: 19 mm Hg
PaO2: 96 mm Hg
O2 saturation: 99%



Which of the following best describes this patient's acid-base disturbance?

A. Metabolic acidosis and metabolic alkalosis
B. Metabolic acidosis and respiratory acidosis
C. Metabolic acidosis and respiratory alkalosis
D. Metabolic alkalosis and respiratory acidosis

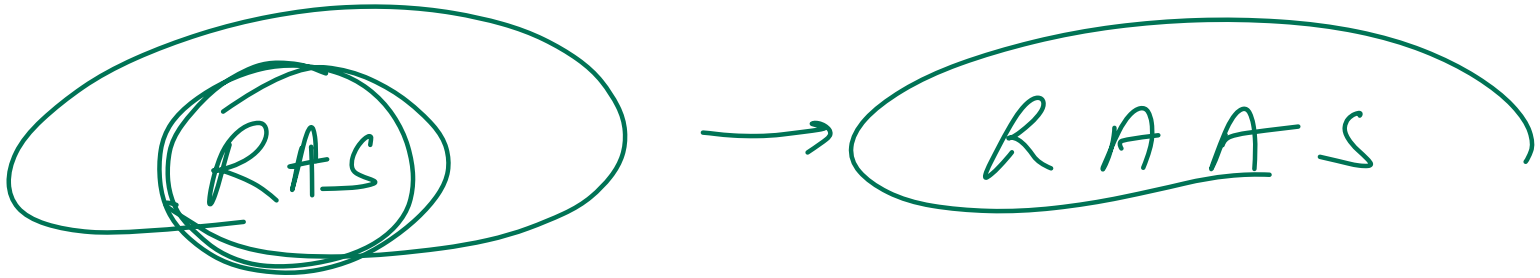
51. A 70-year-old man comes to the OPD due to increasing headaches, nausea, and vomiting. Medical history is significant for a transient ischemic attack that led to a right carotid endarterectomy 5 years ago. Blood pressure is 220/120 mm Hg and pulse is 70/min. Bilateral abdominal bruits are present. Blood testing in this patient would most likely show which of the following?

A. Low renin, low aldosterone, high angiotensin II, low potassium

B. High renin, high aldosterone, high angiotensin II, low potassium

C. Low renin, high aldosterone, high angiotensin II, low potassium

D. Low renin, low aldosterone, low angiotensin II, high potassium



52. A patient has hyperkalemia, raised uric acid levels and is going through hemodialysis. While this, patient develops drowsiness, had a seizure and got hypotensive. What can be given in treatment for this condition?

NEET '24

A. Mannitol
B. Nesiritide
C. Ethacrynic Acid
D. Bumetanide

DDS

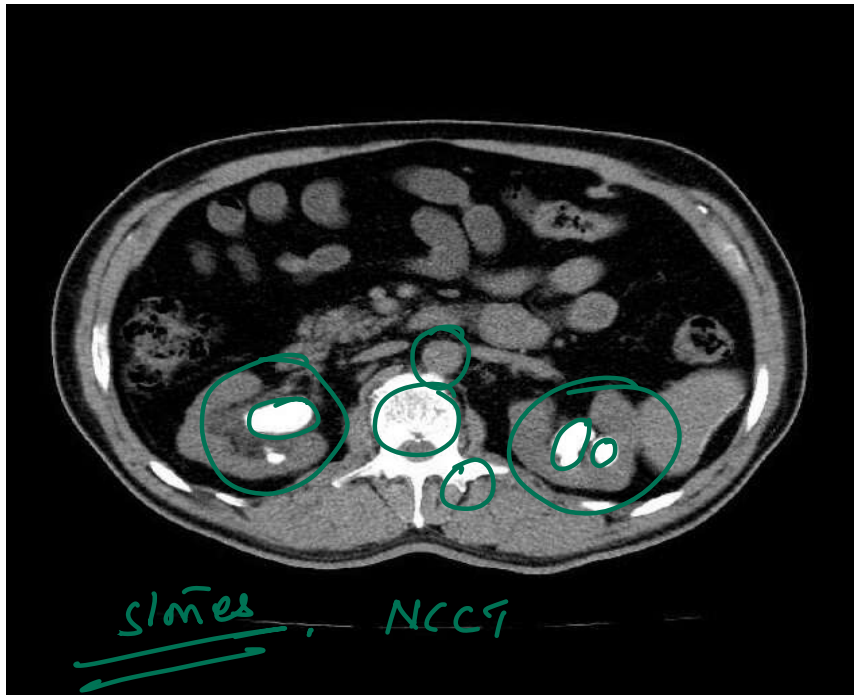
53. 60-year-old woman comes to the emergency department due to bilateral flank pain and hematuria. Medical history is significant for recurrent urinary tract infections and hypothyroidism. Blood pressure is 130/80 mm g and pulse is 80/min. CT scan of the abdomen is shown below: Urinalysis for this patient would most likely show which of the following?

A. 4+ protein

B. Numerous eosinophils

C. pH 8.0

D. Red blood cell casts



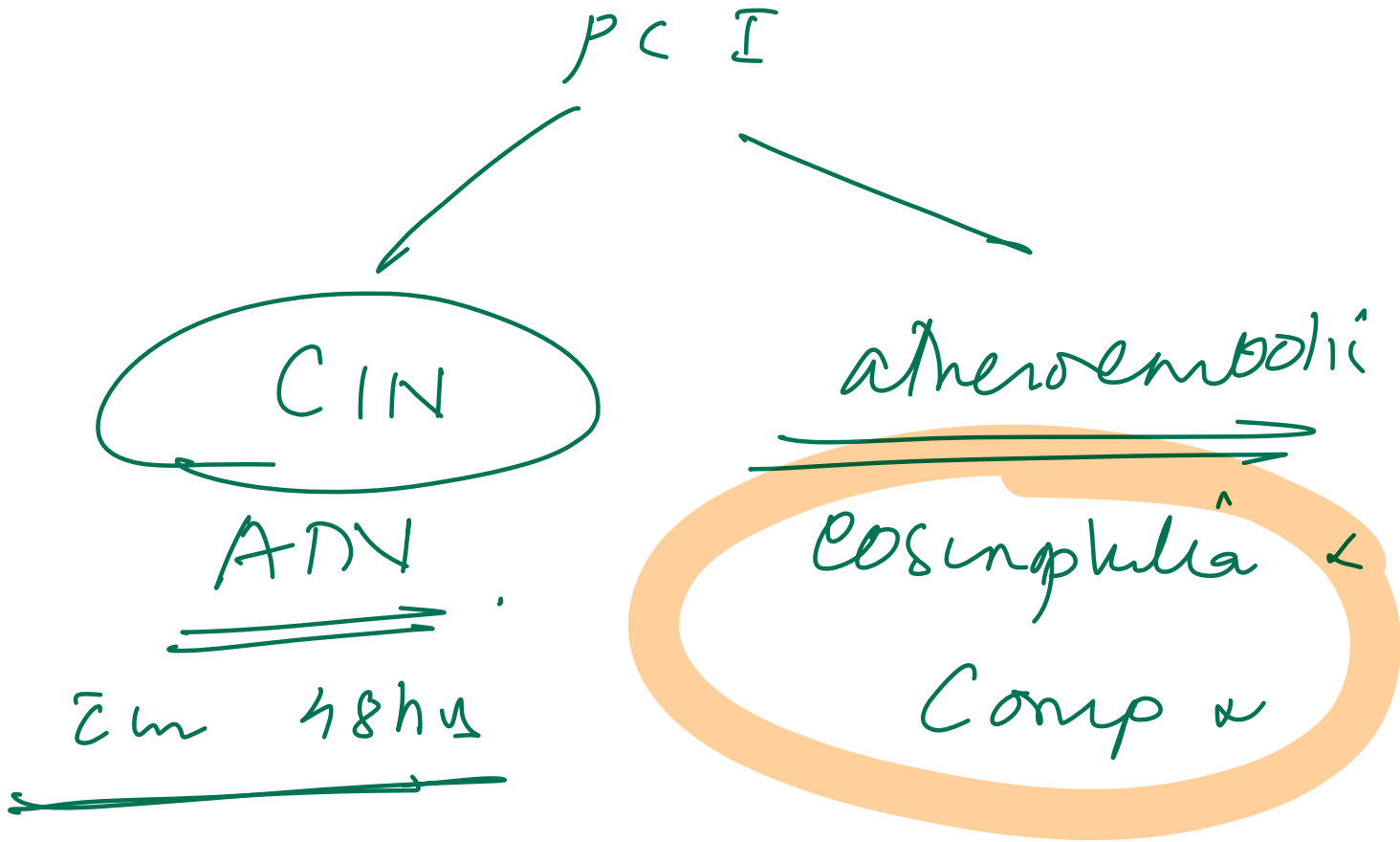
54. A 70-year-old man is hospitalized for acute chest pain and undergoes PCI. His serum creatinine is unchanged 3 days post-procedure, but from day 4 slowly rises to a peak of 2.4 mg/dL. Urinalysis demonstrates no proteinuria or red blood cells, and a few granular casts are present. Serum complement is low. Blood counts show eosinophilia. Which one of the following is likely?

A. Allergic interstitial nephritis

B. CIN

C. Atheroembolic disease

D. RPGN



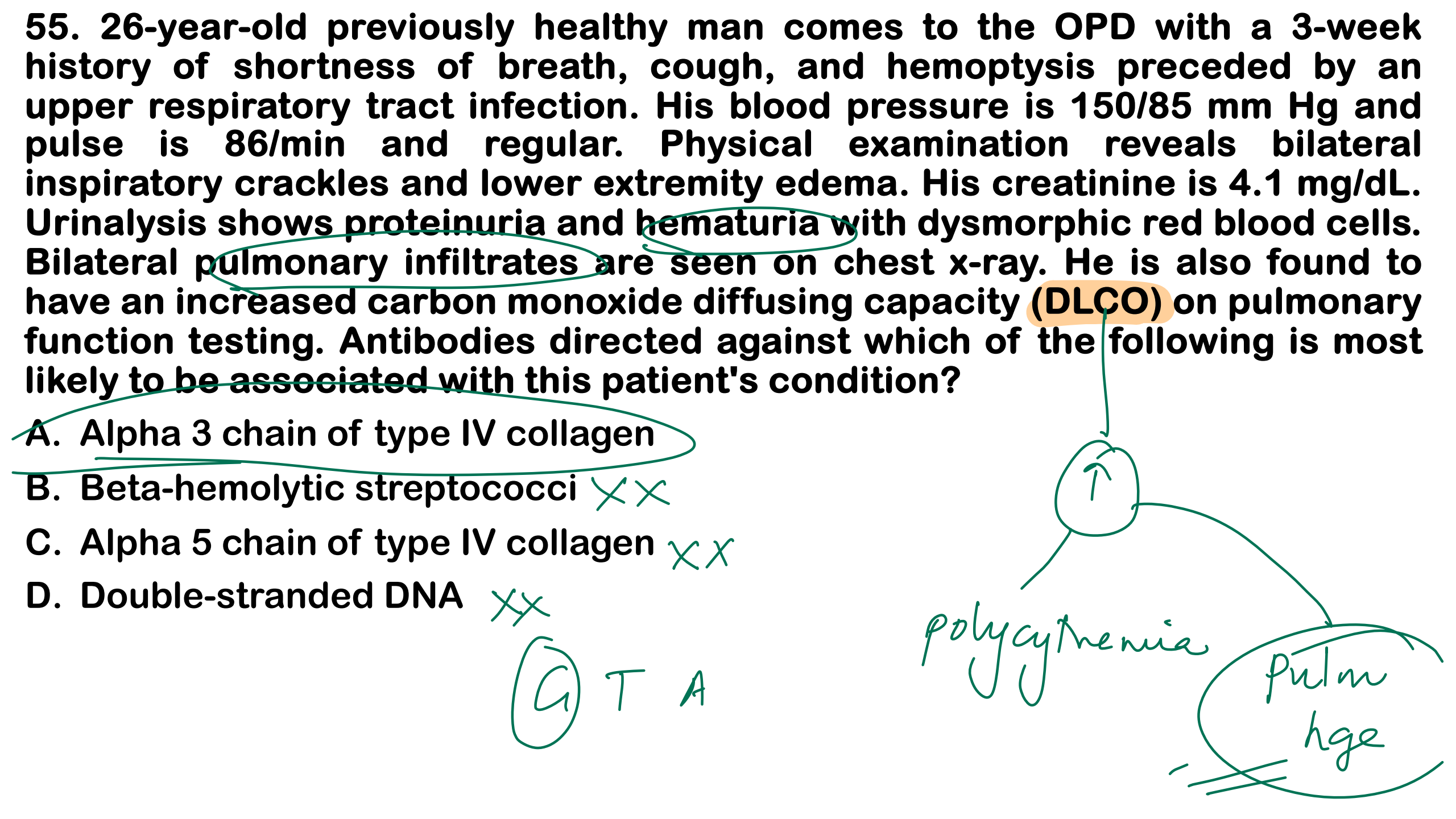
55. 26-year-old previously healthy man comes to the OPD with a 3-week history of shortness of breath, cough, and hemoptysis preceded by an upper respiratory tract infection. His blood pressure is 150/85 mm Hg and pulse is 86/min and regular. Physical examination reveals bilateral inspiratory crackles and lower extremity edema. His creatinine is 4.1 mg/dL. Urinalysis shows proteinuria and hematuria with dysmorphic red blood cells. Bilateral pulmonary infiltrates are seen on chest x-ray. He is also found to have an increased carbon monoxide diffusing capacity (DLCO) on pulmonary function testing. Antibodies directed against which of the following is most likely to be associated with this patient's condition?

A. Alpha 3 chain of type IV collagen

B. Beta-hemolytic streptococci

C. Alpha 5 chain of type IV collagen

D. Double-stranded DNA



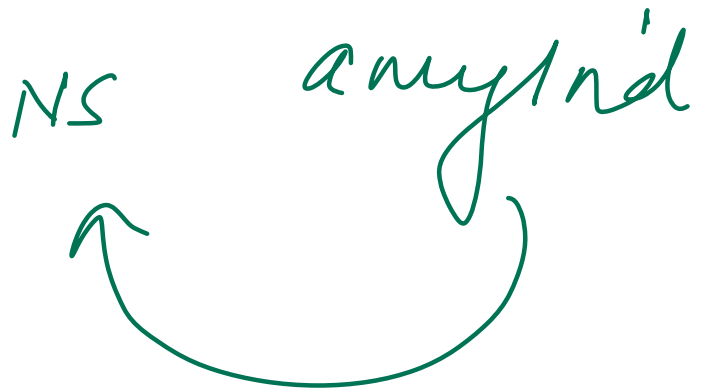
56. A 64-year-old man comes to the OPD due to generalized edema, fatigue, and dyspnea on exertion for 2 months. The patient has a 25-year history of poorly controlled rheumatoid arthritis. Urinalysis shows 4+ protein. A renal biopsy is performed. Which of the following histologic abnormalities is most likely to be seen in this patient's glomeruli?

A. Crescent formation

B. Deposition of amorphous material

C. Diffuse hypercellularity

D. IgA deposition



57. 21-year-old man is brought to the emergency department due to diffuse muscle aches and weakness. He has also noticed darkening of his urine. The patient recently joined the military and was participating in rigorous training exercises in hot weather earlier in the day.

Laboratory results:

Sodium: 136 mEq/L 135-145

Potassium: 5.6 mEq/L 3.5-5

Bicarbonate: 18 mEq/L 24

Creatinine: 2.0 mg/dL

CK: 22,000 U/L (normal: 30-170)

Rhabdomyolysis

ATN

Which of the following urine microscopy is most likely present in this patient?

A. Dysmorphic red blood cells XX GN

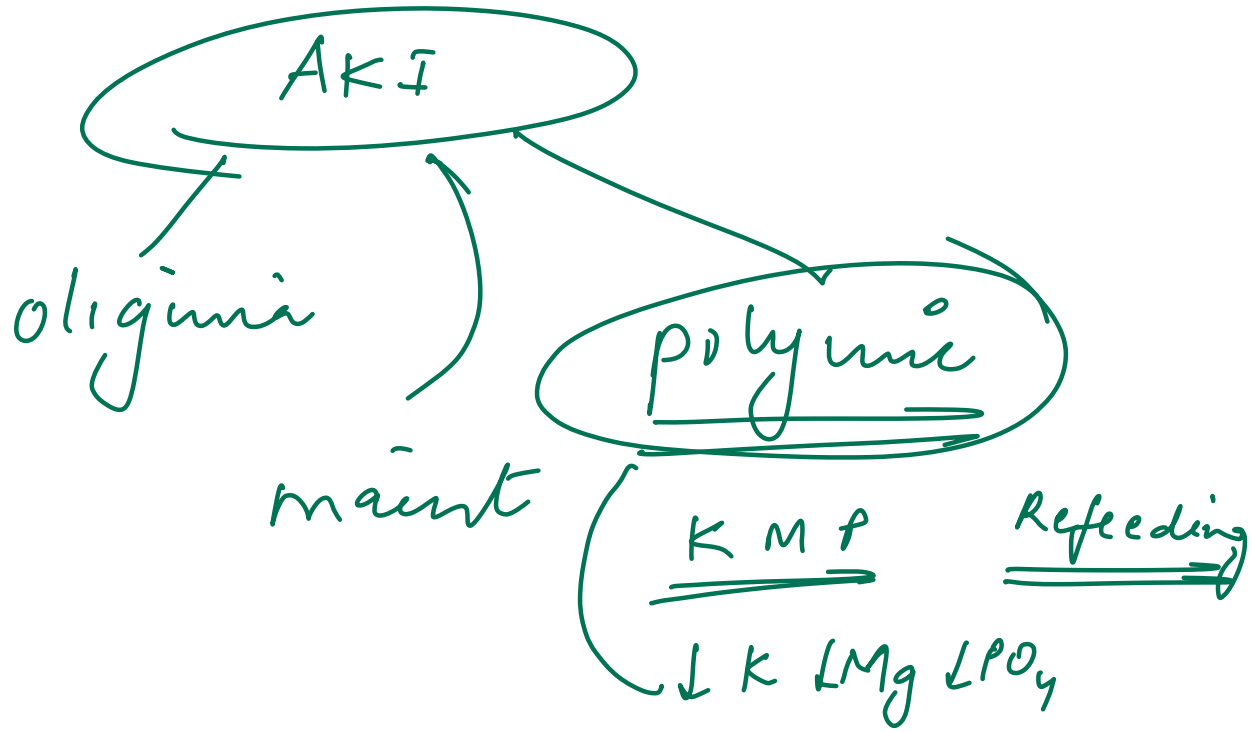
B. Eosinophils XX

C. Granular casts ATN

D. Waxy casts XX CKD

58. 38-year-old man is brought to the emergency department due to vomiting blood. After appropriate resuscitation measures, he undergoes upper gastrointestinal endoscopy, which reveals a bleeding duodenal ulcer. During hospital day 2, the patient develops decreased urine output. Serum creatinine rises to 3.0 mg/dL from a baseline of 1.2 mg/dL. Renal biopsy shows patchy epithelial necrosis of the tubules, intratubular casts. Supportive care is provided. Several days later, his urine output significantly increases, and serum creatinine levels decline. Over the next few days, this patient is at highest risk for which of the following complications?

A. Hyperphosphatemia
B. Hypokalemia
C. Metabolic acidosis
D. Volume overload



59. 56-year-old man with chronic renal insufficiency due to polycystic kidney disease is evaluated for placement of an arteriovenous fistula for dialysis access. Blood pressure is 140/90 mm Hg and pulse is 80/min. Examination shows 2+ bilateral edema of the lower extremities. Estimated glomerular filtration rate is 15 mL/min/1.73 m². Which of the following sets of laboratory findings is most likely in this patient?

A. Low serum calcium, high serum phosphorus, high PTH, normal 25-hydroxyVitD, normal 1,25 hydroxyVitD

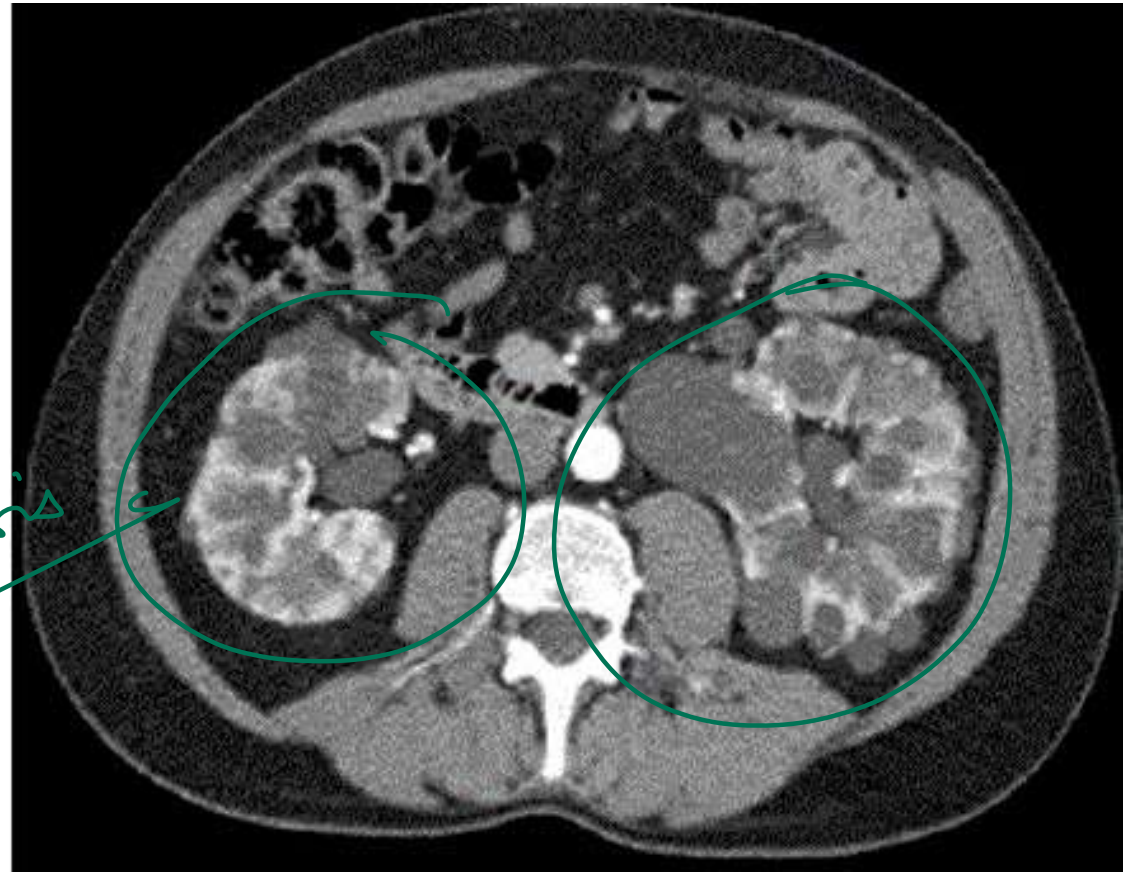
B. Low serum calcium, high serum phosphorus, high PTH, normal 25-hydroxyVitD, low 1,25 hydroxyVitD

C. High serum calcium, high serum phosphorus, low PTH, normal 25-hydroxyVitD, low 1,25 hydroxyVitD

D. Low serum calcium, low serum phosphorus, high PTH, normal 25-hydroxyVitD, low 1,25 hydroxyVitD

60. A 52-year-old male with the following disease as shown in CT was started on tolvaptan therapy. A few weeks later, he presents with symptoms of dry mouth and increased thirst. What is the likely mechanism behind these symptoms?

A. Increased free water clearance
B. V2 receptor agonism
C. Increased renal cAMP levels
D. Increase in urine osmolality



V2 ⊖

↓

diuresis

ADH

AD PCKD

61. A 19-month-old girl is brought to the OPD due to a 2-month history of diarrhea. Her parents report that she has 3- 5 loose, non-bloody bowel movements daily with occasional episodes of vomiting. She was breastfed exclusively until age 9 months and has since had a well-varied diet including whole milk, fruits, vegetables, bread, and meats. However, the girl has been less interested in food over the past several weeks After laboratory evaluation, duodenal biopsy findings are shown in the exhibit. Which of the following would most likely improve this patient's symptoms?

A. Antibiotic therapy

B. Enzyme supplementation

C. Modified dairy diet

D. Modified grain diet

BROW

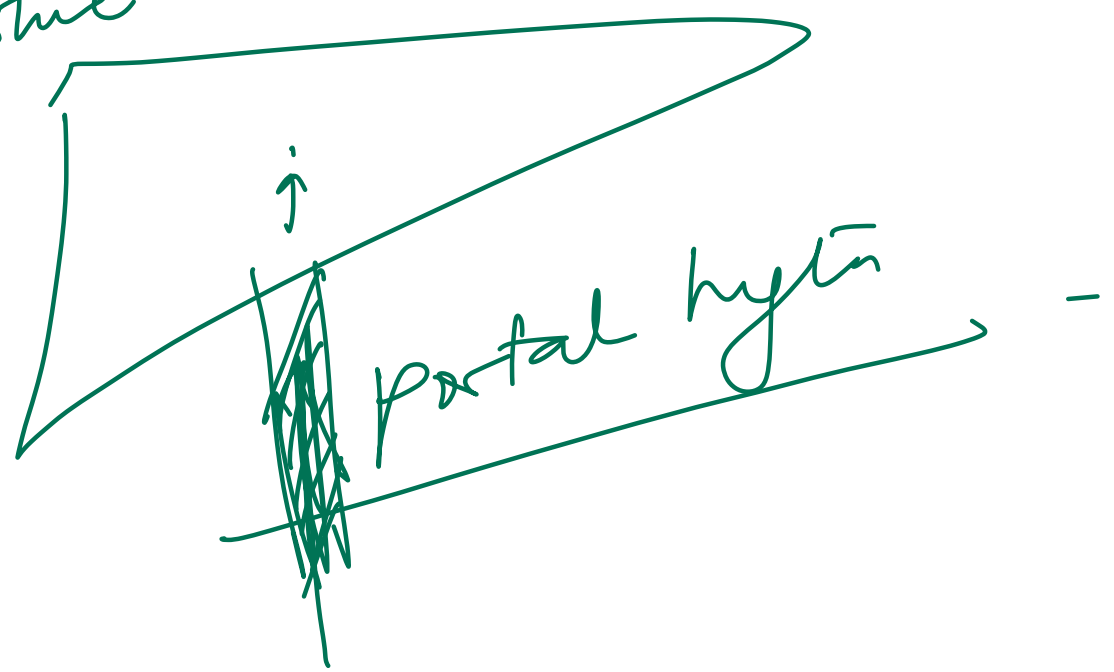
62. A 46-year-old man is brought to the emergency department by paramedics after an episode of large-volume hematemesis. Physical examination reveals a palpable spleen. Endoscopy shows bleeding esophageal varices. A liver biopsy performed 2 days later shows no abnormalities. Which of the following is the most likely cause of this patient's condition?

A. Long-term alcohol consumption

B. Budd-Chiari syndrome

C. Constrictive pericarditis

D. Portal vein thrombosis



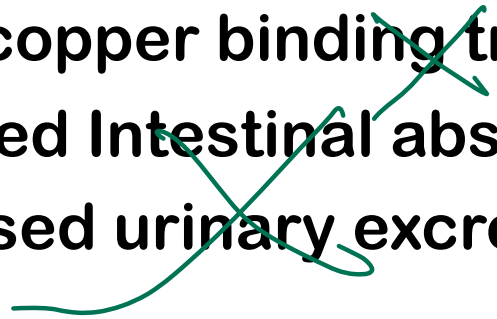
63. A 14-year-old boy is hospitalized due to worsening confusion and vomiting of blood for the past 2 days. Medical history is notable for irritability and declining school performance over the past year. He is oriented to person but disoriented to time and place. During hospitalization, the patient rapidly deteriorates and passes away. Autopsy examination reveals Nodular liver, Splenomegaly, Basal ganglia atrophy with increased copper content. The most likely cause of this patient's condition is an abnormality in which of the following physiologic processes?

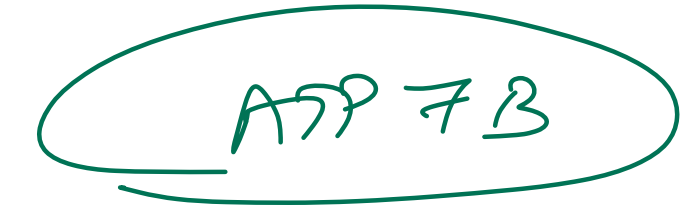
A. Biliary copper excretion

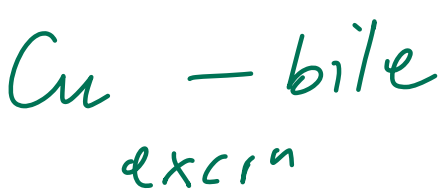
B. Serum copper binding transporter defect

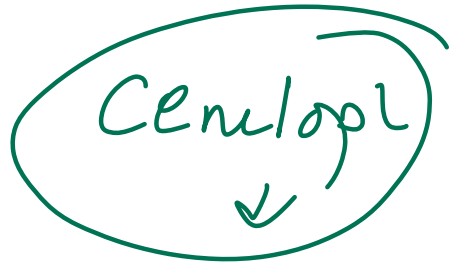
C. Increased Intestinal absorption

D. Decreased urinary excretion









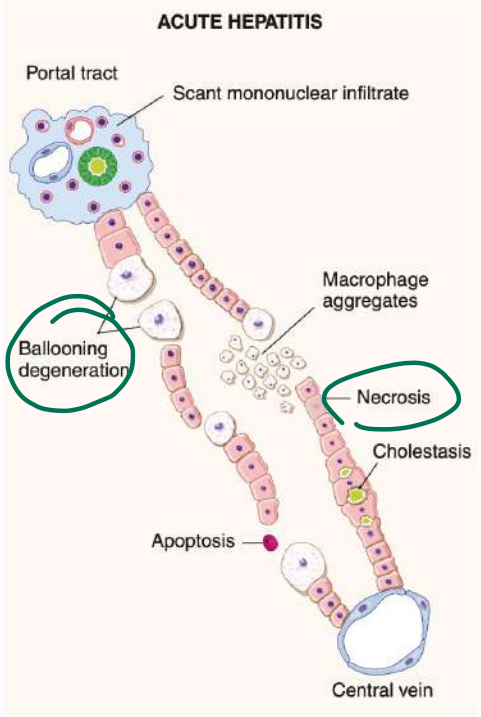
64. A previously healthy 25-year-old woman comes to the physician because of a one-week history of diffuse abdominal pain. Her temperature is 39.1°C (102.3°F). Physical examination shows numerous scars and excoriations along both arms, scleral icterus, and tender hepatomegaly. Serum studies shown below: Which of the following is least likely to be seen in the liver biopsy of this patient?

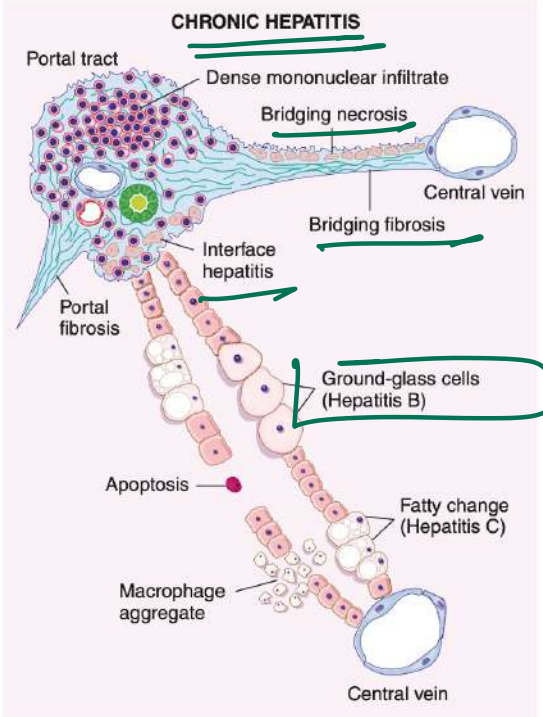
Alanine aminotransferase	927 U/L
Aspartate aminotransferase	796 U/L
Hepatitis B surface antigen	Positive
Hepatitis B surface antibody	Negative
Anti-hepatitis B core antibody	Negative
Hepatitis C antibody	Negative

Acute Hep

A. Ballooning degeneration
B. Ground glass hepatocytes
C. Focal or spotty necrosis
D. Confluent necrosis of hepatocytes

Chr


ACUTE HEPATITIS
Portal tract
Scant mononuclear infiltrate
Macrophage aggregates
Ballooning degeneration
Necrosis
Cholestasis
Apoptosis
Central vein


CHRONIC HEPATITIS
Portal tract
Dense mononuclear infiltrate
Bridging necrosis
Central vein
Bridging fibrosis
Interface hepatitis
Portal fibrosis
Ground-glass cells (Hepatitis B)
Apoptosis
Fatty change (Hepatitis C)
Macrophage aggregate
Central vein

65. Noninvasive test to detect risk of hepatic fibrosis include?

1. Aspartate aminotransferases /platelet ratio
2. Fibro scan
3. Forns index
4. Serum laminin & serum hyaluronidase

A. 1, 2, 3, 4

B. 2, 4

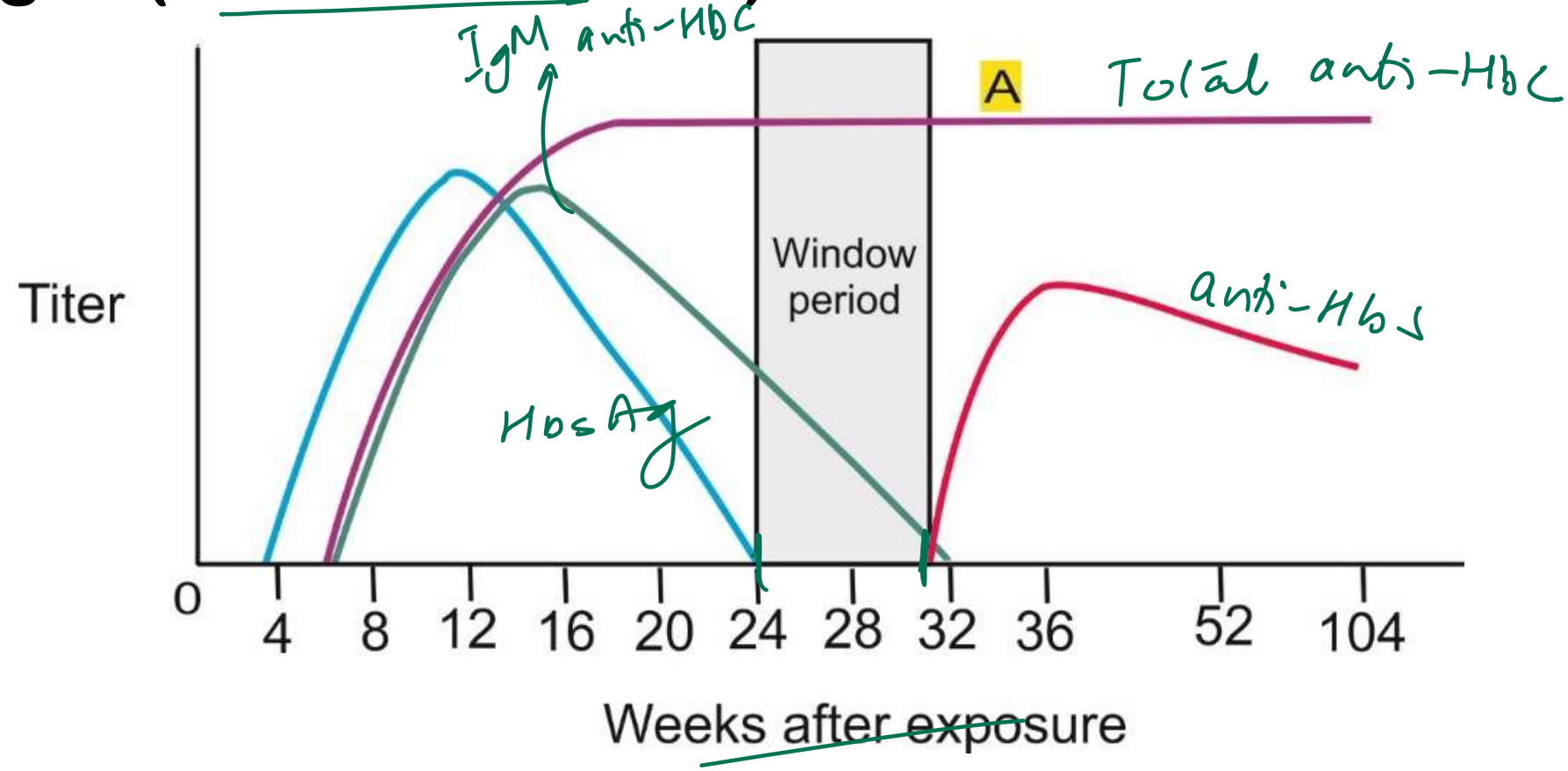
C. 1, 3

D. 2 only

Age, gamma-glutamyl transferase (GGT), cholesterol, and platelet count

66. Patient affected with acute hepatitis B infection has currently come for follow up. Identify the serological marker marked in the image? (AIIMS NOV 2019)

A. Anti-HBc Ab
B. Anti-HBe Ab
C. Anti-HBs Ab
D. HBsAg



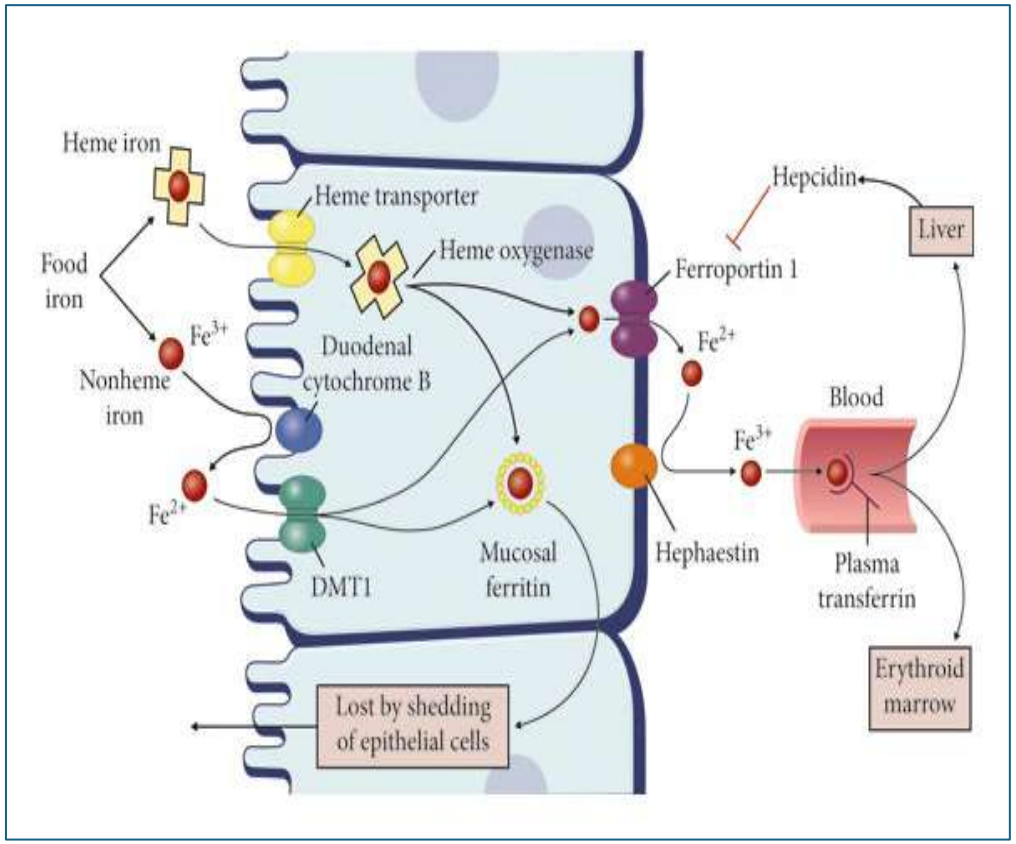
67. Which one of the following is incorrect about iron transport?

A. Iron is converted from ferrous to ferric form before absorption through apical membrane.

B. Apoferritin is the storage form.

C. Ascorbic acid helps in iron reabsorption.

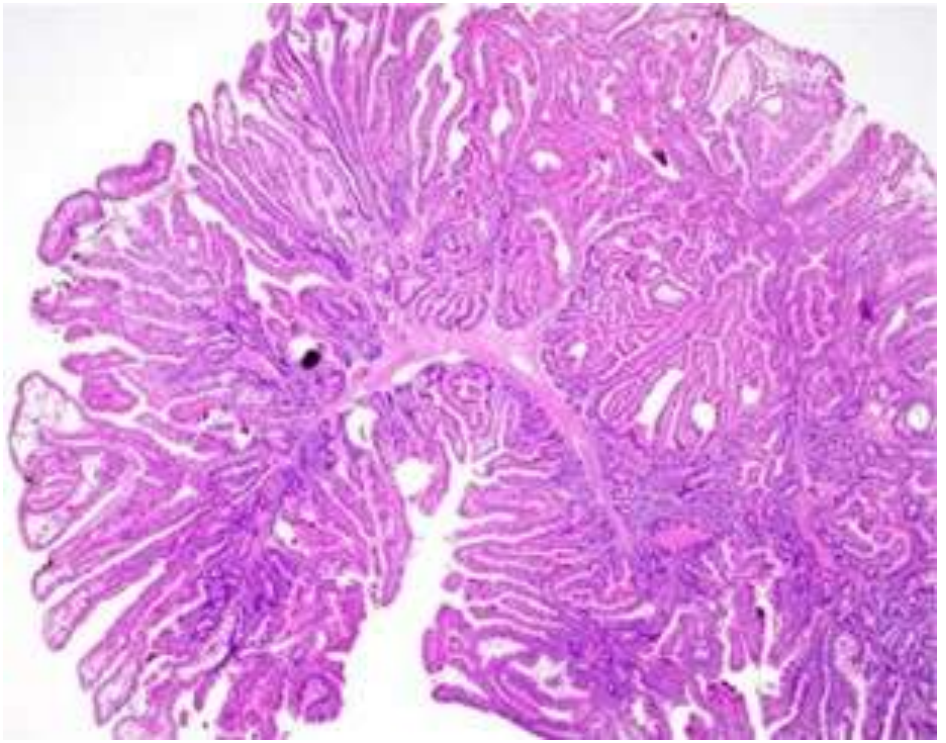
D. Transferrin transcription increases in iron deficiency anemia


Heme iron
Heme transporter
Hepcidin
Liver
Food iron
Heme oxygenase
Ferroportin 1
Fe3+
Duodenal cytochrome B
Fe2+
Nonheme iron
Blood
Fe3+
Fe2+
Mucosal ferritin
Hephaestin
DMT1
Plasma transferrin
Erythroid marrow
Lost by shedding of epithelial cells

68. Which of the following statements is correct regarding the polyposis condition shown below?

1. High risk of pancreatic carcinoma
2. Loss of heterozygosity in the STK11 gene
3. Multiple GI polyps
4. Autosomal recessive
5. Congenital hypertrophy of retinal pigment epithelium is seen

A. 2, 4 and 5
B. 1, 2 and 3
C. 1, 3 and 4
D. 2, 3 and 5



- Increased risk of cancers:
  - Colon
  - Stomach
  - Small intestine
  - Pancreas
  - Breast
  - Ovary

Distinctive PJ Tumors

- Sex cord tumor with annular tubules of ovary
- Large cell calcifying Sertoli tumor of testis
- Adenoma malignum of cervix

69. A 50-year-old man comes to the physician because of an 8-month history of intermittent watery diarrhea and abdominal pain. He has had a 12-kg weight loss during this period. He has also had episodic pain of the ankle, wrist, and knee joints during the past 5 years. An endoscopy with small bowel biopsy is performed. Histopathologic examination of a tissue specimen shows foamy macrophages in the lamina propria with periodic acid-Schiff (PAS)-positive inclusions. Further evaluation is most likely to show which of the following?

A. Multinucleated trophozoites → Giardia

B. Anti-tissue transglutaminase antibodies → Celiac

C. Intracellular gram positive bacteria

D. Anti-saccharomyces cerevisiae antibodies → CD

70. 50-year-old gentleman presented with progressive abdominal distension with shifting dullness on examination. Ascitic fluid analysis:

Serum Albumin = 3 g/dL
Serum Protein = 7 g/dL
Ascitic Albumin = 1 g/dL
Ascitic Protein = 1.5 g/dL
Cells = 125, 90% Lymphocytes

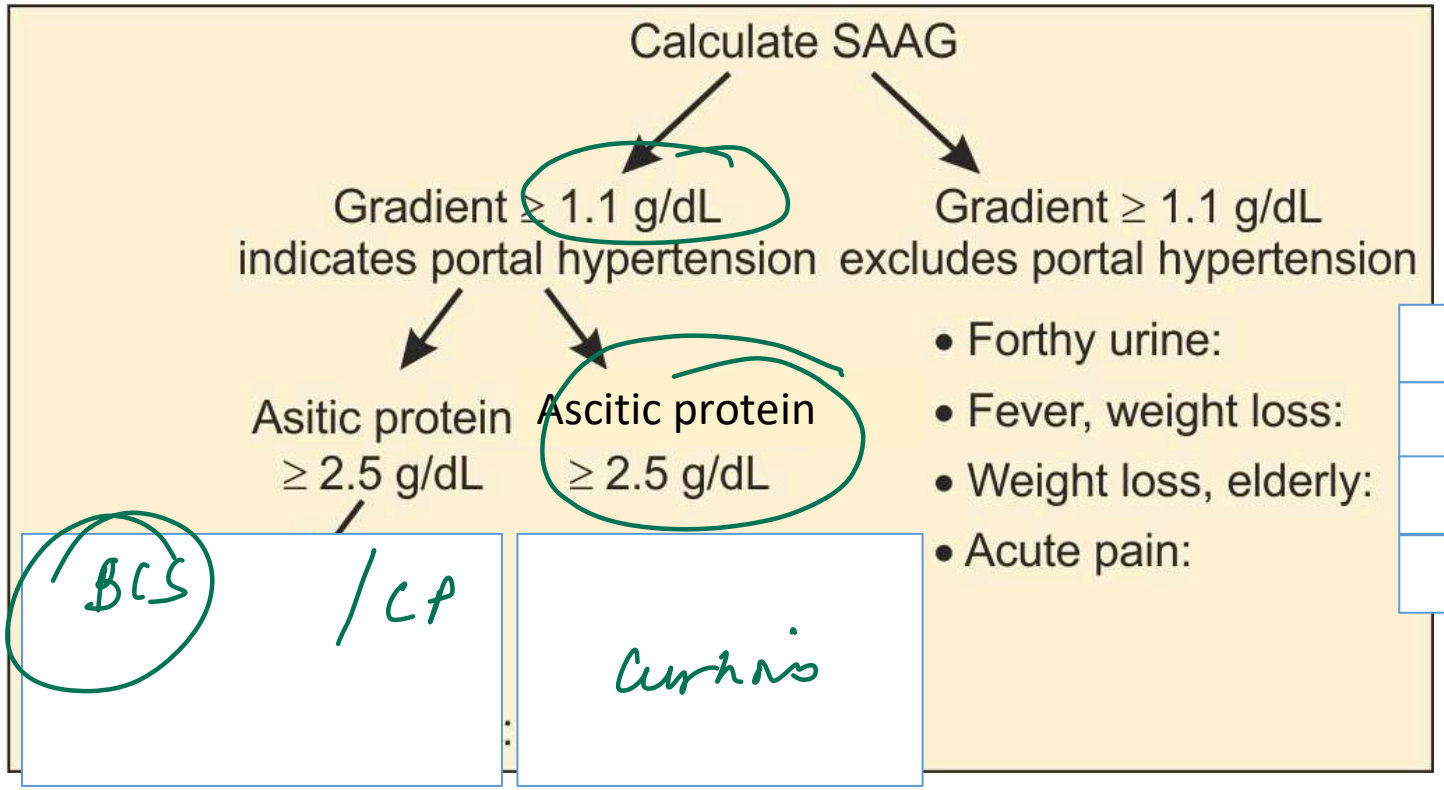
What is the likely diagnosis?

SAAG

3 - 1 = 2

> 1.1

A. Congestive heart failure
B. Budd Chiari syndrome
C. Cirrhosis
D. Tuberculosis


Calculate SAAG
Gradient ≥ 1.1 g/dL
indicates portal hypertension
Gradient ≥ 1.1 g/dL
excludes portal hypertension
Asitic protein
≥ 2.5 g/dL
Ascitic protein
≥ 2.5 g/dL
• Forthy urine:
• Fever, weight loss:
• Weight loss, elderly:
• Acute pain:
BCS
/CP
Cirrhosis

71. During a study on gastrointestinal hormones, a volunteer is administered the hormone secreted by S cells. Which of the following changes most likely represent the effect of this hormone on gastric and duodenal secretions?

A. Gastric H^+ increases, Duodenal HCO_3^- increased, Duodenal Cl^- no change

B. Gastric H^+ decreases, Duodenal HCO_3^- decreased, Duodenal Cl^- no change

C. Gastric H^+ decreases, Duodenal HCO_3^- increased, Duodenal Cl^- decreases

D. Gastric H^+ decreases, Duodenal HCO_3^- increased, Duodenal Cl^- increases

secretin

↓ HCL

↑ HCO_3

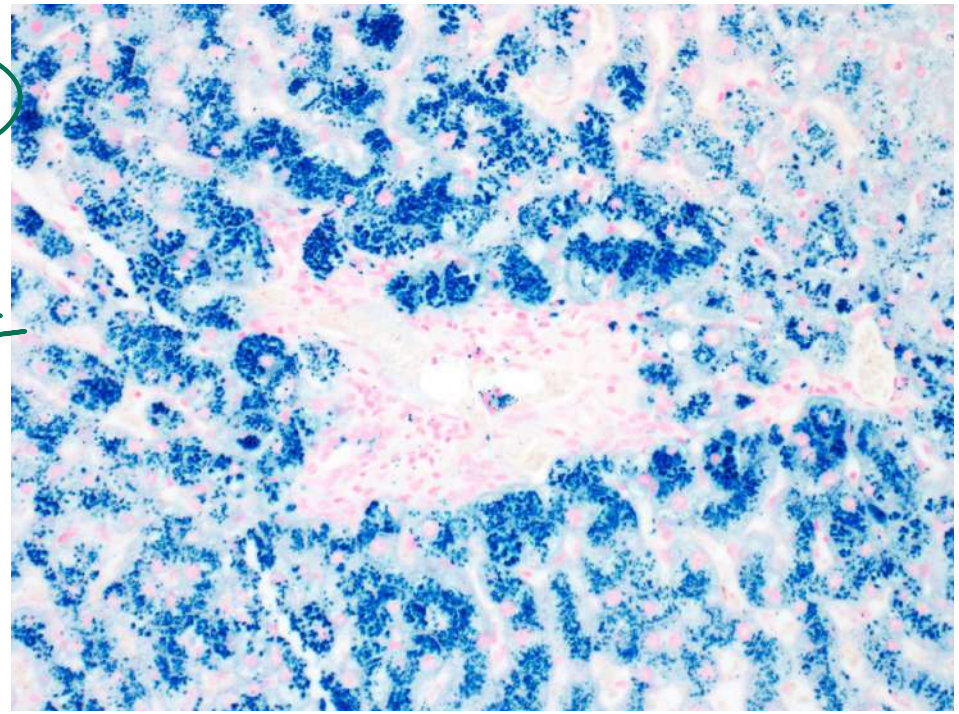
72. A 63-year-old woman dies of congestive heart failure. Autopsy shows a dilated heart with brownish pigmentation of the myocardium. Light microscopy of her liver after Prussian blue staining is shown in the image below. The patient's brother died of profuse upper gastrointestinal bleeding at age 43. Assuming this patient's disorder is hereditary, which of the following most likely contributed to the delayed onset of her disease compared to her brother?

A. Heterozygosity for HFE gene mutation

B. High-dose vitamin C intake

C. Incomplete penetrance of homozygotic HFE mutations

D. Premenopausal menstrual bleeding



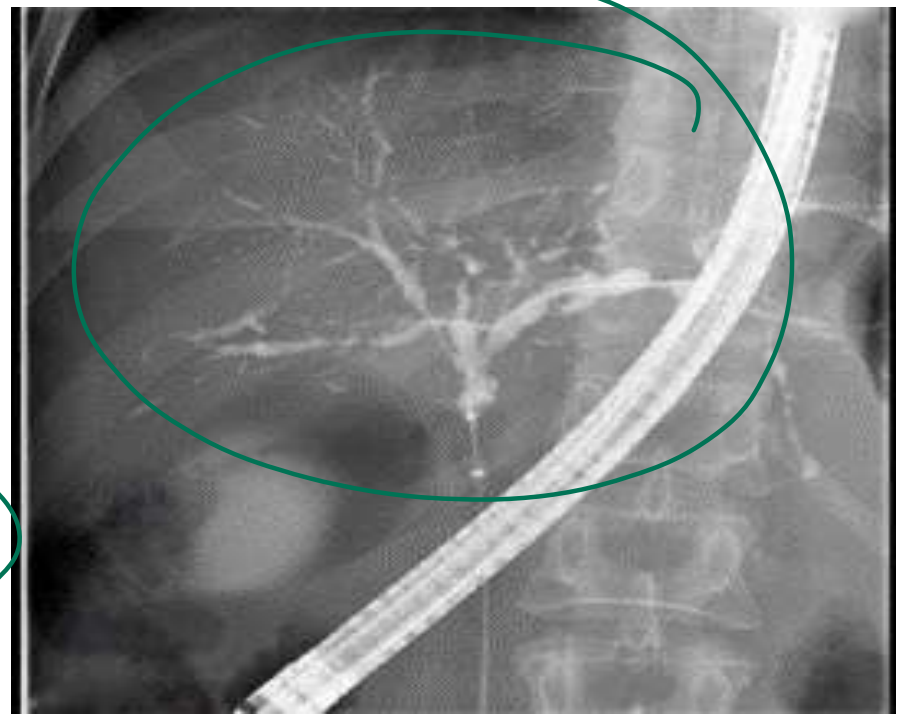
73. Which of the following drugs used in the treatment of Irritable Bowel Syndrome (IBS) has a direct spasmolytic action on gastrointestinal (GI) smooth muscle? (NEET PG 2024)

A. Dicyclomine
B. Scopolamine
C. Mebeverine
D. Racecadotril

anticholinergic

74. A 35-year-old patient is being evaluated for jaundice. ERCP and lab values are shown below.
Aspartate Aminotransferase (AST) - 55 U/L
Alanine Aminotransferase (ALT) - 56 U/L
Alkaline phosphatase (ALP) - 213 U/L
Gamma-glutamyl transferase (GGT) - 75 U/L
Total Bilirubin - 1.2 mg/dL
Which of the following statement is false about this condition?

A. It is associated with ulcerative colitis
B. It is a premalignant condition
C. Biopsy shows florid duct lesion
D. There is no effective medical therapy



75. The blood investigation of a patient is given below. What is the probable diagnosis?

AIIMS

HBsAg - NR

Anti HBs - NR

Anti HBc IgM - NR

Anti HBc total - positive

HBeAg - NR

Anti HBe – NR (NR – Non reactive)

A. Acute HBV infection in window period

B. Immune with recombinant HBV Vaccine

C. HBV infection in the remote past, completely recovered

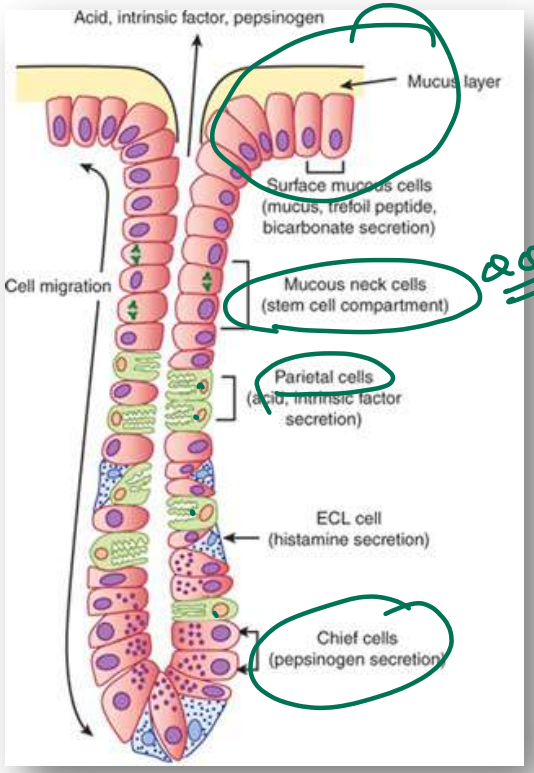
D. Chronic HBV infection inactive carrier

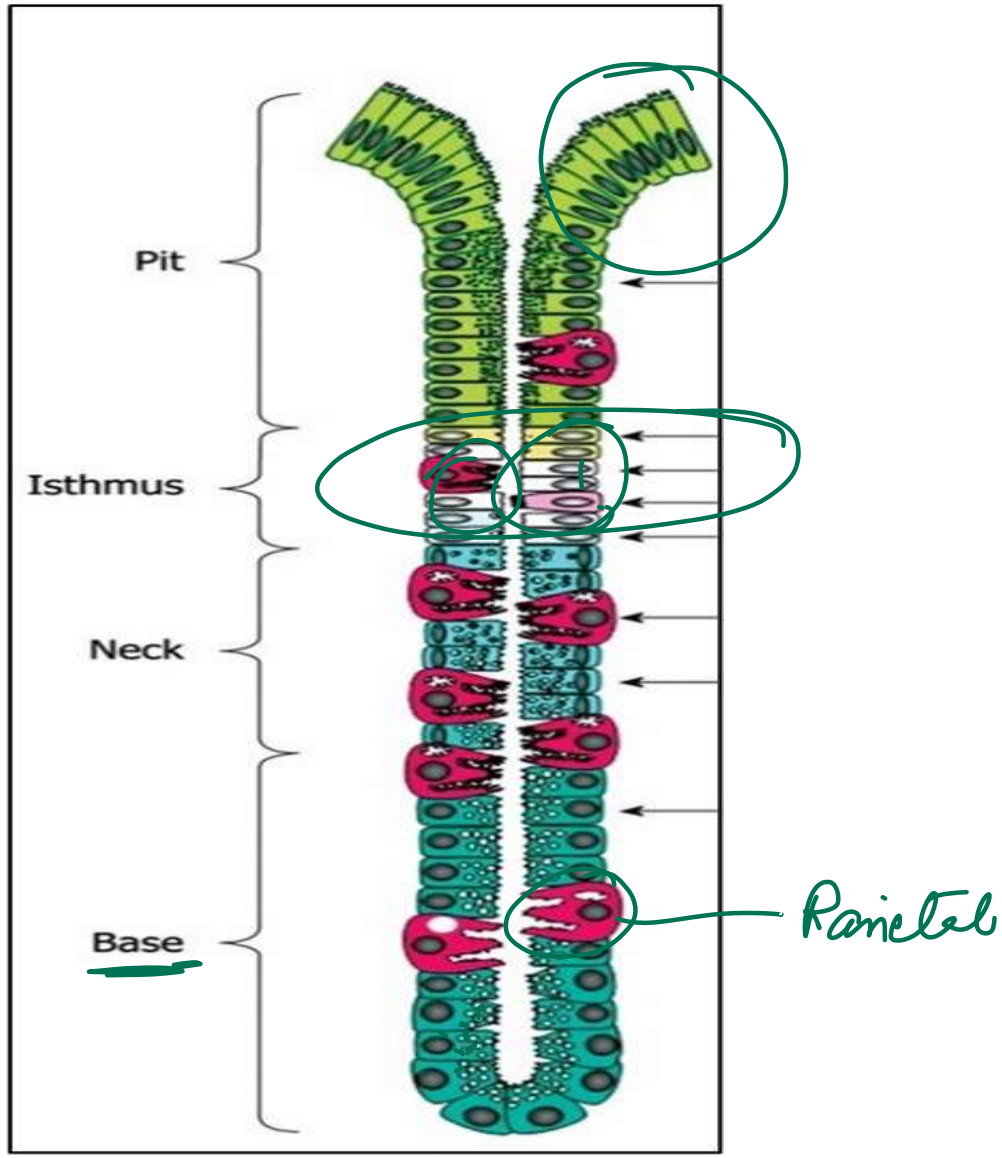
76. A 45-year-old man comes to the clinic for evaluation of chronic diarrhea. He has lost almost 7 kg over the past year. He has no blood in the stool. A 24-hour stool collection shows fecal fat content of 10 g/day (normal <6 g/day). Stool microscopy shows no pathogens and no leukocytes. Serum electrolytes and renal function are within normal limits. The patient is given 25 g oral D-xylose solution, and his urinary excretion of D-xylose at 5 hours is 1.2 g (normal 4.5-7.5 g). After 4 weeks of treatment with rifaximin, the D-xylose test is repeated, and the urinary excretion at 5 hours is 1.3 g. Based on these findings, which of the following is the most likely diagnosis in this patient?

A. BOGS
B. Celiac disease
C. Lactose intolerance
D. Pancreatic insufficiency

77. Which of the following are cells lining the isthmus of the gastric pits?

A. Chief cells
B. Stem cells
C. Parietal cells
D. Mucous cells





78. Identify the true statements about IBD:

1. Smoking and appendicectomy decrease the risk of UC

2. NOD2 and PTPN22 genes are implicated in the pathophysiology of CD

3. Uveitis, peripheral arthritis, EN are more common with UC while PSC is more common with CD

4. Rectal involvement with continuous disease and crypt abscess is associated with UC

A. 1, 2, 3, 4

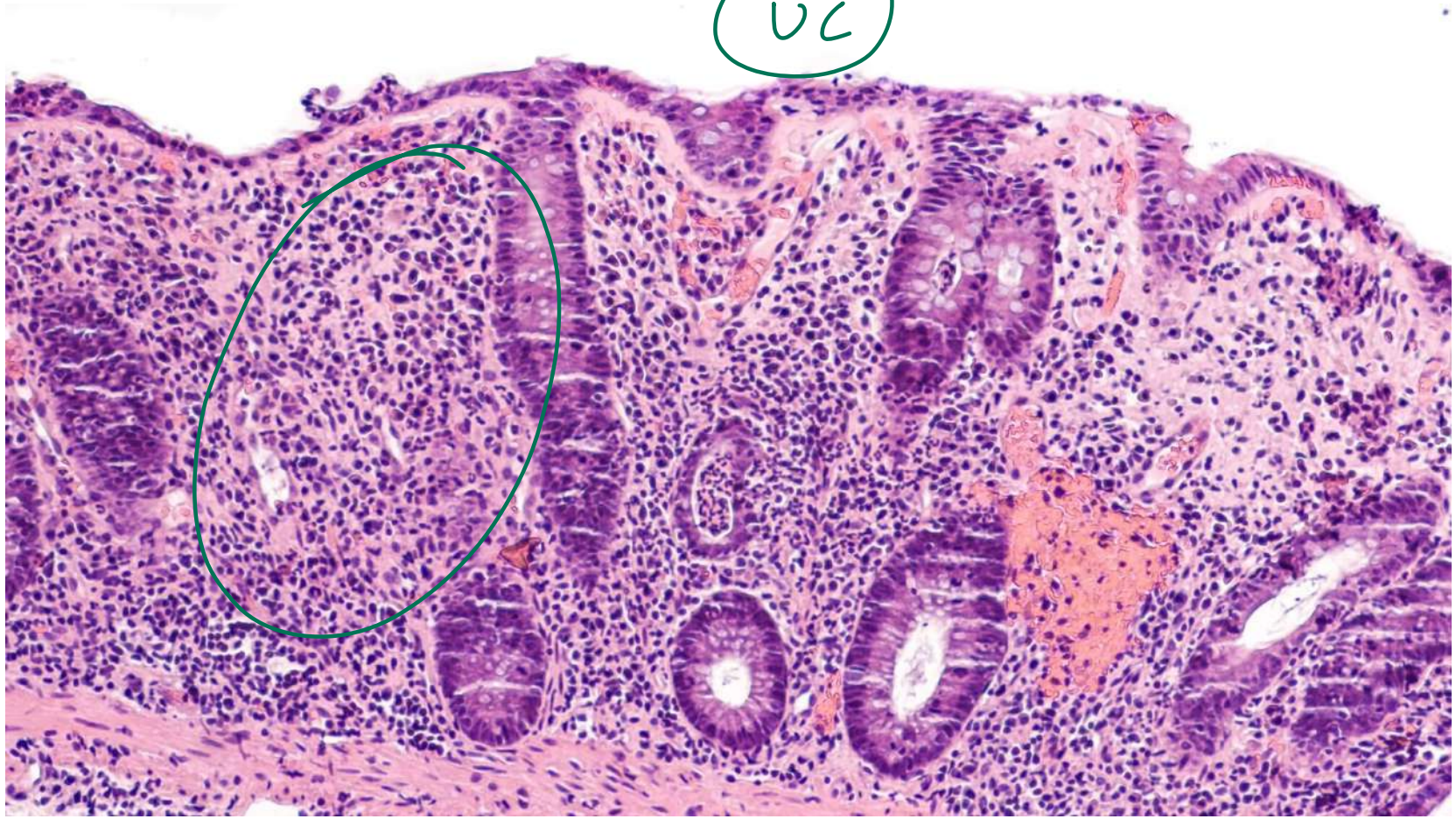
B. 2, 3, 4

C. 1, 2, 4

D. 2, 4

79. A 45 year old female patient presents to the OPD with intermittent rectal bleeding, tenesmus, and mucous discharge. Histological examination showed the following lesion. What is the first-line management of this condition?

A. Sulfasalazine
B. Surgical resection
C. NSAIDs
D. Antibiotics



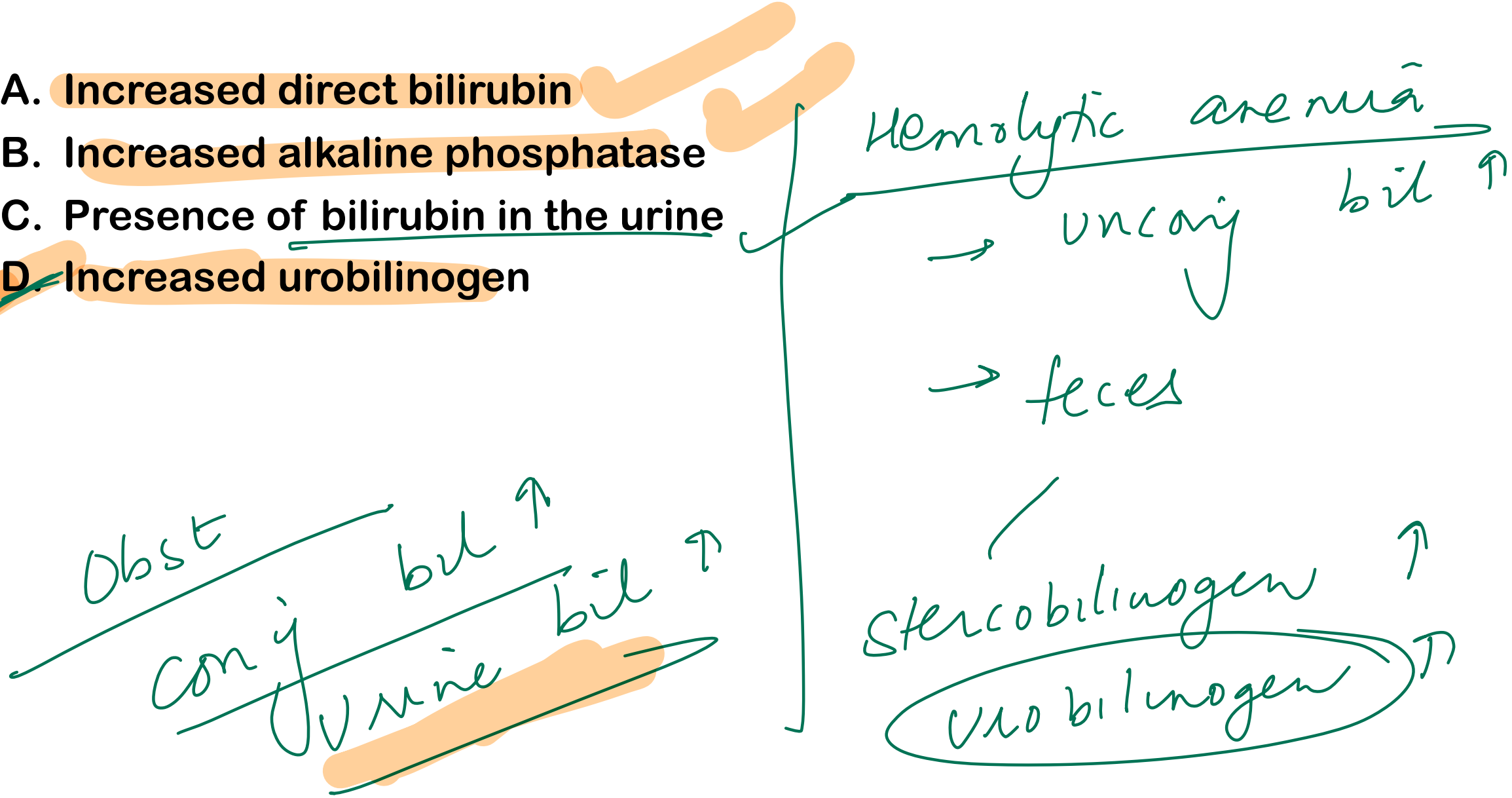
80. A 33-year-old woman, gravida 2, para 1, at 24 weeks' gestation is brought to the emergency department by her husband for lethargy, nausea, and vomiting for 4 days. She returned from a trip to Thailand 2 weeks ago. Her immunizations are up-to-date and she has never received blood products. Her temperature is 38.9°C (102°F). She is not oriented to person, place, or time. Examination shows jaundice and mild asterixis. Her prothrombin time is 18 sec (INR=2.0), serum alanine aminotransferase is 3911 U/L, and serum aspartate aminotransferase is 3724 U/L. This patient's current condition is most likely associated with increased titers of which of the following serum studies?

A. Anti-HBe IgM
B. HBsAg
C. Anti-HEV IgM
D. Anti-HCV IgG

Hep E

81. Which of the following regarding Obstructive jaundice is incorrect statement

A. Increased direct bilirubin
B. Increased alkaline phosphatase
C. Presence of bilirubin in the urine
D. Increased urobilinogen



82. Which of the following regarding Celiac disease – incorrect statement

P 498 -

A. Anti-IgA TTG is a key diagnostic marker
B. Modified Marsh criteria is used histologically ✓
C. Anti-IgG gliadin antibodies are highly specific
D. HLA-DQ6/DQ11 are associated

DQ2 / DQ8

83. A previously healthy 41-year-old man comes to the physician for evaluation of a 1-month history of painless, intermittent bleeding on defecation, which he discovered while wiping. His younger sister was recently diagnosed with endometrial cancer, and his mother was diagnosed with gastric cancer at 58 years of age. Colonoscopy shows a tumor in the ascending colon. A mutation of which of the following genes is most likely responsible for this patient's condition?

A. MLH-1

B. Tp53

C. KRAS

D. APC

HNPCC

Revised criteria (Amsterdam criteria II)
At least three relatives with an HNPCC-associated cancer (colorectal cancer, cancer of endometrium, small bowel, ureter, or renal pelvis)
One should be a first-degree relative of the other two
At least two successive generations should be affected
At least one should be diagnosed before age 50 years

84. A 66-year-old woman presents with bloating, flatulence, crampy abdominal pain, and chronic watery diarrhea. She has poorly controlled diabetes and chronic opioid use. Carbohydrate breath testing using glucose is abnormal. Which of the following is the most appropriate initial therapy?

A. Gluten-free diet

B. PPI

C. Pancreatic enzyme replacement

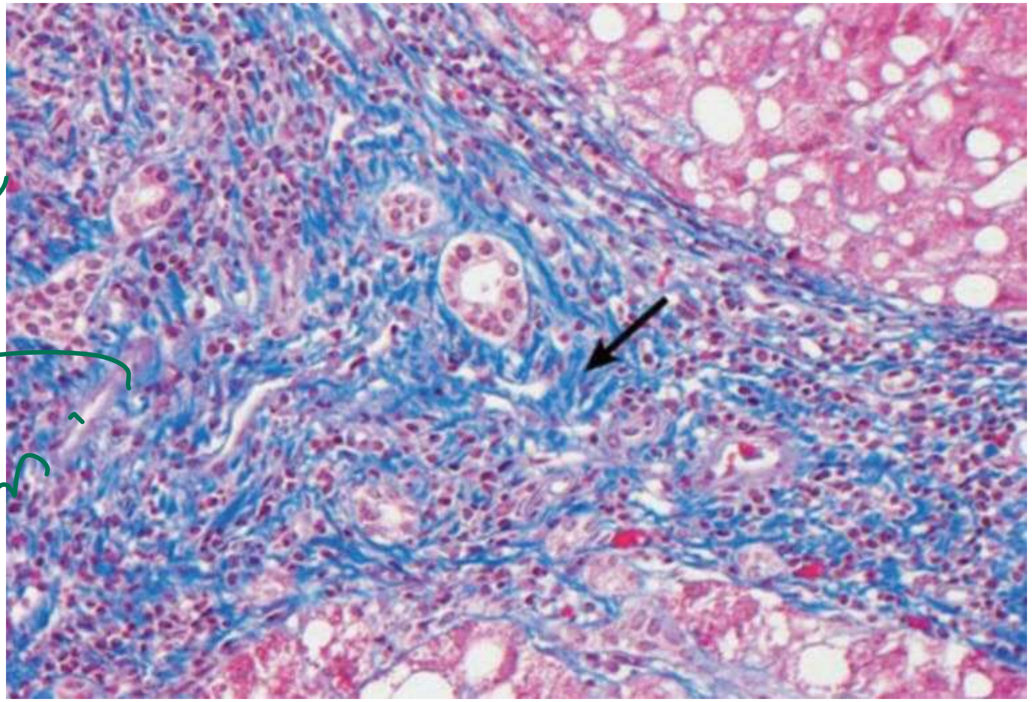
D. Rifaximin

BOGS

85. 62-year-old man comes for the evaluation of jaundice. Medical history is significant for uncontrolled type 2 diabetes mellitus and morbid obesity. He does not use tobacco, alcohol, or illicit drugs. BMI is 47 kg/m2. Laboratory studies reveal elevated transaminases. A liver biopsy is obtained, and trichrome staining shows the following.

Which of the following cells is directly responsible for the histologic finding indicated by the arrow?

A. Cholangiocytes
B. Hepatocytes
C. Kupffer cells
D. Stellate (Ito) cells



86. 34-year-old woman comes to the OPD with recent onset of malaise. The patient works as a nurse at a local hospital and lives at home with her husband and 2-year-old son. Physical examination is notable for hepatomegaly. Laboratory results are as follows:

Anti-HAV IgM Positive
Anti-HAV IgG negative
HBsAg negative
HBeAg negative
Anti-HBs positive
Anti-HBc negative
Anti-HBe negative
Anti-HCV negative

Hep A , Hep E

Which of the following is most likely to be elicited on further history taking?

A. Had an accidental needlestick exposure at work
B. Had a blood transfusion
C. Had steamed oysters at a neighborhood restaurant
D. Had unprotected sexual intercourse with a new partner

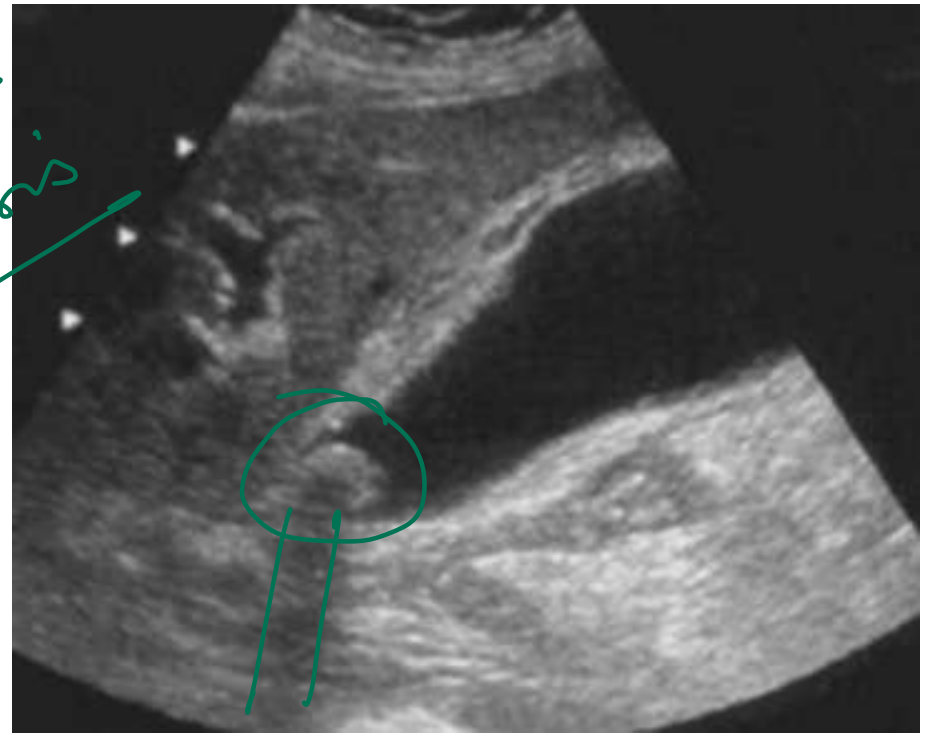
87. A 64-year-old man comes to the OPD due to acute-onset right upper quadrant abdominal pain, nausea, and vomiting. The patient had an extensive small bowel resection due to bowel ischemia a year ago and has been receiving total parenteral nutrition since then. Abdominal ultrasonography is shown below. Which of the following is most likely factor responsible?

A. Decreased cholecystokinin release due to lack of enteral stimulation

B. Decreased cholesterol conversion to bile acids due to liver dysfunction

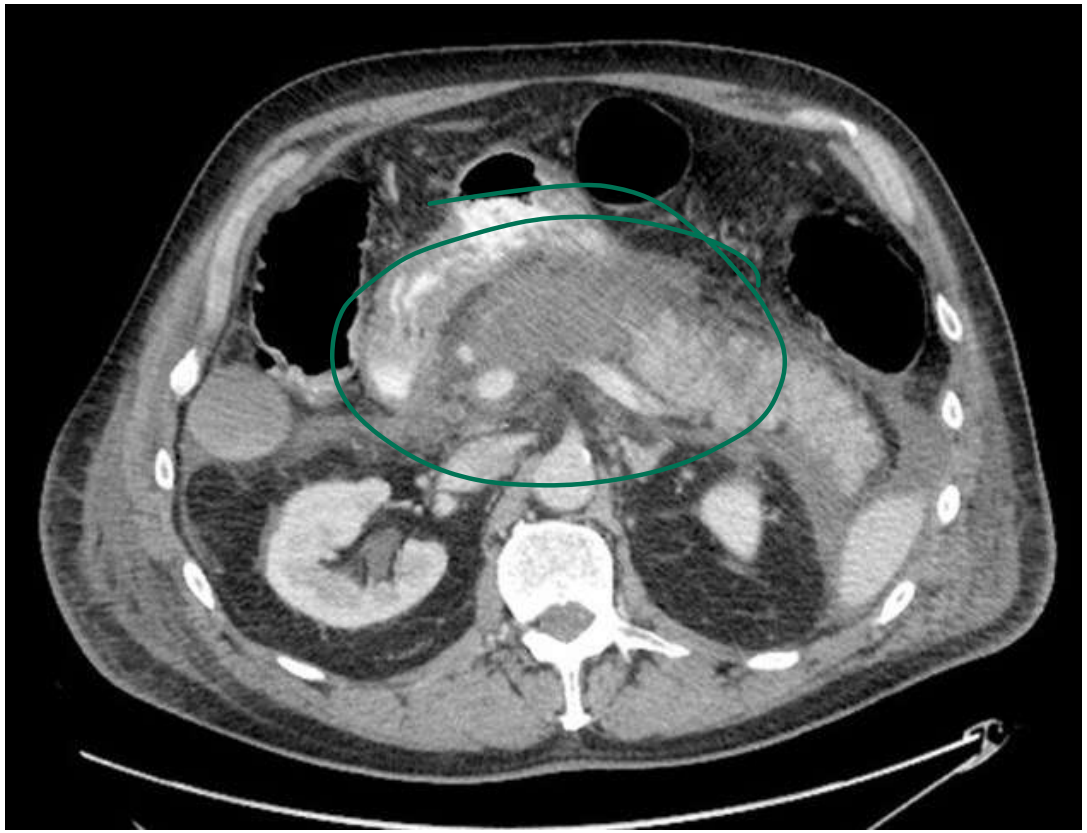
C. High cholesterol content of the nutritional fluids

D. Inadequate supplementation of essential fatty acids



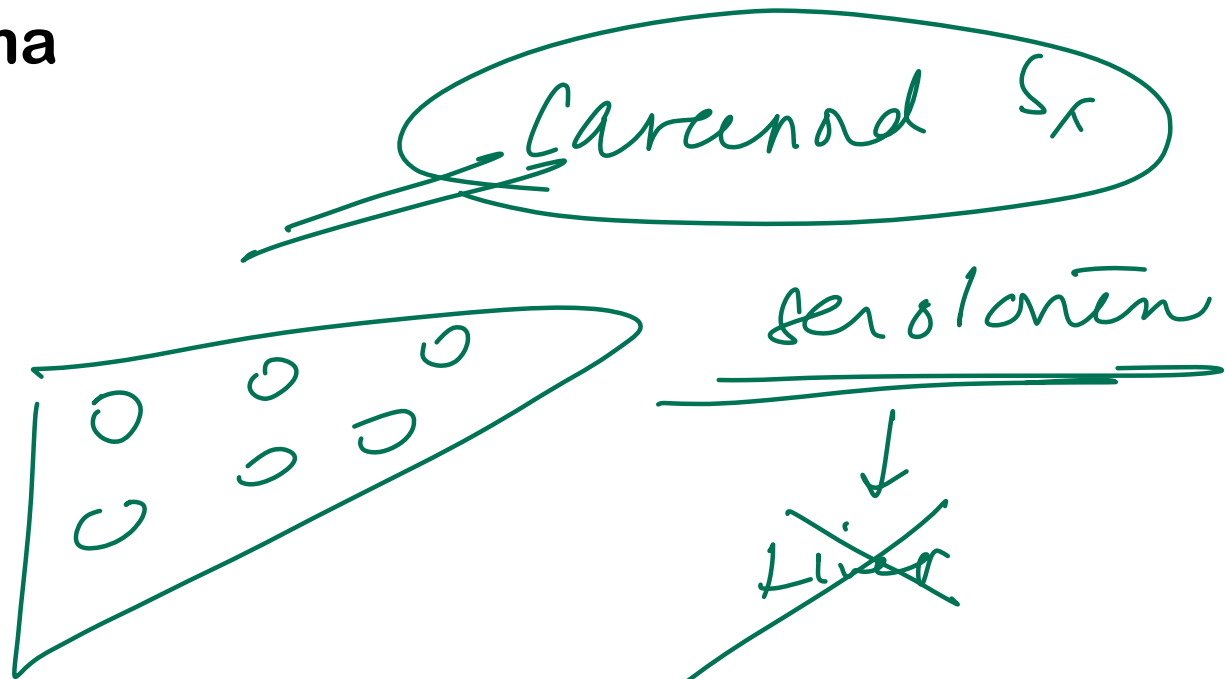
88. A 38-year-old man comes to the emergency department with severe abdominal pain and vomiting. The patient is admitted to the hospital and treated with intravenous fluids and pain medication, but his condition fails to improve. An abdominal CT scan is shown below. The inappropriate activation of which of the following most likely initiated this patient's condition?

A. Lipase
B. Proelastase
C. Prophospholipase
D. Trypsinogen



89. A 50-year-old woman comes to the physician due to periodic reddening of her skin that is starting to become bothersome. The patient has also had persistent watery diarrhea and associated abdominal cramping for the last several months. Physical examination shows several, purple vascular lesions surrounding her nose. Urinary excretion of 5- hydroxyindoleacetic acid (5-HIAA) over 24 hours is increased. Abdominal imaging shows a tumor in the small intestine. Which of the following is most likely responsible for this patient's condition?

A. Localized adenocarcinoma
B. Localized carcinoid
C. Metastatic carcinoid
D. Metastatic lymphoma



90. A 56-year-old man is brought to the emergency department by his wife because of increasing confusion and lethargy for the past 12 hours. He is oriented only to person. His temperature is 37.3°C (99.1°F), pulse is 109/min, respirations are 18/min, and blood pressure is 108/67 mm Hg. Examination shows abdominal distention and several erythematous, lacy lesions on the chest that blanch with pressure. His hands make a flapping motion when they are dorsiflexed. Which of the following is the most likely precipitating factor for this patient's symptoms?

A. Elevated systemic vascular resistance

B. Destruction of gut anaerobes

C. Thiamine pyrophosphate deficiency

D. Accumulation of hemoglobin in the intestine

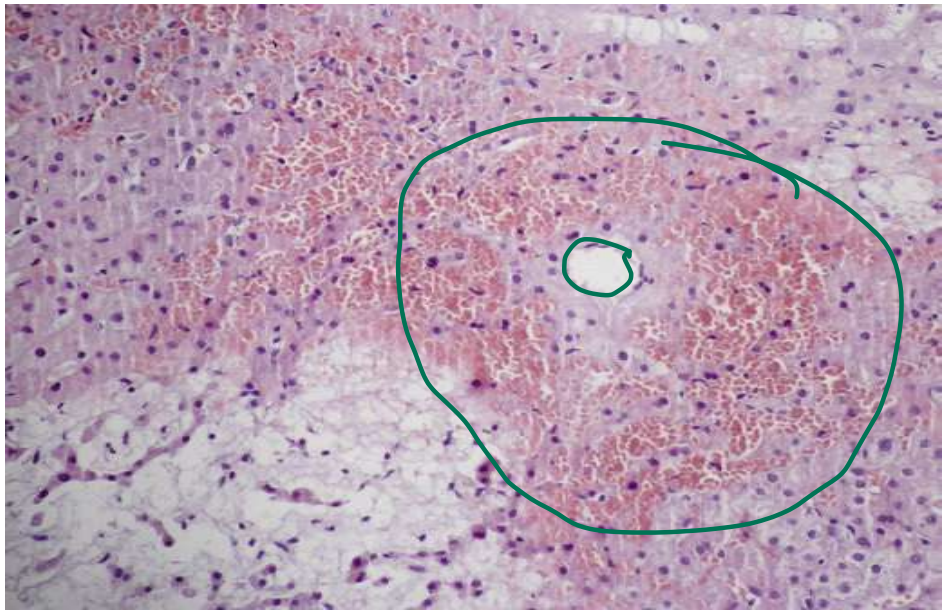
91. A 70-year-old man comes to the emergency department due to shortness of breath, poor appetite, and abdominal distension for the past 3 months. His symptoms have progressively worsened, and he is now unable to perform his daily activities. The patient has a history of ischemic heart disease and underwent coronary artery bypass grafting 5 years ago. Physical examination shows jugular venous distension, abdominal distension, hepatomegaly, and bilateral lower extremity edema. A representative liver biopsy image is shown in the exhibit. Which of the following is the most likely cause of this patient's liver findings?

A. Autoimmune biliary destruction

B. Excessive deposition of iron

C. Hepatitis virus infection

D. Passive hepatic congestion



92. A 54-year-old man with epigastric pain and positive occult blood test undergoes endoscopy, revealing hyperemic nodular mucosa. Biopsy shows submucosal glands producing alkaline mucus. Which part of the GI tract was biopsied?

A. First part of the duodenum

B. Mid-jejunum

C. Antrum of the stomach

D. Terminal ileum

Brunner

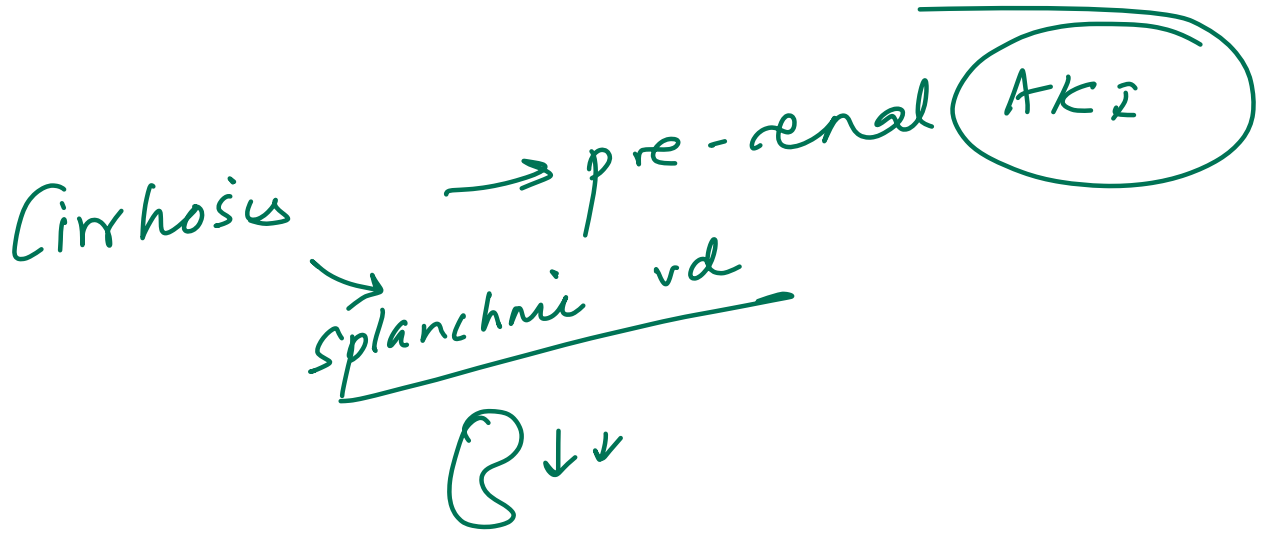
93. Which of the following is not part of the diagnostic criteria of hepatorenal syndrome?

A. No recent use of nephrotoxic agent

B. Presence of shock

C. Rise in creatinine of 0.3 mg/dl in 48 hours

D. 50% increase in creatinine from baseline within 7 days



Diagnostic Criteria of Hepatorenal Syndrome

- **Cirrhosis with Ascites**
- **Diagnosis of AKI**
- **No or inefficient response** in 48 hours after diuretic withdrawal and adequate volume expansion with IV Albumin
- **Absence of shock**
- **No evidence of recent use of nephrotoxic drugs**
- **Absence of intrinsic renal disease**

94. Which is not used in management in Wilson's disease?

A. Trientine
B. Zinc
C. Calcium citrate
D. Penicillamine

95. A patient undergoing chemotherapy was given an antiemetic, after which he developed symptoms like acute dystonia, bradykinesia, and tremors. Which of the following drugs would have caused these symptoms?

A. Scopolamine

B. Ondansetron

C. Metoclopramide

D. Meclizine

✓ BBB

D2 (−)

Domperidone × BBB-

96. As a part of cranial nerves examination, swallowing reflex is performed on a patient. Which of the following is not involved in afferent limb of this reflex?

A. Glossopharyngeal nerve
B. Vagus nerve
C. Facial nerve
D. Trigeminal nerve

97. Which of the following is the most potent choleretic?

A. Pancreatic juices
B. Bile salts
C. CCK
D. Fatty acids

bile ↑
release

98. A drug known to cause the following side effect is:

A. Rasburicase
B. Sucralfate
C. Colloidal bismuth subsalicylate
D. Senna

melanosis coli

99. Which of the following fluids have the highest daily secretion of potassium?

A. Bile

B. Jejunal secretion

C. Pancreatic secretion

D. Saliva

Conc — colon

100. Which part of the GIT has the longest transit time?

A. Colon
B. Ileum
C. Stomach
D. Jejunum

Cerebellum

Get the balance right

Thank you

Best wishes!