Memory Test - Body Fluid Electrolyte Acid Base Blench & Clinical Biochemistry Metabolism_Online_Davidson_Plus_1

Total Mark: 100
Time: 45 Min

1. A 40 year old patient is diagnosed as a case of primary hypoaldosteronism. What are the biochemical changes found in blood-
A) Metabolic Alkalosis
B) hyponatraemia
C) Hyperkalaemia
D) Metabolic Acidosis
E) Hypocalcemia
Answer: F, T, T, T, F
Discussion:
Reference:

2. A patient with carbon-dioxide retention is likely to have -
A) Metabolic acidosis
B) Alkaline urine
C) Cool extremities
D) Raised cerebral blood flow
E) Raised plasma bicarbonate
Answer: F, F, F, T, T
Discussion: F (Respiratory acidosis) F (Acidic urine) F (peripheral vasodilation, flapping tremor) T T (compensatory)
Reference: [Rodde/6th/Q-179]

3. Causes of metabolic acidosis e increased anion gap
A) Diabetic ketoacidosis
B) Lactic acidosis
C) Kidney disease
D) Methanol poisoning
E) Renal tublar acidosis
Answer: T, T, T, T, F
Discussion:
Reference: [Ref : Davidson's 23rd P-365]

4. Causes of metabolic acidosis e normal anion gap
A) Poisoning e NH4cl
B) Small bowel fistula
C) Aspirin poisoning
D) Saturation ketosis
E) RTA
Answer: T, T, F, F, T
Discussion:
Reference:

5. Causes of secondary hypertriglyceridaemia incwdess?
A) Hypothyroidism
B) Chronic renal disease
C) Abdominal obesity
D) Nephrotic syndrome
E) Gwco comticoids
Answer: F, T, T, F, T
Discussion:
Reference: [Ref: Davidson's/23rd/P-373]

6. Clinical feature of hypovolemia
A) Dizziness of standing
B) Postural hypotension
C) Bradycardia
D) Weight loss
E) Delirium
Answer: T, T, F, T, T
Discussion:
Reference: [Ref : Davidson's 23rd P-352]

7. Extracellular fluid differs from intracellular fluid in that its
A) Volume is greater
B) Tonicity is lower
C) Anions are mainly inorganic
D) Sodium: potassium molar ratio is higher
E) PH is lower
Answer: F, F, T, T, F
Discussion:
Reference: [Guyton/13th/P-307,308 + Genesis Sheet]

8. Hormones regulating E.C.F. volume are
A) Calcitriol
B) Aldosterone
C) ANP
D) ADH
E) Growth hormone
Answer: F, T, T, T, F
Discussion:
Reference: [Guyton/13th/P-362 + Ganong/25th/P-696,697]

9. Hyperosmolarity of the renal medullary interstium during countercurrent mechanism is due to
A) Active transport of Na from thick segment.
B) Co-transport of K & Cl' from thick segment.
C) Active transport of ions from the collecting duct.
D) Passive diffusion of urea from inner medullary collecting duct.
E) Active transport of K from collecting duct.
Answer: T, T, T, T, F
Discussion:
Reference: [Abc bio/7th/P-243]

10. Hypokalaemia is a feature of following syndromes:
A) Gitelman's syndrome
B) Liddle's syndrome
C) Conn's syndrome
D) Bartter's syndrome
E) Cushing's syndrome
Answer: T, T, T, T, T
Discussion:
Reference: [Abc bio/7th/P-350-351]

11. Regarding diagnosis of SIADH
A) Low plasma Na+ concentration (<130 mmol/L
B) Low plasma osmolarity (<275 mosmol/kg)
C) High plasma creatinine
D) High serum urea
E) Clinical euvolumia
Answer: T, T, F, F, T
Discussion:
Reference: [Ref : Davidson's 23rd P-357]

12. Respiratory alkalosis causes
A) Saturation of O2
B) Pa CO2
C) Pa O2 is less than 8.0 kpa
D) less tetany
E) increased total serum calcium
Answer: F, T, F, F, F
Discussion:
Reference: [Abc bio/7th/P-402]

13. Treatment of severe hyperkalaemia include-

A) IV calcium gluconate
B) Salbutamol
C) Iv glucose & insulin
D) Dialysis
E) IV Na bicarbonate
Answer: T, T, T, T, T
Discussion:
Reference: [Davidson/23rd/P-363, Box-14.17]

14. What are the clinical features of porphyria?

A) Erythyema
B) Hair loss
C) Hypopigmentation.
D) neuroprychiatric manifestation
E) Hyporatraemia due to SIADH
Answer: T, F, F, T, T
Discussion:
Reference: [Ref: Davidson's/23rd/P-379]

15. Causes if redistribution of K+ from cell
A) Acidosis
B) Insulin
C) -blockers
D) Rhabdomyolysis
E) Tumor lyses' syndrome
Answer: T, F, T, T, T
Discussion:
Reference: [Ref : Davidson's 23rd P-362]

16. ECG changes of hypokalemia include
A) Prominent U wave
B) Loss of P wave
C) ST depression
D) Prolonged P-R interval
E) Prolongation of QRS complex
Answer: T, F, T, F, F
Discussion:
Reference: [Ganong/25th/P-534]

17. Factors influence K+ secretion
A) Hyperkalaemia
B) Alkalosis
C) Acidosis
D) Aldosterone
E) Negative luminal potential
Answer: T, T, F, T, T
Discussion:
Reference: [Ref : Davidson's 23rd P-360]

18. Following are cause of hypovolumaetric hypernatraemia
A) Osmotic diurectic
B) Thiazide diuretic
C) Glycosuria
D) Excessive sweating
E) Diabetes insipidus
Answer: T, F, T, T, F
Discussion:
Reference: [Ref : Davidson's 23rd P-359]

19. Following are causes of hypokalaemia metabolic acidosis
A) Vomiting
B) Diarrhea
C) Nasogastric obstruction
D) Bowel obstruction
E) Ureterosigmoidostomy
Answer: F, T, F, T, T
Discussion:
Reference: [Ref : Davidson's 23rd P-361]

20. Following are the causes of Na & Water excess
A) Renal artery stenosis
B) Primary hypoaldosteronism
C) Protein losing enteropathy
D) Malnutrition
E) Addison's disease
Answer: T, F, T, T, F
Discussion:
Reference: [Ref : Davidson's 23rd P-354]

21. Following are the ICF anions
A) Cl-
B) HCO3-
C) HPO42-
D) K+
E) Negatively charged protein
Answer: F, F, T, F, T
Discussion:
Reference: [Ref : Davidson's 23rd P-349]

22. Gitelman's syndrome is associated e
A) Hypokalemia
B) Hyperkalaemia
C) Hypomagnesaemia
D) Alkalosis
E) HTN
Answer: T, F, T, T, T
Discussion:
Reference: [Ref : Davidson's 23rd P-361]

23. Magnesium deficiency is
A) A causes of confusion, depression and epilepsy
B) Usually due to prolonged vomiting and diarrhoea
C) Found in uncontrolled diabetes mellitus and alcohclism
D) Found in primary hyperparathyroidism and acute pancreatitis
E) Best treated with oral magnesium sulphate
Answer: T, T, T, T, F
Discussion:
Reference: [Abc bio/7th/P-488 + Genesis Sheet/P-29]

24. Metabolic alkalosis
A) More common than metabolic acidosis
B) Increase blood PCO2 (also HCO3- & PH)
C) HCO3- in urine
D) Compensated by increase ventilation (by hypoventilation)
E) Diabetic ketoacidosis
Answer: F, T, T, F, F
Discussion:
Reference: [Abc bio/7th/P-398-399]

25. Renin release is stimulated by
A) Increase sympathetic nerve activity
B) Decrease sympathetic nerve activity
C) Reduced perfusion pressure in afferent arterioles
D) Increased NaCl concentration in distal tubular fluid
E) Decreased NaCl concentration in distal tubular fluid
Answer: T, F, T, T, F
Discussion:
Reference: [Ref : Davidson's 23rd P-351]

26. A 28-year-old patient was seen in the emergency department with metabolic acidosis and a decreased anion gap. What is the most likely cause for the decreased anion gap in this patient?
A) Hypoalbuminaemia
B) Hypocalcaemia
C) hypomagnesaemia
D) Lactic acidosis
E) Uraemia
Answer: A
Discussion:
Reference:

27. A 52-year-old woman was admitted into the surgical intensive care unit after a prolonged and complex cardiac surgical operation. Her tissue perfusion was poor in the immediate postoperative period and arterial blood gas analysis showed lactic acidosis. What type of lactic acidosis did this woman have in the immediate postoperative period?
A) Type A
B) Type Bl
C) Type B2
D) Type B3
E) Type C
Answer: A
Discussion:
Reference: [Ref: Davidson's 23rd P-365]

28. A 6-year-child was seen with profound hypokalaemia. In which of the following conditions will hypokalaemia be most consistently found?
A) Acute respiratory acidosis
B) Addison's disease
C) Chronic renal failure
D) Diabetic ketoacidosis
E) Prolonged vomiting
Answer: E
Discussion:
Reference:

29. A child with pleurisy for 5 days was assessed. A small pneumothorax with a moderate-sized pleural effusion was seen on a chest X-ray. His arterial blood gases on air showed PH=7.44, P (CO2)=23 mmHg, P(O2)= 234.5 mmHg, Standard bicarbonate= 16 mmol/1. This patient had:
A) Compensated metabolic acidosis
B) Compensated metabolic alkalosis
C) Compensated respiratory acidosis
D) Compensated respiratory alkalosis
E) Mixed acidosis
Answer: D
Discussion:
Reference:

30. A raised blood PH & bicarbonate level is consistent with:
A) Persistent vomiting of gastric content
B) Chronic renal failure with a raised Pco2
C) A reduced Pco2
D) Partly compensated respiratory alkalosis
E) Metabolic acidosis
Answer: A
Discussion:
Reference:

31. All are true regarding diagnosis of SIADH except
A) Low plasma sodium concentration
B) Low plasma osmolarity
C) High plasma urea
D) Clinical evidence
E) No recent use of diurectics
Answer: C
Discussion:
Reference: [Ref: Davidson's .23rd P-357]

32. Following are the cause of euvolumic hyponatraemia except
A) Primary polydipxia
B) Excessive electrolyte free water infusion
C) SIADH
D) Congestive cardiac failure
E) Hypothyroidism
Answer: D
Discussion:
Reference: [Ref: Davidson's .23rd P-357]

33. Following drug cause hyperkalaemia except

A) □- blocker
B) ACE inhibitors
C) Spironolactone
D) Acetazolamide
E) Amiloride
Answer: D
Discussion:
Reference: [Ref: Davidson's .23rd P-362]

34. Heparin cause hyperkalaemia by following mechanism
A) Block mineralocorticoid receptor
B) Inhibits aldosteron production
C) Flux of intracellular K+ into plasma
D) Direct effect on K+ transporter in tubule
E) Blocks K+ exchange in distal tubule
Answer: B
Discussion:
Reference: [Ref: Davidson's .23rd P-362]

35. Regarding metabolic alkalosis which one is true
A) ? blood H+
B) ? blood Ph
C) ? HCO3-
D) ? PCO2 when compensated
E) ? PCO2 when compensated
Answer: D
Discussion:
Reference: [Ref: Davidson's .23rd P-365]

36. Which one cause secondary hypertriglcenidaemia
A) Nephrotic syndrome
B) Anorexia nervosa
C) Cholestatic liver disease
D) Hypothyroidism
E) Type-II DM
Answer: E
Discussion:
Reference: [Ref: Davidson's .23rd P-372]

37. Which one in not the cause of hyper cholesterolaemia?
A) Hypothyroidism
B) Pregnancy
C) Excess alcohol
D) Anorexia nervosa
E) Porphyria
Answer: C
Discussion: Explanation: c. Excess alcohol is the cause of Hypertryglyceridaemia
Reference: [Ref: Davidson's/23rd/P-373/Box-14.25]

38. Which one is most important factor of K+ secretion
A) Negative luminal potential difference
B) Rate of sodium delivery
C) Hyperkalaemia
D) Alkalosis
E) Aldosterone
Answer: E
Discussion:
Reference: [Ref: Davidson's .23rd P-360]

39. Which one is not true regarding respiratory acidosis
A) ? blood H+
B) ? blood Ph
C) ? PCO2
D) ? PCO2
E) ? HCO3- when compensated
Answer: C
Discussion:
Reference: [Ref: Davidson's .23rd P-365]

40. Which one is the cause of classical distal tubular acidosis (Type-I)
A) Wilson's disease
B) Cystinosis
C) Multiple myeloma
D) Hypergkobulinaemia
E) Hypoaldosteronism
Answer: D
Discussion:
Reference: [Ref: Davidson's .23rd P-365]

41. Which one is the cause of hyperkalaemia
A) Alkalosis
B) □-agonist
C) Conn's syndrome
D) Acetalolamide
E) Amiloride
Answer: E
Discussion:
Reference: [Ref: Davidson's .23rd P-362]

42. Which one play vital role in determining plasma osmolarity
A) Na+ ion in the ICF
B) Na+ ion in the ECF
C) K+ ion in the ICF
D) K+ ion in the ECF
E) Cl- ion in the ECF
Answer: B
Discussion:
Reference: [Ref: Davidson's .23rd P-349]

43. Following are cause redistribution of K+ into cell except
A) Alkalosis
B) Insulin
C) Carecgolamines
D) □- blocker
E) Hypokalaemic periodic paralysis
Answer: D
Discussion:
Reference: [Ref: Davidson's .23rd P-361]

44. A 26-year-old woman has developed euvolaemic hyponatraemia. Which of the following conditions is most likely to be associated with this abnormality?
A) Diuretic therapy
B) Pancreatitis
C) Protracted vomiting
D) Psychosis
E) Salt-losing nephropathy
Answer: D
Discussion: [Psychosis]
Reference:

45. A 28-year-old unconscious patient was brought to the Accident and Emergency Department. The senior house officer (SHO) attending him administered intravenous sodium bicarbonate as a part of the emergency therapy. Intravenous sodium bicarbonate was given to treat:
A) Hypokalaemia
B) Metabolic acidosis
C) Metabolic alkalosis
D) Respiratory acidosis
E) Respiratory alkalosis
Answer: B
Discussion: [Metabolic acidosis]
Reference: [Davidson/23rd/P-365/Box-14.19]

46. A blood gas analysis report of a 36-year-old patient admitted to hospital shows: pH 7.6, p(O2) 75 mmHg, p(CO2) 46 mmHg and bicarbonate 44 mmo1/1. The most likely interpretation of this set of values is:
A) Metabolic acidosis
B) Metabolic alkalosis
C) Respiratory acidosis
D) Respiratory alkalosis
E) Respiratory failure
Answer: B
Discussion:
Reference:

47. Causes of hyperkalaemic renal tabular acidosis-
A) Sjoogren's syndrome
B) Hyperparathyroidism
C) Hypoaldosteronism
D) Inherited cystinosis
E) HYperglobulinaemia
Answer: C
Discussion:
Reference: [Davidson/23rd/P-365/Box-14.20]

48. Na+ reabsorption in the loop of Henle occur through
A) Glucose co-transporter (SGLT2)
B) Na+ -H+ counter transporter (NHE-S)
C) Na, K,ZCL co-transporter(NKCC.2)
D) Na+ - Cl- co-transporter (NCCT)
E) Na+ - Ca2+ counter tranporter
Answer: C
Discussion:
Reference: [Ref: Davidson's .23rd P-351]

49. Regarding aldosterone all are true except

A) It is released form adrenal cortex in direct

B) It acts on late distal tubule & collecting duct
C) It enhance potassium secretion
D) It enhance hydrogen reabsorption
E) It enhance Na+ reabsorption
Answer: D
Discussion:
Reference: [Ref: Davidson's .23rd P-360]

50. Which one is the cane of proximal renal tublar acidosis (Type-II)
A) SLE
B) Sjogren's syndrome
C) Fanconi's syndrome
D) Hypoaldosteronism
E) Renal transplant rejection
Answer: C
Discussion:
Reference: [Ref: Davidson's .23rd P-365]