

MULTIPLE CHOICE QUESTIONS

2nd MODULE (3rd year MBBS)

(Drugs acting on Endocrine, GIT system, NSAIDs, Autacoids)

Max Marks: 50

Time allowed: 50 minutes

1. An 18 month old boy dies from an accidental overdose of acetaminophen. Which of the following is the most likely cause of this patient's death?
 - a) **Liver failure**
 - b) Arrhythmia
 - c) Hemorrhagic stroke
 - d) Gastric bleeding
2. Which of the following is an analgesic and antipyretic drug that lacks an anti-inflammatory effect?
 - a) Aspirin
 - b) Celecoxib
 - c) Indomethacin
 - d) **Acetaminophen**
3. Which of the following drug polymerizes in stomach acid and coats the ulcer beds, resulting in accelerated healing of peptic ulcer?
 - a) Aluminium hydroxide
 - b) Cimetidine
 - c) Omeprazole
 - d) **Sucralfate**
4. A 30-years old, married woman, suffering from peptic ulcer was taking a drug to relieve gastro-oesophageal reflux symptoms for last 1 year. She presented to a gynaecologist for the complaints of irregular menstruation. Which of the following anti-ulcer drug is most likely to cause these symptoms due to anti-androgen effects?

- a. **Cimetidine**
 - b. Lansoprazole
 - c. Misoprostol
 - d. Antacids
5. Drug treatment of ulcerative colitis include all EXCEPT.
- a. Corticosteroids
 - b. Salicylate derivatives
 - c. Immunosuppressive agent
 - d. **H2 receptor antagonists**
6. Which of followings is the antidote that may be of great benefit in early management of acetaminophen organ-specific toxicity?
- a. **N-acetylcysteine**
 - b. Naloxone
 - c. Nalbuphine
 - d. Deferoxamine
7. A man is given a drug to reduce thyroid gland size and vascularity before surgical thyroidectomy. Which mechanism is responsible for its use in this setting?
- a. Inhibition of the sodium/iodide symporter
 - b. Inhibition of thioperoxidase
 - c. Inhibition of TSH secretion
 - d. **Inhibition of thyroid hormone release**
8. Which of the following compounds is incorrectly matched with its mechanism of action?
- a. Flutamide: Competitively blocks the binding of androgens to their receptor
 - b. Finasteride: Inhibits 5 α -reductase
 - c. **Pioglitazone: Inhibits α -glucosidase**
 - d. Mifepristone: blocks the binding of progesterone and glucocorticoids to their receptor
9. A 23 years old woman has failed to become pregnant after 2 years of unprotected intercourse. What would be effective to treat this infertility due to anovulatory cycles.

a. A combination of an estrogen and progesterone

b. Clomiphene

c. Tamoxifen

d. Raloxifene

10. A patient with asthma is being treated effectively with an inhaled preparation of beclomethasone dipropionate. Inhibition of which of the following enzyme is responsible for its anti-inflammatory effect?

a. Xanthine oxidase

b. 21 beta hydroxylase

c. Phospholipase A2

d. Prostacyclin synthase

11. Currently three subtypes of histamine receptors are proposed: H1 and H2 receptors are found in peripheral tissues and CNS. The second messenger pathway that mediates H1 receptor stimulation is:

a) Inhibition of adenylate cyclase activity

b) Elevation of intracellular cyclic adenosine monophosphate

c) Activation of tyrosine kinases

d) Increased formation of inositol triphosphate

12. Which of the following is a drug used to prevent nausea and vomiting associated with surgery and cancer chemotherapy by blocking 5-HT₃ receptors?

a) Ondansetron

b) Aprepitant

c) Dronabinol

d) Metoclopramide

13. A 29 years old female has a 10 years history of migraine headaches. She can usually sense onset. Which of the following agents is the drug of choice for countering acute onset of her headaches?

- a) Propranolol
- b) Ergonovine c
-) Methysergide
- d) Ergotamine**

14. Sumatriptan succinate is effective for the treatment of acute migraine headache by acting as:

- a) An inhibitor of prostaglandin
- b) A selective antagonist of histamine receptor
- c) An antagonist of beta receptors
- d) A selective agonist of 5HT receptors**

15. A 30 years old patient is suffering from Inflammatory Bowel Disease(IBD). Which of the following anti-inflammatory drug is prescribed in IBD is a combination of 5-ASA and sufapyridine?

- a) Abciximab
- b) Corticosteroids
- c) Olsalazine
- d) Sulfasalazine**

16. A 60-year-old man suffering from recurrent heartburn routinely takes large quantity of different antacid preparations. Which of the following antacids had the highest risk of metabolic alkalosis in this patient?

- a) Aluminium hydroxide
- b) Calcium carbonate
- c) Magnesium hydroxide
- d) Sodium bicarbonate**

17. Which of the following drugs is a D2 receptor antagonist and increases gastric emptying in patients with diabetic gastroparesis?

- a) Erythromycin
- b) Granisetron
- c) Magnesium hydroxide

d)
Metaclopramide

18. Which of the following drugs is CYP-450 inhibitor and can increase toxicity of drugs which are metabolized by cytochromes?
- a) Bismuth subsalicylate
 - b) Calcium hydroxide
 - c) Cimetidine**
 - d) Misoprostol
19. 5-year-old woman presents with insomnia and fears she may have “something wrong with her heart.” She describes “her heart jumping out of her chest.” She feels healthy otherwise and reports she has lots of energy. Lab tests confirm hyperthyroidism. Which of the following is a drug that produces a permanent reduction in thyroid activity?
- a. I – 131**
 - b. Methimazole
 - c. Propylthiouracil
 - d. Thiocyanate (SCN⁻)
20. Which of the following anti-ulcer drug is responsible for Vitamin B-12 deficiency on long term use?
- a) Cimetidine
 - b) Misoprostol
 - c) Omeprazole**
 - d) Ranitidine
21. Which of the following drug is a somatostatin analogue, indicated for inhibition of gastric acid secretion in case of esophageal varices?
- a) Gastrin
 - b) Histamine
 - c) Lanzoprazole
 - d) Octreotide**
22. Which of the following antiulcer drug is preferred for the treatment of NSAID induced peptic ulcer?
- a) Calcium carbonate

- b) Cimetidine c
-) Lanzoprazole
- d) Misoprostol**

23. A 50-year-old woman, a known asthmatic for the past 30 years, presented to the emergency department with a 2-d history of worsening breathlessness and cough. Chest auscultation revealed bilateral polyphonic inspiratory and expiratory wheeze. Supplemental oxygen, nebulized albuterol (salbutamol) (5 mg) and intravenous methyl prednisolone (40 mg) were administered. Which of the following is a pharmacologic effect of exogenous glucocorticoids in this patient?

- a) Increased muscle mass
- b) Hypoglycemia
- c) Inhibition of inflammatory mediators**
- d) Increased excretion of salt and water

24. In case of congenital adrenal hyperplasia which of the following describes the primary therapeutic effect of glucocorticoid administration?

- a) Increased adrenal estrogen synthesis
- b) Inhibition of adrenal aldosterone synthesis
- c) Prevention of hypoglycemia
- d) Suppression of ACTH secretion**

25. Which of the following best describes a glucocorticoid response element?

- a) A protein regulator that controls the interaction between an activated steroid receptor and DNA
- b) A short DNA sequence that binds tightly to RNA polymerase
- c) A small protein that binds to an unoccupied steroid receptor protein and prevents it from becoming denatured
- d) A specific nucleotide sequence that is recognized by a steroid hormone receptor- hormone complex**

26. A 56-year-old woman with systemic lupus erythematosus had been maintained on a moderate daily dose of prednisone for 9 months. Her disease has finally gone into remission and she now wishes to gradually taper and then discontinue the prednisone. Gradual tapering of a glucocorticoid is required for recovery of which of the following?

- a) Depressed release of insulin from pancreatic B cells
- b) Hematopoiesis in the bone marrow
- c) Normal osteoblast function
- d) The hypothalamic-pituitary-adrenal system**

27. Thyroid hormones produce various pharmacological effects. Indicate the wrong statement

- a) Decline of the basal metabolic rate in the body**
- b) Increase in the rate and force of contraction of the heart
- c) Weight loss
- d) Increase in the heat production

28. A serious but rare toxicity associated with the ClO₄ (Anion inhibitors) is which of the following?

- a) Aplastic anemia**
- b) Lupus erythematosus-like syndrome
- c) Myopathy
- d) Torsades de pointes arrhythmia

29. A 45-year-old man presented to the emergency department with tachycardia, shortness of breath, and chest pain and was sweating and anxious after discontinuation of Propylthiouracil. Diagnosis of thyroid storm was made after checking TSH levels which were below normal range. Which of the following is a drug that is a useful adjuvant in the treatment of thyroid storm?

- a) Amiodarone
- b) Betamethasone

c) Epinephrine

d) Propranolol

30. Serious side effects of glucocorticoids include the following, EXCEPT:

a) Acute peptic ulcers

b) Iatrogenic Cushing's syndrome (rounding, puffiness, fat deposition and plethora alter the appearance of the face – moon faces)

c) Salicylism (vomiting, tinnitus, decreased hearing, and vertigo)

d) Hypomania or acute psychosis

31. A patient with Addison disease continues to have hyperkalemia despite receiving adequate replacement doses of hydrocortisone (cortisol). Which drug should be added to the treatment regimen to reduce serum potassium levels?

a) dexamethasone

b) fludrocortisone

c) triamcinolone

d) prednisone

32. Which of the following glucocorticoids is a long-acting drug?

a) Prednisolone

b) Dexamethasone

c) Triamcinolone

d) Cortisone

33. Which of the following drugs acts by inhibiting corticosteroid hormones synthesis?

a) Beclomethasone

b) Aminogluthetimide

c) Spironolactone

d) Mifepristone

34. A 54 year-old obese patient with type 2 diabetes has a history of alcoholism. In this patient, metformin should either be avoided or used with extreme caution because the combination of metformin and ethanol increases the risk of which of the following?

- a) A disulfiram-like reaction
- b) Excessive weight gain
- c) Hypoglycemia
- d) Lactic acidosis**

35. A patient with type 2 diabetes mellitus has been prescribed Acarbose. Select its mechanism of action.

- a) Diminishing insulin resistance by increasing glucose uptake and metabolism in muscle and adipose tissues
- b) Competitive inhibiting of intestinal alpha-glucosidases and modulating the postprandial digestion and absorption of starch and disaccharides**
- c) Inhibitor of dipeptidyl peptidase
- d) Stimulating the beta islet cells of pancreas to produce insulin

36. A patient comes to emergency department in a confused state. He has fruit smelly breath upon examination. His blood sugar is 250mg/dl. Ketones are present in urine. Which of the following insulin preparation will be useful in this case:

- (a) Regular insulin**
- (b) Detemir insulin
- (c) NPH insulin
- (d) Glargine insulin

37. Which of the following drugs is most likely to cause hypoglycemia when used as monotherapy in the treatment of type 2 diabetes?

- a) Acarbose
- b) Glyburide**
- c) Metformin
- d) Rosiglitazone

38. A 50 years old lady having breast cancer with estrogen & Progesterone receptors may receive:

- a) Ethinyl estradiole
- b) Flutamide.
- c) Leuprolide.
- d) Tamoxifen.**

39. Which of the following is the most likely complication of insulin therapy

- a) Dilutional hyponatremia
- b) Hypoglycemia**
- c) Increased bleeding tendency
- d) Pancreatitis

40. A woman is prescribed Oral contraceptives. Which of the following adverse effect is most likely to occur in this patient?

- a) Thromboembolism**
- b) Weight loss
- c) Ectopic pregnancy
- d) Dysmenorrhea

41. A progestin is included in regimens for HRT (hormone replacement therapy) to prevent which of the following adverse effects?

- a) breast cancer

- b) **endometrial cancer**
- c) myocardial infarction
- d) stroke

42. A teenager seeks postcoital contraception. Which of the following preparations will be effective for this purpose?

- a) Clomiphene
- b) Tamoxifen
- c) Diethylstilbestrol (DES)
- d) **Mifepristone**

43. Many physicians prefer to treat acute gout with corticosteroids and indomethacin in spite of colchicine because colchicine is likely to cause:

- a) Rash
- b) **Diarrhea**
- c) High blood pressure
- d) Gastrointestinal bleeding

44. Which of the following is a parenterally administered DMARD whose mechanism of anti-inflammatory action is antagonism of tumor necrosis factor?

- a) Cyclosporine
- b) **Etanercept**
- c) Penicillamine
- d) Phenylbutazone

45. Which of the following drugs is most likely to increase serum concentrations of conventional doses of methotrexate, a weak acid that is primarily cleared in the urine?

- a) Acetaminophen
- b) **Allopurinol**

- c) Colchicine
- d) Probenecid**

46. Which of the following drugs is taken during the first part of a meal for the purpose of delaying the absorption of dietary carbohydrates?

- a) Acarbose**
- b) Exenatide
- c) Glipizide
- d) Pioglitazone

47. A 60 years old postmenopausal women was sent for dual energy x-ray absorptiometry to evaluate the bone mineral density of her lumbar spine, femoral neck, and total hip. The test results revealed significantly low bone mineral density in all sites. Chronic use of which of the following medications is most likely to have contributed to this woman's osteoporosis?

- a) Lovastatin
- b) Metformin
- c) Prednisone**
- d) Propranolol

48. In a patient of osteoporosis taking alendronate, she would be advised to drink large quantities of water with the tablets and remain in an upright position for at least 30 min and until eating the first meal of the day. These instructions would be given to decrease the risk of which of the following?

- a) Cholelithiasis
- b) Diarrhea
- c) Constipation
- d) Erosive esophagitis**

49. If you stopped at a drugstore, which one of the following antidiarrheal drugs could you buy without a prescription even though it is related chemically to the strong opioid analgesic meperidine?

- a) Aluminum hydroxide
- b) Omeprazole
- c) Loperamide**
- d) Magnesium hydroxide

50. A 45 years old man with duodenal ulcer was treated with a combination of drugs intended to heal the mucosal damage and to eradicate *Helicobacter pylori*. Which of the following antibacterial drugs is used commonly to eradicate intestinal *H pylori*?

- a) Cefazolin
- b) Ciprofloxacin
- c) Clarithromycin**
- d) Clindamycin

