COURSE TITLE : GENERAL PHARMACOLOGY I **DATE :** June 26, 2020

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SECTION "B"

Q NO.1 (a):what does drug interactions mean and enumerate its various types.

(b)write down a detail note on pharmacodynomic drug interaction.

ANS: (a) ***''Drug interaction mean''***

A drug interaction has occurred when the administration of one drug alters the clinical effects of another. The result may be an increase or decrease either the beneficial or harmful effects of the second agent.

''TYPES''

- Drug - drug interactions
- Drug - food interactions
- Chemical – drug interactions
- Drug – laboratory test interactions
- Drug – disease interactions

B: (pharmacodynomic drug interaction)

Pharmacodynomic drug interaction those are which the activity of the object drug its site of action is altered by the precipitant. Such as interactions may be direct or indirect.

1: **indirect pharmacodynomic interactions**

In which both the object and the preciptant drug have unrelated effects. But the letter in some way alter the effect but the letter in some way alter the effect of the former.

Example: salicylates decrease the ability of the platelets to aggregate this impairing the homeostasis if warfrin induced bleeding occurs.

2: **direct pharmacodynomic interactions**

In which drugs having similar or opposing pharmacological effect are used concurrently.

- ***Antagonism***: the the interacting drugs opposing actions.
  Example:acetylcoline and noradrenline have opposing effects on heart rate.

- ***Addition or summation***: the interacting drugs have similar actions and the resultant effect is the same of individual deugs responses.
  Example: CNS depressents like sedative and hypnotic etc..
- ***Synergism or potentiation:*** it is an enhancement of action of one drug by another.
  Example: alcohol enhances the analgesic activity of aspirine.

Q NO.2: (a) differentiate between hypereglycemic and hypoglycemic agent with example.
(b) what is emesis and atiemetic drugs, give example.
(c) what kind of drugs are used for cough and sputum, give example.

1. “Differentiate betwean hypereglycemia and hypoglycemia “

hypereglycemia	Hypoglycemia
Hypereglycemia refers to an excess of glucose in the bloodstream	Hypoglucemia refers to a deficiency of glucose on the bloodstream
Blood sugar level rises more than 130mg/dl	Blood sugar level drops less than 70mg/dl
Can be caused by non-compliance of anti-glycemic agent	Can be caused by excessive intake of anti-glycemic agent beyond he prescribed dose
Commonest complication is hyperosmolar hypereglycemic nonketotic syndrome	Commonest complication is diabetic ketocidosis

Example:

hypereglycemis	Hypoglycemia
Dry mouth, increased thirst, weaknes,headache, blured vision and frequent urination	Sweating, pallor irritability, hunger, lack of coordination and sleeping

2. (Emesis)

It is the action or process of the voming.it can occur with illnesses such as food poisoning or the stomach flu.

❖ ***Antiemetic drug example:***

1. Antihistamine
2. Dopamine
3. Neurokinin receptor antagonists

3. (drug of Cough and sputum)

❖ Tab claritek 500mg
❖ Tab baydal
❖ Tab nuberal fort
❖ Syp hydraline

Q NO.3: (a) enumerates different target for antibiotics.

(b) explain viral replication process in detail.

ANS: **(a) "anti biotics target"**

1) the intibiotics of cell wall synthesis.
2) the discruption of cell membrane function.
3) the inhibitition of translation.
4) The inhibitions of transcription
5) The inhibitions of metabolism
6) The inhibition of DNA replication

(b) "viral replication"

Viral replication is the formation of biological virtuses during the infection process in the target host cells.viruses must first get into the cell before viral replication can occur….most DNA viruses assemble in the nucleus while most RNA viruses develop solely in cytoplasm…

1) **Attachment:** viral proteins on the capsid of phaspholipid envelop interact with specific receptors on the host cellular surface.this specific determines the host range of a virus..
2) **Penetration:** the process of attachment to a specific receptors can induce informational change in viral capsid protein,or the envelop, that result in the fussion of viral and cellular membrane.
3) **Uncoating:** the viral capsid is removed and degrade by vuiral enzymes or host enzymes releasing the viral genomic nucleic acid.
4) **Replication:**after the viral genome has been uncoated transcription or translation of the viral genome is inimated.it is this stage of viral replication that differs greatly betwean DNA and RNA viruses with opposite nucleic acid polarity.
5) **Assembly:** after synthesis of viral genome and protein which can be post transcriptionaly modified viral protein are packages with newly replicated viral genome into new vision that that are ready from released from the host cell.

6) **Release:** there are two method of viral rel;ease lysis or budding lysis result in the death of an infected host cell. These type of viruses are reffered to as catalytic.

Q NO.4: (a) classification of antihypertensive drugs.

1) **Diuretics:**
   - ❖ Thiazides and congeners
   - ❖ Loop diuretics
   - ❖ Potassium sparing diuretics
2) **Sympatholytics:**
   - ❖ Centralling acting antidrenergic agent
   - ❖ Alpha adrenergic blockers
   - ❖ Beta adrenergic blockers
   - ❖ Alpha-beta adrenergic blockers
3) **Vasodialators:**
   - ❖ Nitrix oxygen release
   - ❖ Potassium channel openers
   - ❖ Calcium channels blockers
   - ❖ D1 dopamine receptors against.
4) **Angiotensin inhibitors and antagonists:**
   - ❖ Angiotensin converting enzyme inhibitors
   - ❖ Angiotension receptor antagonists.

(b)

- ❖ Coronary atheroscelrosis.
- ❖ Coronary artery spasm.
- ❖ Transient platelets aggregation and cornory thrombosis
- ❖ Endothelial injury causing the accumulation of vasoconstriction substances.
- ❖ Cornory vasoconstriction following adrenergic stimulation

kind

- Stable angina
- Unstable angina
- Variant angina
- Microvascular angina

Q NO.5: (a)

1) **General anesthesia:** which result in a reversible loss of consciousness
2) **Local anesthesia:** which cause a reversible loss of sensation for limited region of the body without necessary effecting consciousness.

"Stages of general anesthesia"

1) ***Analgesia***: the patient has decreased awareness of pain , some times with amnesia.comsciousness may be impaired but is not lost.
2) ***Dishibitition/ excitement***: the patient appear to be delirious and excited. Amnesia occurs reflexes are enhanced, and respiration is typically irregular retching and incontence may occur.

3) ***Surgical anesthesia***: the patient unconscious and has no pain reflexes respiration is very regular, and blood pressure is maintained.
4) ***Medullary***: the patient develops severe repiratory and cardiovascular depression that requires mechanical and pharmacological support.

(b) " mechanism of action of narcotic analgesic"

- Opioid have on onset of action that develop on the rout of administration.
- Opiois causes hyper polarisation of nerve cells, inhibitions of nerve firing and pre synaptic inhibitions of transmmiterr releases.
- Cellular effect of this drugs involves enhacement of neural potassium efflux and inhibitions of calcium influx.
- Brainstem opioid receptor mediate respiratory depression produced by opioid analgesic.
- Constipation result from activation of opioid receptor in the CNS and in the GIT.

- Non- narcotic analgesic
  - Deoression of cyclooxygeneses activity
  - Decrease of prostaglandins synthesis in the pheripheral tissues and in the central nervous system.

- Decreasing of nervous ending and depression of transmission of nociceptiv impulses on the level of CNS structures.
- Paion relieving action of non-opioid anakgisic is partly connected with their anti.inflamatory activity.

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