**MLT 2nd**

**Course Title: General Pharmacology I**

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**Note:**

**Attempt all questions**

**Each question carry equal marks**

**Pay attention to every point of question**

**Give to the point answers**

**Extra detail may leads to marks deduction**

1. **What does drug interactions mean and enumerate its various types**.

**Introduction**

A drugs interation is a situation in which a substance affect the activity of a drug when both are administered together. This action can be synergistic or antagonistic or new effect can be produced that neither produces on its own

**Drug interactions**

Drugs interaction mean an alternation in the duration of pharmacology effect of one

drugs produced by another drugs, food or any other substance .

**Types**

Typically interaction between drugs come to drug-drug interaction. May also drug

and food interaction and Drug- disease ineration . But there are essentially two type of drugs

interactions

1. **Pharmacodynamics**
2. **pharmacokinetics**
3. **Write down a detail note on pharmacodynamic drug interaction.**

Pharmacodynamic interactions occur when one drug alters the pharmacodynamic response to the same dose as another.

To clarify, pharmacodynamic interactions between drugs are not directly related to the process of absorption, distribution, metabolism or purification. There may still be technical problems. For example, it could be said that the use of norepinephrine is associated with the pharmacokinetics of the drugs available, reducing their absorption from the organism, through a mechanism that interferes with its efficacy.

Pharmacodynamic drug interactions can take several forms and can lead to greater activity (synergism) or decreased activity (antagonism).

2. **Differentiate between hypoglycemic and hyperglycemic agents with examples.**

**Hypoglycemic agents**

Agents that are given orally to reduce the blood glucose levels in diabetic patients

E.g ..sulfonylureas

Meglitinides

DPP-4 inhibiter

**Hyperglycemic agents**

D50W Is asugar solution given intarvenously for acute hypoglycemia glucagon is indicated for emergency treatment when IV is unobtainable

Eg Glucagon

Insulin

Amylin agonists

1. **What is emesis and antiemetic drugs, give examples**

* **Emesis**

Is the involontry forceful explusion of the contents of an individual stomach through the mouth.

* **Antiemetic drugs**

This is a drug which is known to be effective against emesis and nausea.

**E.g**

…ZOFRAN

….COMPINE,PHENERGAN,INAPSINE

…CESAMET

1. **What kind of drugs are used for cough and sputum, give examples**

* **Drugs are used for sputum**
* Dornase alfa
* CarbocisteinE
* Pulmozyme
* Acetylcystenie
* Mecysteine
* BromhexinE
* **Drugs are used for cough**
* [Benzonatate](https://www.goodrx.com/benzonatate)
* [promethazine DM](https://www.goodrx.com/promethazine-dm)
* [promethazine](https://www.goodrx.com/promethazine-codeine)
* Narcotin

2. **Enumerate different targets for antibiotics**
3. membranes that surrounds the bacterial cell
4. The part that make the nucleic acids DNA and RNA
5. The part that produce proteins
6. Metabolic phatway
7. **Explain viral replication process in detail**

**Viral replication**

1. **Attachment:** viral protein on the capsid or phospholipid membrane interacts with specific receptors on the host surface. This specificity determines the host (tropism) of the virus.

2. **Penetration**: the process of adhesion to an adhesive can cause changes in the viral capsid protein or lipid membrane, which results in fusion of cells and cells. Some DNA viruses can also enter the host cell through receptor-mediated endocytosis.

3. **Uncoated**: viral capsid is extracted and degraded by viral or insect leaf to release viral genomic nucleic acid.

**4. Replication:** After the genome is not downloaded, the regulation or translation of the viral genome begins. This level of viral replication is very different between DNA and RNA viruses and viruses in the opposite polarity of nucleic acid. This process ends with the de novo viral protein sequencing and the genome.

**5.** **maturation and release;** The component part of the virus are assembled into mature viruses and released from the host cell

1. **Classify antihypertensive drugs with example**

**Classifiction antihypertensive drugs**

1. **Diuretics 2) Vasodilators**

**>**Thiazides and congeners >Nitric oxide releasers

**>**Loop diuretics. >potassium channel openers

**>**potassium-sparing >calcium channel blockers

1. **Sympatholytics drugs 4) Angiotensim inhibitors**

**>**Centrally acting antiadrenergic agents >Angiotensin converting enzyme

**>**Alpha adrenergic blockers >Angiotensin receptor antagonists

**>**Alpha beta adrenergic blockers

1. **What are the causes and drug therapy of various kinds of angina pectoris**

**Angina pectoris** is a disease that causes chest pain or discomfort. • angina pectoris occurs when there is insufficient blood supply ito heart.

**Types**

* **Stable Angina**

Angina pectoris occurs when the patient is in physical activity such as exercise. During physical activity, there is a lot of heart activity, which often causes chest pain, and stabilizing angina pectoris is also referred to as angina pectoris disease because it follows a common pattern

* **Unstable Angina**

occur any time, even when a person is in resting condition. Unstable angina is less common than the stable angina, but can get worse over time and may lead to a heart attacK.

* **Causes**
* Uncontrolled diabetes
* High level of bad cholesterol
* Obesity
* Excessive alcohol consumption
* Smoking
* Unhealthy workout
* **Therapy**
* 1- Acute attack :
* Short acting nitrates or nitritis.
* 2- Prophylactic therapy
* Long –acting nitrates.
* Calcium channel blockers.
* β- adrenoceptors blockers.
* Potassium channel openers.

2. **Differentiate between general and local anesthetics, explain various stages of general anesthesia**

**Local anesthetics**

They are the drug which, when applied directly to peripheral nervous tissue, and

blocker he nerve conduction and abolish all sensation in the aprt supplied by the

nerve without loass of consciousness.

e.g > bupivacaine  chloroprocaine or lidocaine.

**General anesthetics**

They are the drugs wich produce reversible loss of all modalities of sensation

and consciousness or simple a drug that brings about a reversible loss of

consciousness

* **Stage 1**
* **Analgesia**

Reduce awareness of pain. It can reduce awareness, but not lose it.

* **Stage 2**
* **Disinhibition**

Disinhibition Excited stage, uncontrolled movements, diarrhea. The goal is to get to this point as quickly as possible.

* **Stage 3**
* **Surgical anesthesia**

return normal breathing. Loss of blink reflex, normal stomach. Surgical surgery may be performed in this stage.

* **Stage 4**
* **Medullary Depression**

This is the case between respiratory stress and circulatory deathdue to collpase

1. **Write down the mechanism of action of narcotic and non-narcotic analgesics**

**Mechanism of action of narcotic**

* Opioid receptors exert their influence by binding to opioid receptors, which are widespread in the central nervous system and other tissues.
* Opioid receptors are part of the G protein complex family of receptors and act to open K + channels and inhibit the opening of Ca ++ cell lines.
* They inhibit the release of other neurotransmitters. Opioid receptors are classified into. Mu II. Translation III. Kappa (k1 and k2) and iv. Nociceptin (orphan)
* **Mechanism of action of non-narcotic**
* Decreased cyclooxygenase activity
* Decreased synthesis of prostaglandins in peripheral tissues and in the central nervous system
* Decreased sensitivity of nerve endings and decreased transmission of nociceptive impulses at the level of the central nervous system
* The analgesic effect of non-opioid analgesics is partly due to their anti-inflammatory activity

END