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Q1.

Ans.

A . What is a drug interaction?

Drug interactions involve combinations of a medication with other substances that alter the medication's effect on the body. This can cause the medication to be less or more potent than intended or result in unexpected side effects.

If you use multiple medications, have certain health conditions, or see more than one doctor, you should be especially mindful of your medications. You also need to make sure that each of your doctors know all of the drugs, herbs, supplements, and vitamins you're using

Types of drug interactions.

Drug-drug

A drug-drug reaction is when there's an interaction between two or more prescription drugs.

One example is the interaction between warfarin (Coumadin), an anticoagulant (blood thinner), and fluconazole (Diflucan), an antifungal medication

Drug-nonprescription treatment

This is a reaction between a drug and a nonprescription treatment. These include over-the-counter (OTC) medications, herbs, vitamins, or supplements.

An example of this type of interaction can occur between a diuretic — a drug that attempts to rid the body of excess water and salt — and ibuprofen (Advil).

Drug-food

This happens when food or beverage intake alters a drug's effect.

For example, some statins (used to treat high cholesterol) can interact with grapefruit juice. If a person who takes one of these statins drinks a lot of grapefruit juice, too much of the drug may stay in their body, increasing their risk for liver damage or kidney failure.

Drug-alcohol

Certain medications shouldn't be taken with alcohol. Often, combining these drugs with alcohol can cause tiredness and delayed reactions. It can also increase your risk for negative side effects.

Drug-disease

This interaction is when the use of a drug alters or worsens a condition or disease. Additionally, some medical conditions can increase the risk of side effects from specific drugs.

B . Write down a detail note on pharmacodynamic drug interactions?

Ans.

Pharmacodynamic interactions. The term "pharmacodynamic interactions" refers to interactions in which drugs influence each other's effects directly. As a rule, for example, sedatives can potentiate each other. The same is true of alcohol, which can potentiate the sedative effects of many drugs.

Generally classified in terms of proposed mechanism, drug interactions may be causal to physicochemical incompatibility, pharmacokinetic or pharmacodynamic interaction(s), combinations of each.

Q 2.

Ans. A. Hypoglycemia.

Hypoglycemia is a condition in which your blood sugar (glucose) level is lower than normal. Glucose is your body's main energy source.

Hypoglycemia is often related to diabetes treatment. But other drugs and a variety of conditions — many rare — can cause low blood sugar in people who don't have diabetes. Drinking too much alcohol. When a person's blood sugar levels are low, the pancreas releases a hormone called glucagon. ...

Medication. ...

Anorexia. ...

Hepatitis. ...

Adrenal or pitu

B. Hyperglycemia

Hyperglycemia refers to high levels of sugar, or glucose, in the blood. It occurs when the body does not produce or use enough insulin, which is a hormone that absorbs glucose into cells for use as energy. High blood sugar is a leading indicator of diabetes.

Fruity-smelling breath.

Nausea and vomiting.

Shortness of breath.

Dry mouth.

Weakness.

Confusion.

Ans B. Emesis

- Is a protective mechanism which serves to eliminate harmful substances from the stomach and duodenum
- Occurs due to stimulation of the emetic center situated in the medulla oblongata
- Multiple pathways can elicit vomiting
- CTZ and NTS are the most important relay areas for afferent impulses arising from GIT, throat and other viscera
- CTZ is also accessible to blood borne drugs, mediators, hormones, toxins etc.

Antiemetic Drugs

- Antiemetic drug is used to treat or prevent nausea or vomiting
- ■ Antiemetics are typically used to treat motion sickness and the side effects of opioid analgesics and chemotherapy directed against cancer.

Examples : ◦ Bucladin-Softabs ◦ Thorazine

Ans C.

Cough is a useful physiological mechanism that serves to clear the respiratory passages of foreign material and excess secretions. Cough reflex is complex, involving the central and peripheral nervous systems as well as the smooth muscle of the bronchial tree. - It should not be suppressed discriminately. - Chronic cough can contribute to fatigue, especially in elderly patients, in such situations the physicians should use a drug that will reduce the frequency or intensity of the coughing.

Examples.

Guaifenesin belongs to a class of drugs known as expectorants. It works by thinning and loosening mucus in the airways, clearing congestion, and making breathing easier. Dextromethorphan belongs to a class of drugs known as cough suppressants. It acts on a part of the brain (cough center) to reduce the urge to cough.

Q 3.

Ans.

Ans A . All such processes are targets for antibiotics; therefore, antibacterials, which interfere or disturb these processes in different ways, can be subdivided into four groups: such as cell wall synthesis inhibitors, inhibitors of membrane function, inhibitors of protein synthesis, and inhibitors of nucleic acid synthesis. There are five main antibacterial drug targets in bacteria: cell-wall synthesis, DNA gyrase, metabolic enzymes, DNA-directed RNA polymerase and protein synthesis. The figure shows the antimicrobial agents that are directed against each of these targets.

Ans B .

Viral replication involves six steps: attachment, penetration, uncoating, replication, assembly, and release. ... During uncoating, replication, and assembly, the viral DNA or RNA incorporates itself into the host cell's genetic material and induces it to replicate the viral genome.

Viral replication involves six steps: attachment, penetration, uncoating, replication, assembly, and release.

During attachment and penetration, the virus attaches itself to a host cell and injects its genetic material into it.

During uncoating, replication, and assembly, the viral DNA or RNA incorporates itself into the host cell's genetic material and induces it to replicate the viral genome.

During release, the newly-created viruses are released from the host cell, either by causing the cell to break apart, waiting for the cell to die, or by budding off through the cell membrane.

virion: a single individual particle of a virus (the viral equivalent of a cell)

glycoprotein: a protein with covalently-bonded carbohydrates

retrovirus: a virus that has a genome consisting of RNA

Q4.

Ans.

Anti hypertensive drugs

Ans A.

1) Diuretics * Thiazides and congeners. * Loop diuretics. * Potassium-sparing diuretics.

2) Sympatholytic drugs * Centrally acting antiadrenergic agents. * Alpha adrenergic blockers. * Beta adrenergic blockers. * Alpha-beta adrenergic blockers.

3) Vasodilators * Nitric oxide releasers. * Potassium channel openers. * Calcium channel blockers * D1-dopamine receptor agonists.

4) Angiotensin inhibitors and antagonists * Angiotensin Converting Enzyme (ACE) inhibitors. * Angiotensin receptor antagonists.

Ans B.

Angina, which is also known as angina pectoris, occurs when the flow of blood through the coronary arteries to the heart muscle is insufficient to meet the heart's oxygen demands, such as during physical activity. Coronary heart disease is the most common cause of reduced blood flow to the heart in people with angina.

Causes

Stress can increase your risk of angina and heart attacks. Too much stress, as well as anger, also can raise your blood pressure. Surges of hormones produced during stress can narrow your arteries and worsen angina

Q5

Ans. A

General anesthesia causes a person to 'fall asleep' while the medical procedure takes place, while local anesthesia is applied to a specific region in the body where the procedure will be performed

Local anesthesia is typically even safer than general anesthesia, because it bypasses the systemic effects seen with the latter. The side effect profile is also better with local anesthesia, which could, however, result in some swelling and redness at the injection site or an allergic reaction.

Ans B.

Narcotics

Narcotic analgesics are drugs that relieve pain, by binding to opioid receptors, which are present in the central and peripheral nervous system, can cause numbness and induce a state of unconsciousness.

Nonnarcotics

The nonnarcotics in used in Aspirin, Acetaminophen, Ibuprofen & Naproxen - Not addictive & less potent than narcotics For mild to severe pain - OTC • Use - headaches, menstrual pain, muscular aches & pains, pain from inflammation - Most decrease elevated body temp. - antipyretic - Aspirin = antiinflammatroy & anticoagulant effects • Action - Relive pain by inhibiting the enzyme cyclooxygenase needed for biosynthesis of prostaglandins