

Bs mlt

Course Title: General Pharmacology II

Student Name; Jamal khan

Student ID: 13363

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

Q.1

(a) Differentiate between type I and type II diabetes mellitus

Ans;

1 .A from of chronic hyperglycemia caused by immunologic destruction of pancreatic beta cells called as type 1 diabetes mellitus.

2 .A from of chronic hyperglycemia initially caused by resistance to insulin often progresses to insulin deficiency called as type 2 diabetes mellitus.

(b) As per your opinion which of the insulin delivery device is more effective and why?

Ans;

I think continuous subcutaneous insulin infusion devices is more effective because it avoid the need for multiple daily injection and provide flexibility in the scheduling of patients daily activities which is convenient for the patient. It also contain programmable pump which adjust the delivery according to the requirement of insulin.

Q.2

(a) Explain the role of vitamin K in blood clotting and treatment of bleeding disorders

Ans;

Vitamin k plays an important role in coagulation better known as blood clotting.

Clotting is a process that helps prevent excessive bleeding both inside and outside the body. Body needs vitamin k in order to produce the proteins that go to work during the clotting process .if vitamin k deficiency body doesn't have enough of these proteins.the telltale sign of vitamin k deficiency is bleeding too much role of vitamin k in the synthesis of vitamin k dependent clotting factors (2 8 9 and 10).

Vitamin k catalyzes the reaction necessary for completion of clotting factors synthesis but it is oxidized in the process to vitamin k epoxide.

(b) What does thrombolytic agents mean? Explain with example

Ans;

A drugs that is able to dissolve a clot and reopen an artery or vein.

Thrombolytic agents may be used to treat a heart attack stroke deep vein thrombosis pulmonary embolism and occlusion of a peripheral artery or indwelling catheter .All thrombolytic agents are serine proteases and convert plasminogen to plasmin which breaks down the fibrinogen and fibrin and dissolves the clot .

For example; reteplase, urokinase.

Q.3

(a) Explain the effects and adverse effects of organic nitrates in angina pectoris.

Ans;

Effects;

Dilations of the large veins resulting in pooling of blood in the veins which diminish the preload and reduces the work of the heart. Dilates the coronary vasculature providing increased blood supply to the heart muscles.

Adverse effects; nitrates can cause headache in about 30% - 60% of patients because of the dose can cause postural hypotension, flushing and tachycardia.

(b) Write down the treatment algorithm for improving symptoms of stable angina.

Ans;

Stable ischemic heart disease _anginal symptoms presents _sublingual nitroglycerin for immediate relief _beta blockers add _calcium channel blocker or long _acting nitrate add _ranolazine.

Q.4

(a) Differentiate between primary and secondary hypertension

Ans;

Primary hypertension;

Essential hypertension is high blood pressure doesn't have a known secondary cause. It's also referred to as primary hypertension. Blood pressure is the force of blood against your artery walls as your heart pumps blood through your body.

Secondary hypertension;

Secondary hypertension (secondary high blood pressure) is high blood pressure that's caused by another medical condition. Secondary hypertension can be caused by condition that effects kidneys, arteries, heart or endocrine system.

(b) Explain the effect of renin on hypertension

Ans ;

Renin convert angiotensinogen, which is produced in the liver to the hormone angiotensin. I .An enzyme known as ACE or angiotensin converting enzyme found in the lungs metabolizes angiotensin I into II. Angiotensin II causes blood vessels to constrict and blood pressure to increase.

(c) What is the importance of pharmacological treatment of hypertension

Ans;

Pharmacological treatment is important because if it left untreated it can cause stroke to the brain, it also damage blood vessel result in arteriosclerosis, heart attack or heart fail and kidney failure. So to save body from these disease pharm logical treatment is important in hypertension.

Q.5

(a) Differentiate between right heart failure and left heart failure

Ans;

Right heart failure;

In right failure the right atrium and ventricle are unable to handle blood returning from the systemic circulation. This cause fluid to accumulate in the peripheral tissue, and ankle edema and organ congestion (liver , spleen) are typical manifestations .If both left and right heart failure occur simultaneously , congestion is found in the lungs as well as the periphery.

Left heart failure;

In left heart failure the left atrium and ventricle are unable to adequately handle the blood returning from the lungs. This causes pressure to build up in pulmonary veins and fluid accumulates in the lungs. Consequently left heart failure is a associated with pulmonary edema.

(b) Summarize the pharmacotherapy of heart failure

Ans;

Basically there are two strategies to improve the heart's pumping ability.

1. Increase cardiac contractile performance and produce what is referred to as a positive inotropic effect. ; Inotropic; refers to the force of muscular

contraction; the primary drugs used to exert a positive inotropic effect are the cardiac glycosides.

2. Decrease cardiac workload through an effect on the heart or peripheral vasculature, or by controlling fluid volume are recognized as beneficial in congestive heart failure. Angiotensin converting enzyme inhibitors beta blockers diuretics and vasodilators.