Q 1

Answer... 1

Diabetes mellitus.

Diabetes mellitus classified into four categories

- **Type 1 and type 2,**
- **Type 1 diabetes mellitus..**
  Warm up chronic hyperglycemia caused by immunological destruction of pancreatic beta cell.
- **Type 2 diabetes mellitus.**
- **A fork of hyperglycemia initially caused by by resistance to insulin often progress to insulin deficiency.**

Treatment..

- **The clinical history and course in these two form differ considerably but treatment and both cases rewired both attention to diet fasting and postprandial blood glucose concentration.**
  1. **The type 1 diabetes requires treatment with insulin.**
  2. **. The early stage of type 2 diabetes usually can be controlled with no insulin anti diabetic drug**

Q.... No. 1 part 2

Answer. Part 2..

Insulin..

Effect..

Insulin has important effect and almost every tissue of the body the major the target organ to insulin action include.

. 1 liver.

Insulin increase storage ogf glucose and glycogen in liver.

This the insertion of additional glut2 glucose transport molecules cell plasma membrane increase synthesis enzyme pyruvate kinase phosphofructokinase. And glucokinas.

Skeleton muscle..

Insulin stimulate glycogen synthesis and protein synthesis. Glucose transport into muscle cell facilitated by insertion of glute4 transport into cell plasma membrane

Adipose tissue..

Insulin facilitate triglyceride storage by activating plasma lipo protein lipase . Increasing glucose into cell via glute4 transporter.

Insulin delivery system…

The standard mode of insulin therapy is subcutaneous injection conversational disposable needle and syringes

More convenient mean administration are also are also available portable pin size injector are use to facilitate subcutaneous injection some contain replaceable cartridges.

Where other disposable.

Continuous subcutaneous insulin infusion device avoid the need for multiple Dailly injection and provide flexibility the scheduling of patient daily activities programmable pump deliver a constant 24 hour basal rate. The manual adjustment the rate of delivery can be made accommodate change insulin requirement

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Q… 2..

Answer….. No 2

Part A..

Drug used and bleeding disorder or drug that facilitate clotting

. Inadequate blood clotting can result from vitamin k deficiency genetically determined errors of clotting factor synthesis eg hemophilia.

Variety of drug induce condition and thrombocytopenia treatment involve administration of vitamin k. Performed clotting factor.

Vitamin k.

Deficiency of vitamin k of fat soluble vitamin, most common and older person will abnormalities of fat soluble resorption and newborn who are at risk bleeding due to vitamin k deficiency.

Antiplasmin agent.

Antiplasmin agent are valuable for prevention or management acute bleeding episode and patient with hemophilia and other with high risk of bleeding disorder.

Clotting factor and desmopressin.

The most important agent used treat hemophilia are fresh plasma are purified blood clotting factor. Especially factor 7 for hemophilia and factor ix for hemophilia which are other purified from blood product or produced by recombinant DNA technology.

Part B…

Thrombolytic agent.

Mechanism of action..

Plasm in endogenous fibrinolysis enzyme that degrades clot by splitting fibrin by fragment. The Thrombolytic enzyme catalyze.

2 *tissue plaminogen activator. Pa* an enzyme **that directly convert plaminogen to Plasm in has little activity unless bound to fibrin which in theory. Should make selective for plaminogen that has already bound to fibrin.**

Streptokinase.

Streptokinase obtained from bacterial culture. Although not itself in enzyme Streptokinase form complex with endogenous plaminogen is complex undergoes conformational change that allow rapidly convert free plaminogen into Plasm in.

Specific agent for Thrombolytic.

Alteplase, recombinant activate.

Anesttreplase. Emanate.

Streptokinase sreptase

Urokinase abbokinase

Adverse effect.

Hemorrhage is the major adverse effect associated with Thrombolytic agent. Fever and allergic reaction itching. Nausea other symptom.

Q.. 3..

Answer… 3.

Effect of organic nitrate.

They are effective in all type of angina pectoris

Mechanism of action.

At therapeutic doses. Has 2 major effect.

A) **Dilation of the large vein resulting in fulling in blood in vien I n diminish the preload and reduced the work of heart.**
B) **Dilate coronary vasculature providing increased blood supply to the heart muscle**
Decrease preload.
.decrease after load.
. Relieving vasospasm.
. Redistribution blood flow.
. The total effect is decrease myocardial oxygen consumption because of decrease cardiac work.

Specific agent…

Nitroglycerin.
Isosorbid dinitrate
.isosorbid mono nitrate

Side effect..

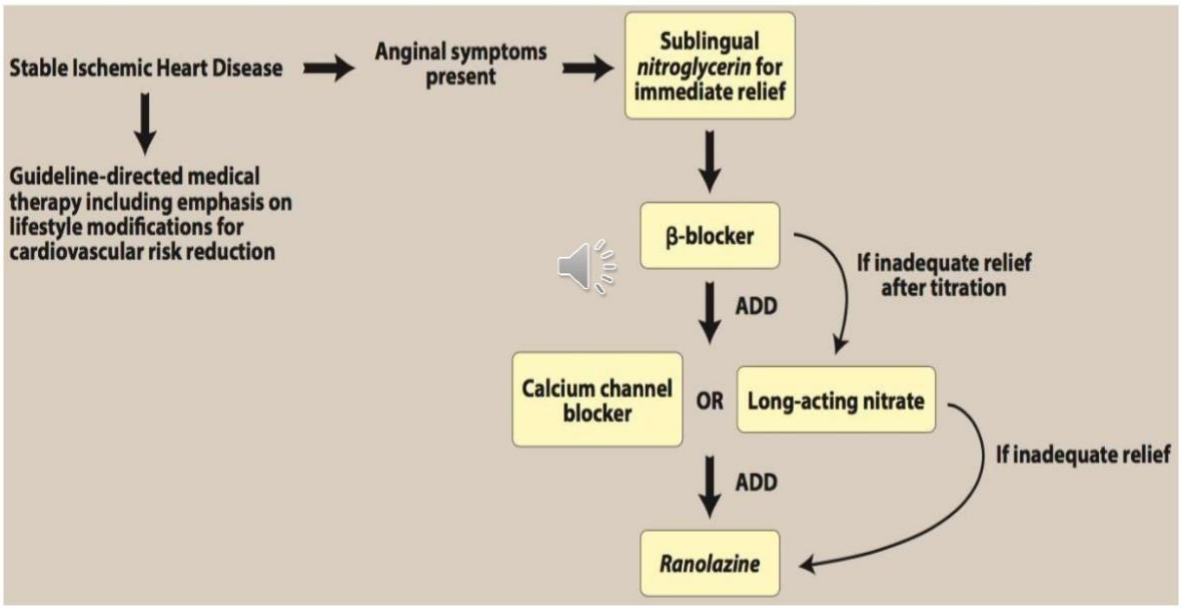
Nitrate can cause headache about 30%
Patient because the pronounced vasodilation.
High dose can caudle postural hypotension, flushing.
Tachycardia.

Part.. B

ANSWER.

Treatment algorithm for improving symptom is patient with stable angina

Treatment algorithm for improving symptoms in patients with stable angina.



Q..... 5 part a.

Answer.. 5

Congestion right and left heart failure.

The primary problem in advanced heart failure is that the heart is unable to push the blood for word through the circulatory system the causing pressure build up in vein referring heart of blood. The effect blood begin to back up to venous system. Increasing the pressure gradient for fluid to move out of capillary bed.

Left heart failure.

The left atrium and ventricle are enable to adequately handle the blood returning from the lung. This causes pressure to build up pulmonary vein. And fluid accumulate in the lung. Consequently. Left heart failure associated with pulmonary edema.

Right heart failure…

The right atrium and ventricle unable to handle blood returning from systemic circulation this causes fluid to accumulate the peripheral tissue. And ankle edema and organ congestion (liver, spleen)

Are typical manifestation.

Part.. B

Answer part B no 5

Pharmacotherapy..

Basic goal and congestive heart failure improve the heart failure ability.

Strategies.

Increase cardiac contractile performance and produce what is refferd to is positive isotropic effect. Inotropic. Refers to the force muscular contraction, to primary drug used to exert positive Inotropic effect cardiac glucoside.

. Decrease cardiac workload through in effect the heart or peripheral vasculature, or controlling fluid volume, are recognised . As beneficial congestive heart failure.

Q….. No 4

Answer… 4

Part… A.

From another perspective, hypertension may be categorised is either essential or secondary, primary (essential) hypertension is diagnosed is the absence of identifiable secondary causes approximately 90. 95% adult hypertension have primary hypertension, whereas secondary hypertension account for

around 5. 10% of the cases 11 however, secondary form of hypertension due to primary hyperaldosteronism account for 20 % resistant hypertension (hypertension which BP is, 140/90 mm HG despite the use of medication from three are more drug class, 1 which is thiazide diuretic).

Q.. No 4.

Part.. B..

Answer..

The renin. Angiotensin RAA system is a group related hormones that act together regulate blood pressure. It is. Called system because each part influence other part and the all necessary for whole and function correctly. The renin Angiotensin system, working together with the kidney is a vitally important part of the body blood pressure regulation system.

- **Q.. No 4**
- **Part.. C**
- **Answer..**

  Cardiovascular disease (CVD) the leading. Cause of death is Russia. Hypertension and hyperlipidemia are important risk factor for CVD that are modifiable by pharmacological treatment and life. Style change. We aim to characterized the extent to problem typically Russian city examining the prevalence, treatment and control rate of hypertension and hyperlipidemia and investigating whether the specific pharmacological regimes use. Where comparable with guidelines from a country with much lower CVD rates.