**Name: Akande Oluwatomisin Faith**

**Matric number:19/mhs02/124**

**Level:200**

**Department: Nursing**

**Course: Ana210**

* Discuss the importance of vasculature in relation to immune system and the outbreak of covid-19 pandemic

Answer: In other to explain the importance of vasculature in relation to immune system and outbreak of pandemic covid-19 on the human body, the principal context should be well addressed, These are vasculature, immune system, pandemic covid-19, Human body.

Vasculature also called cardiovascular system or circulatory system is an organ that permit blood to circulate and transport nutrient, oxygen ,carbon dioxide, hormones, and blood cells to and form the cells in the body to provide nourishment and help in fighting diseases, stabilizes temperature and ph and maintain homeostasis. It is also the arrangement of blood vessels in the body or a network of blood vessels and it consist of

A. The vasculature of the brain

B. The vasculature of the lungs

C. The vasculature of the kidneys

D. The vasculature of the heart itself

The circulatory system includes the LYMPHATIC system, which circulate lymph. The following are but a few typical examples of illness indicators that result directly form chronic, localized LYMPH congestion: obesity, cysts in the uterus or ovaries, enlargement of the prostate gland, rheumatism in the joint, enlargement of the left half of the heart ,congestive heart failure, congested bronchi and lungs, enlargement of the neck area ,stiffness in the neck and shoulders.

Abdominal cardiovascular system, the major function include the heart function as a pump to move blood through blood vessels, arteries take the blood to the body.

**Stomach vascular anatomy**

The stomach is a muscular, hollow organ in the gastrointestinal tract of humans and many other animals, including several invertebrates. The stomach is the first intra-abdominal part of the gastrointestinal or digestive tract. It is a muscular, highly vascular bag shaped organ that is ostensible and may take varying shapes, depending on the build and posture of the person and the state of fullness of the organ.

The immune system is a network of cells, organs, proteins and antibodies that work to protect you against bacteria, viruses and parasites. The body immune system is what helps to fight off the pathogens which cause illness. As earlier stated, immunity system fight intruder including viruses in our body and help to maintain our sound health. Effort should be made to take all necessary steps to boost our immune system. The following are some ways to boost our immune system : Reduce stress ,Eat plenty of fruit and vegetables, Get enough sleep , wash hand regularly, keep exercising, vitamin D is essential for a healthy functioning immune system. It is believed that vitamin D helps to stimulate the production of peptide substance in the body that are able to fight off bacteria, fungi and viruses. Eggs and fatty fish are sources of vitamin D.

**Coronavirus** are a group of related viruses that cause diseases in mammals and birds .in humans, Coronavirus causes respiratory tract infection that can range from mild to lethal. Once a virus get into the blood stream ,they can swim to any other part of the body. The **LIVER** is often downstream organ that suffers injury. The main job of lover is to process blood after it leaves stomach, filtering out the toxins and creating nutrient the body can use. It also makes the **bile** that helps small intestines break down fats. Liver also contains enzymes which speed up chemical reactions in the body.

**Corona virus** directly affects the liver by replicating and killing off cells itself or those cells might be a collateral damage to the body immune system and set off a severe inflammatory reaction in the liver. By the time the liver fails, the lungs problem may come up and also kidney problems. Kidneys are caught up in this mess and by then it becomes a SYSTEMIC INFECTION. Like the liver ,kidneys acts as a filter for blood. Each kidney is filled with about 800000 microscopic distilling units called nephrons. These nephrons has two main components ,a filter to clean the blood and a little tubes that returns the good stuff back to the blood or send the waste down to your bladder as urine. It is the kidney tubules that seem to be most affected by Coronavirus. As the kidneys are continuously filtering blood, the tubular cells can trap the virus and cause a transient or injury, the injury could become lethal if the virus penetrate the cells and brain to replicate.

In a healthy individual, immune cells patrol blood vessels to detect and respond to danger through molecules frequently found on pathogens called PAMPs , and molecules that are released by damaged cells, DAMPs .Immune cells involved in intravascular surveillance are neutrophils ,monocytes , invariant natural killer T cells , kupffer cells ,platelets , and mast cells .These cells express particular receptors such as toll-like receptors and proteins like CD36 that allow them to recognize and respond to danger signals. Endothelial cells lining the vasculature are also a part of the intravasculature's cellular defence system. They express molecules such as, CD14 , TLR2 , TLR4 ,TLR9 , MD2, and MyD88 , to detect bacteria in the blood. Leukocytes move through blood vessels using protein-protein interactions between cells and are also assisted by

blood flow . Circulating immune cells behave differently in the presence and absence of an infection. For example, in the absence of an invader, monocytes migrate randomly

throughout the microvasculature, cerebral vessels, and mesentery vessels. However, in the presence of an invader, monocytes emigrate to the infected area. Similarly,

neutrophils use a rolling mechanism to counteract the blood flow and localize to the infected area. In a healthy state, neutrophils have been observed to exhibit a similar but brief crawling mechanism.

An individual with a good immune system has the tendency to fight any form of disease that may arise ,like the present outbreak of covid-19 that affect the respiratory system of an individual, an individual with a good immune system can survive the pandemic because when the virus get into the system ,the receptor in the body sends signals to the brain that there is a foreign illness in the respiratory organ ,so the neutrophils and leukocytes start working and with a good immune system the covid-19 can be fought, but a person whose immune system is weak due to his or her life style ,the neutrophils and leukocytes are weak and unable to do anything or sends signals to the brain and the virus get to eat the person organs which leads to loss of life





* Sub sartorial canal is an important area in the lower limb ,Discuss

Answer: It is approximately 15cm long, extending from the apex of the femoral triangle to the abductor hiatus of the abductor Magnus.

Content: sub sartorial canal also called abductor canal serves as a passageway for structures moving between the anterior thigh and posterior leg . it transmit the femoral artery ,femoral vein(posterior together artery),nerve to the vastus medialis and the saphenous nerve -the largest cutaneous branch of the femoral nerve as the femoral artery and vein exist the canal ,they are called popliteal artery and vein respectively.

Border:

* Anteromedial: Sartorius
* Lateral: vastus medialis

Posterior: abductor longus and abductor magnus

* Describe the extraocular and intraocular muscle and there nerve supply

Answer: Extraocular muscle are the six muscle that control the movement of the eye and one muscle that control eyelid movement (levator palpebrae). They are muscles located within the orbit ,but are extrinsic and separate from the eyeball and the superior eyelid.

Responsible for eyelid movement-Recti and oblique muscles.

Responsible for eyelid superior muscle- levator palpebrae superioris.

The seven extraocular muscle- levator palpebrae superioris, superior rectus , inferior rectus ,medial rectus,lateral rectus,inferior oblique and superior oblique. They are further divided into two

Nerve that supply the extraocular muscle- oculomotor, trochlear and abducens nerve

Intraocular muscle are responsible for puplic accommodation and reaction to light and the protractor and retractors of the eyelids. They include the ciliary muscle ring that controls accommodation by altering the shape of the lens as well as controlling the flow of aqueous humour into schlemm's canal.

Nerve that supply the intraocular muscle- Optic nerve, parasympathetic nerve, oculomotor