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Assignment

1: Vasculature in relation to immune system and outbreak of the pandemic covid-19

Vasculature is the arrangement of blood vessels in an organ

Vasculature is the function of blood vessels to transport nutrients to organs/ tissues and transport wastes away from tissue/ blood. A primary purpose and significance role of vasculature is its participation in oxygenating the body.

The pandemic "COVID-19" also known as the Corona virus, has only one way to fully infect a human being this virus is considered very viral and deadly because our immune system is new to this and hasn't developed a way of combating the virus.

The importance of immune system is that it helps fight foreign substances called antigens. When the body senses these antigens, the immune system works to recognize the antigen and get rid of it.

Circulating T cells contact blood vessels either when they extravasate across the walls of micro vessels into inflamed tissues or when they enter into the walls of larger vessels in inflammatory diseases such as atherosclerosis. This is the reason why patients who test positive to covid-19 often have symptoms related to the lungs and heart.

With that said, COVID-19 became a pandemic because of mode of transmission from one person to another because it's is highly concentrated in the lungs and this channels to the mouth and nostrils so each cough or sneeze can expose the virus into the air, if inhaled by a healthy victim, will expose the virus directly to the lungs where the infection takes place.

2: SUBSARTORIAL CANAL IS IMPORTANT TO THE LOWER LIMB DISCUSS?

The adductor canal (Hunter's canal, subsartorial canal) is a narrow conical tunnel located in the thigh.

It is approximately 15cm long, extending from the apex of the femoral triangle to the adductor hiatus of the adductor magnus. The canal serves as a passageway for structures moving between the anterior thigh and posterior leg.

Importance:

1. The adductor canal serves as a passageway for structures moving between the anterior thigh and posterior leg.
1. It transmits the femoral artery, femoral vein (posterior to the artery) nerve to the vastus medialis and the saphenous nerve – the largest cutaneous branch of the femoral nerve.
2. In the adductor canal block, local anaesthetic is administered in the adductor canal to block the saphenous nerve in isolation, or together with the nerve to the vastus medialis.

The block can be used to provide sensory anaesthesia for procedures involving the distal thigh and femur, knee and lower leg on the medial side. The sartorius and femoral artery are used as anatomical landmarks to locate the

3: Describe Extraocular and Intraocular muscles:

THE EXTRAOCULAR MUSCLES

The extraocular muscles are located within the orbit, but are extrinsic and separate from the eyeball itself. They act to control the movements of the eyeball and the superior eyelid.

There are seven extra ocular muscles – the levator palpebrae superioris, superior rectus, inferior rectus, medial rectus, lateral rectus, inferior oblique and superior oblique. Functionally, they can be divided into two groups:

1. Levator Palpebrae Superioris

The levator palpebrae superioris (LPS) is the only muscle involved in raising the superior eyelid. A small portion of this muscle contains a collection of smooth muscle fibres – known as the superior tarsal muscle. In contrast to the LPS, the superior tarsal muscle is innervated by the sympathetic nervous system.

Attachments: Originates from the lesser wing of the sphenoid bone, immediately above the optic foramen. It attaches to the superior tarsal plate of the upper eyelid (a thick plate of connective tissue).

Actions: Elevates the upper eyelid.

Innervation: The levator palpebrae superioris is innervated by the oculomotor nerve (CN III). The superior tarsal muscle (located within the LPS) is innervated by the sympathetic nervous system

2. Superior Rectus

Attachments: Originates from the superior part of the common tendinous ring, and attaches to the superior and anterior aspect of the sclera.

Actions: Main movement is elevation. Also contributes to adduction and medial rotation of the eyeball.

Innervation: Oculomotor nerve (CN III).

Inferior Rectus

Attachments: Originates from the inferior part of the common tendinous ring, and attaches to the inferior and anterior aspect of the sclera.

Actions: Main movement is depression. Also contributes to adduction and lateral rotation of the eyeball.

Innervation: Oculomotor nerve (CN III).

Medial Rectus

Attachments: Originates from the medial part of the common tendinous ring, and attaches to the anteromedial aspect of the sclera.

Actions: Adducts the eyeball.

Innervation: Oculomotor nerve (CN III).

Lateral Rectus

Attachments: Originates from the lateral part of the common tendinous ring, and attaches to the anterolateral aspect of the sclera.

Actions: Abducts the eyeball.

Innervation: Abducens nerve (CN VI).

Oblique Muscles

There are two oblique muscles – the superior and inferior obliques. Unlike the recti group of muscles, they do not originate from the common tendinous ring.

From their origin, the oblique muscles take an angular approach to the eyeball (in contrast to the straight approach of the recti muscles). They attach to the posterior surface of the sclera.

Superior Oblique

Attachments: Originates from the body of the sphenoid bone. Its tendon passes through a trochlear, and then attaches to the sclera of the eye, posterior to the superior rectus.

Actions: Depresses, abducts and medially rotates the eyeball.

Innervation: Trochlear nerve (CN IV).

Inferior Oblique

Attachments: Originates from the anterior aspect of the orbital floor.
Attaches to the sclera of the eye, posterior to the lateral rectus

Actions: Elevates, abducts and laterally rotates the eyeball.

Innervation: Oculomotor nerve (CN III)

THE INTRAOCULAR MUSCLES

The intraocular muscles are responsible for the pupil accommodation and reaction to light, and the protractor and retractor of the eyelids. They include (ciliary muscle, the sphincter pupillae, and the dilator pupillae).

1) CILIARY MUSCLES ÷ is a smooth muscle that controls accommodation by altering the shape of lens as well as controlling the flow of aqueous humor into Schlemm's canal

2) SPHINCTER PUPILLAE ÷ encircles the pupil and is responsible for the constriction of its diameter

3) DILATOR MUSCLE ÷ is arranged radially and increases the pupillary diameter