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MATRIC NUMBER: 18/MHS02/039

COURSE TITLE: GROSS ANATOMY

COURSE CODE: ANA 210

1. Describe the importance of vasculature in relation to immune system and outbreak of pandemic COVID-19 on the human body.

ANSWERS: Importance of vasculature to the immune system:

 Blood vessels are the highways that transport our immune cells to sights of inflammation. Circulatory 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 the larger vessels in inflammatory diseases. Larger vessels are not directly involved in leukocytes trafficking into tissues, but may they themselves be a target of inflammation, when arteries become involved by cell mediated immune responses.

* IMPORTANCE OF VASCULATURE IN RELETION TO COVID-19:

The blood vessels expansion allows free passage of oxygen.

2. Subsatorial canal is an important area in the lower limb, discuss.

ANSWERS: The Subsatorial canal is also known as the adductor canal or hunter’s canal. It is a narrow conical tunnel located in the thigh. It extends from the apex of the femoral triangle to the adductor hiatus of the adductor Magnus. The canal serves as a passageway from structures moving between the anterior thigh and posterior leg.

CLINICAL RELEVANCE

\_ In the adductor canal block, local anaesthetic is administered in the adductor canal to block the saphenous nerve in isolation or together with the nerves 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 saphenous nerve.

3. Describe the Extraocular and Intraocular muscles with their nerve supply.

ANSWERS: The extraocular muscles are the six muscles that control movement of the eye and one that controls eyelid elevation (levator palpebrae). The action of the six muscles responsible for the eye movement depends on the position of the eye at the time of muscle contraction.

The extraocular muscles develop along with Tendon’s capsule and the fatty issue of the eye socket (orbit). There are three centers of growth that are important in the development of the eye, and each is associated with a nerve. Hence the subsequent nerve supply (innervation) of the eye muscles is from the cranial nerves. The development of the extraocular muscles is dependent on the normal development of the eye socket, while the formation of the ligament is fully independent.

The intraocular muscles are responsible for pupil accommodation and reaction to light and the protractor and retractors of the eyelids. Deficit in the muscles or the nerves innervating these muscles can result in functional impairment of the involved structures. The intraocular muscles include the ciliary muscle, the sphincter pupillae and the dilator pupillae.

THE NERVE SUPPLY

The nuclei bodies of these nerves are found in the brain stem. The nuclei of the abducens and oculomotor nerves are connected. This is important in coordinating the motion of the lateral rectus in one eye and the medial action on the other. In one eye, in the antagonistic muscles, like the lateral and medial recti, contraction of one leads to inhibition of the other. Muscles show small degrees of activity even when resting, keeping the muscles taut. The tonic activity is brought on by discharges of the motor nerve to the muscle. The extraocular muscles are innervated by nerves that enter the orbit through the superior fissure. The oculomotor nerve divides into superior and inferior branches and innervates the superior, medial and inferior recti, the lavetor palpebrae superioris, and the inferior oblique. It also carries presynaptic.