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NURSING

ANA210 ASSINGMENT

1a: Immune inflammation of peripheral tissues depends on the local recruitment or circulating leucocytes into an extracellular site. In most instances leucocytes are recruited across the wall of post capillary venules, which are composed of a continuous of one cell thick inner lining of endothelial cells supported by an incomplete outer layer of ericytes located within the basement to which the endothelial is attached. Larger vessels are not directly involved in leucocytes trafficking into tissues, but may be a target of inflammation. In the arterial wall, the endothelial lining of the vessel is completely covered by vascular smooth muscle cells, some of which are located within the vessel intima, consisting of the endothelial lining and the anatomical space immediately beneath the basement membrane of the endothelial cell. However, most smooth muscle cells are densely concentrated in a multilayered, circumferentially oriented array within the vessel media, which surrounds and is separated from the intima by the internal elastic lamina. We caution against generalizing about the immunological functions of vascular cells, as in ‘endothelial cell, do the following nut smooth muscle cells do something else. While each vascular cell type displays specific characteristics that define it as an endothelial cell, pericytes or smooth muscle cells, each of these population may vary significantly in both phenotype and functions depending on the anatomical location.

1b: A person can survive on a single lung quite well – providing that lung is tip top condition. Lungs are easily damaged, though. Covid-19, the disease at the centre of the current corona virus outbreak is a case in point. Patients in serious condition have inflamed lung whose alveoli is filled with water and pus, and are unable to make oxygen exchange effectively. Corona viruses cause acute and chronic respiratory, enteric, and central nervous system (CNS) diseases in many species of animals, including humans. Human corona virus Previous to the emergence of SARS- CoV, there were two prototype human corona viruses, OC43 and 229E, both etiologic agents of the common cold. There had long been speculation about the association of human corona virus with more severe human disease such as multiple sclerosis, hepatitis, or enteric diseases in newborns.

 However, none of these early associations had been substantiated. The recently identified SARS-CoV, which was shown to cause a severe acute respiratory syndrome, was the first example of serious illness in humans caused by a corona virus and will be discussed in detail in below. Since the identification of SARS-CoV, there have been reports of two new human corona viruses associated with respiratory disease. HKUI is a groupII corona virus isolated from an elderly patient with pneumonia. This virus has been difficult to propagate in cell culture, and there islittleinformationavailableaboutthebiologyofthisvirus.HCoV-NL63isagroupIcoronavirus isolated from a 7-month-old child in The Netherlands who was suffering from bronchiolitis and conjunctivitis.Ithassubsequentlybeenreportedinotherpartsoftheworld,includingCanada(12), Japan (86), Hong Kong (52), Australia (5), and Belgium (220). HCoV-NL63 is associated with serious respiratory symptoms, including upper respiratory infection,

Bronchiolitis and pneumonia. The strong correlation of the presence of NL63 with croup in children with lower respiratory infections has suggested a causal relationship between the viruses while primarily associated with infections of children, this virus was independently isolated in New Haven, Connecticut, and called HCoV- NH. That group has suggested that this virus is associated with Kawasaki's disease in children; however, this has been disputed by two other reports. While little is known about the pathogenesis of any of the human corona viruses (229E, OC43, HKU1, NL63, and SARS-CoV), there have been detailed studies of the pathogenesis of some of the animal corona viruses, which may contribute to the understanding of the human viruses.

2. The adductor canal (Hunter’s canal, sub sartorial 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 from structures moving between the anterior thigh and posterior leg.

In this article, we shall look at the anatomy of the adductor canal – its borders, contents and clinical relevance. Borders the adductor canal is border red by muscular structures:

Antero medial: Sartorius. Lateral: Vastus medialis. Posterior Adductor longus and adductor Magnus. The adductor canal runs from the apex of the femoral triangle to the adductor hiatus – a gap between the adductor and ham string attachments of the adductor

Cross -section of the thigh, showing the borders of the adductor canal. Note: the adductor Magnus is not visible in this illustration. Contents the adductor canal serves as a passageway for structures moving between the anterior thigh and posterior leg.

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.

As the femoral artery and vein exit the canal, they are called the popliteal artery and vein respectively.

3) The extra ocular muscles are located within the orbit, but are extrinsic and separate from the eye ball itself .They control the movements of the eye ball and the superior eyelid.

There are seven extra ocular muscles – the levator palpebrae superiors, superior rectus, inferior rectus, medial rectus, lateral rectus, inferior oblique and superior oblique. The levator palpebrae superioris is innervated by the oculomotor nerve (CN III) The levator palebrae superiors receives motor supply from the superior division of the oculomotor nerve. Its smooth muscle component, the superior tarsal muscle, is supplied by sympathetic fibers that originate in the cervical spinal cord and travel along the carotid artery.

The superior rectus is innervated by the Oculomotor nerve (CNIII). The inferior rectus is innervated by Oculomotor nerve (CNIII) the blood supply to the inferior rectus is provided by the ophthalmic artery and the infra orbital branch of the maxillary artery.

The medial rectus is innervated by the Oculomotor nerve (CNIII).

The lateral rectus is innervated by the Abducens nerve (CNVI) .It is the only muscle supplied by

The abducens nerve, cranial nerve VI. The abducens nerve exits the brainstem from the pons-medullary junction, and travels through the superior orbital fissure to innervate the lateral rectus muscle.

The Superior Oblique is innervated by the Trochlear nerve (CNIV).

The Inferior blique is innervated by the Oculomotor nerve (CNIII).

\*The intra ocular muscles include the ciliary muscle, the sphincter pupillae, and the dilator pupillae. The ciliary muscle is a smooth muscle ring that controls accommodation by altering the shape of the lens, as well as controlling the flow of aqueous humor into Schlemm’s canal. The ciliary muscle is supplied by parasympathetic postganglionic myelinated nerve fibers from the cilia ryganglion.

The iris sphincter muscle receives its parasympathetic innervations via the short ciliary nerves which lead to papillary constriction (meiosis) and accommodation. The parasympathetic fibers that serve the phincter muscle.

The dilator muscle is innervated more specifically by postganglionic sympathetic nerves arising from the superior cervical ganglion as the sympathetic root of ciliary ganglion.