

NAME: OLUTOYE DEBORAH OLUWASEYI

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- 1) A. Immune inflammation of peripheral tissues depend on the local recruitment of circulating leukocytes into an extravascular site. In most instances leukocytes are recruited across the wall of post capillary venules, which are composed of a continuous one cell thick inner lining of endothelial cells supported by an incomplete outer layer of pericytes located within the basement to which the endothelial is attached. Larger vessels are not directly involved in leukocyte 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 cells. 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 fuctions of vascular cells, as in 'endothelial cells do he following nut smooth muscles cells do something else'. While each vascular cell type displays specific characteristics that define it as an endothelial cell, pericytes or smooth mucle cell, each of these populations may vary significantly in both phenotype and function depending on the anatomic location. Major species differences in vascular cell immunological functions led to much confusion in the literature.

- 1) B. An individual can survive with a single lung quite well, providing that lung is a top condition. Lungs are easily damaged, Covid-19, the disease at the centre of the current corona virus outbreak is a case in point. Patients in serious condition have inflamed lungs whose tiny alveoli fill with water and pus, and are unable to make the oxygen exchange effectively. The first two patients to die from the virus in China were healthy adults, but they were long- time smokers. Dr Raymond Tso, a US- trained Hong Kong specialist in respiratory medicine, stresses that smoking is the single worst thing we can do for our lungs. Coronaviruses cause acute and chronic respiratory, central nervous system (CNS) diseases in many species of animals, including humans. There had long been

speculation about the association of human, coronaviruses with more serious human diseases such as multiple sclerosis, hepatitis, or enteric disease in new-borns. However, none of these early associations had been substantiated. The recently identified covid-19, which was shown to cause a severe acute respiratory syndrome was the first example of serious illness in humans caused by a coronavirus. Since the identification of covid-19, there have been reports of two new human coronaviruses associated with respiratory disease. This virus has been difficult to propagate in cell culture, and there is little information available about the biology of this virus. Covid-19 is associated with serious respiratory symptoms, including upper respiratory infection, bronchiolitis, and pneumonia. While primarily associated with infections of children, has been also been detected in immunocompromised adults with respiratory tract infections. 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 there have been detailed studies of the pathogenesis of some of the animal affected with coronaviruses, which may contribute to the understanding of the virus.

THE SUBSARTORIAL

2) 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 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 bordered by muscular structures:

Anteromedial: 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 hamstring 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.

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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.

THE EXTRAOCULAR MUSCLES AND THEIR INNERVATION

3) 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 extraocular muscles;

- the levator palpebrae superioris,
- superior rectus,
- inferior rectus,
- medial rectus,
- lateral rectus,
- inferior oblique and
- superior oblique.

a) The levator palpebrae superioris is innervated by the oculomotor nerve. The levator palpebrae superioris 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 .

b) The superior rectus is innervated by the Oculomotor nerve.

c) The inferior rectus is innervated by Oculomotor nerve, The blood supply to the inferior rectus is provided by the ophthalmic artery and the infraorbital branch of the maxillary artery.

d) The medial rectus is innervated by the Oculomotor nerve.

e) The lateral rectus is innervated by the Abducens nerve. 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.

f) The Superior Oblique is innervated by the Trochlear nerve.

g) The Inferior Oblique is innervated by the Oculomotor nerve.

THE INTRAOCULAR MUSCLES AND THEIR INNERVATIONS

The intraocular muscles include the;

- ciliary muscle,
- the sphincter pupillae, and
- the dilator pupillae.

a) 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 are supplied by parasympathetic postganglionic myelinated nerve fibers from the ciliary ganglion.

- b) The iris sphincter muscle receives its parasympathetic innervation via the short ciliary nerves which lead to pupillary constriction (miosis) and accommodation. The parasympathetic fibers that serve the sphincter muscle.

- c) The dilator muscle is innervated more specifically by postganglionic sympathetic nerves arising from the superior cervical ganglion as the sympathetic root of ciliary ganglion. From there, they travel via the internal carotid artery through the carotid canal to foramen lacerum.