

Course : Ana 210

Department: Nursing scienc

1. A person can survive on a single lung quite well – providing that lung is in 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 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, enteric, and central nervous system (CNS) diseases in many species of animals, including humans.

Human coronavirus

Previous to the emergence of SARS- CoV, there were two prototype human coronaviruses, OC43 and 229E, both etiologic agents of the common cold. 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 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 coronavirus and will be discussed in detail in below. Since the identification of SARS-CoV, there have been reports of two new human coronaviruses associated with respiratory disease. HKU1 is a group II coronavirus isolated from an elderly patient with pneumonia. This virus has been difficult to propagate in cell culture, and there is little information available about the biology of this virus. HCoV- NL63 is a group I coronavirus isolated from a 7-month-old child in The Netherlands who was suffering from bronchiolitis and conjunctivitis .It has subsequently been reported in other parts of the world, including Canada (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 virus and croup. While primarily associated with infections of children, NL63 has been also been detected in immunocompromised adults with respiratory tract infections. 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 coronaviruses (229E, OC43, HKU1, NL63, and SARS-CoV), there have been detailed studies of the pathogenesis of some of the animal coronaviruses, which may contribute to the understanding of the human viruses.

2) The Subsartorial canal is also known as the adductor canal. 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. 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. The adductor canal is a narrow fascial tunnel in the thigh, providing an intramuscular passage through which the femoral artery and vein pass into the popliteal fossa of the knee. We also have the adductor canal block. The adductor canal block aims to block the saphenous nerve, a terminal branch of the femoral nerve, at the mid-thigh. The block has become popularized as a way of providing analgesia to the knee and medial portion of the lower leg while avoiding quadriceps weakness, which is common with the femoral nerve block. The adductor canal (or Hunter's canal) is generally defined as the area of the upper leg in which the sartorius muscle overrides the superficial femoral artery.

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.

The levator palpebrae superioris is innervated by the oculomotor nerve (CN III). 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.

The superior rectus is innervated by the Oculomotor nerve (CN III).

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

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

The lateral rectus is innervated by the Abducens nerve (CN VI). 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 (CN IV).

The Inferior Oblique is innervated by the Oculomotor nerve (CN III).

*The intraocular 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 are supplied by parasympathetic postganglionic myelinated nerve fibers from the ciliary ganglion.

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.

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.