ANA 202

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. HKUI 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. We summarize some of these data below.