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Explain the histological basis of the respiratory system (conducting portion of the respiratory system) attacked by Coronavirus.

Coronavirus is a virus which affects respiratory system of infected person. The virus is spread when an infected person sneezes or coughs close to another person or persons.

The respiratory system mainly functions in breathing in and out of air.

The respiratory system is divided into two.

a). Conducting zone

b). Respiratory zone.

The conducting zone refers to the path ways in which air is transported into the lungs. The conducting zone is not involved in gaseous exchange. The conducting zone includes the;

a). nasal cavities

b). nasopharynx

c). larynx

d). trachea

e). bronchi

f). bronchioles

g). terminal bronchioles.

The respiratory zone refers to the pathways in which gaseous exchange actually occurs. It includes the respiratory bronchioles, alveolar ducts and alveoli. The alveoli is the functional unit of the lungs or the main site for the functions of the lungs.

Conducting Portion of the Respiratory System Attacked By Coronavirus.

The major means of transmitting Coronavirus is when an infected person sneezes or coughs on an object or close to a person or persons. Droplets of infected molecules are inhaled by one who wasn't infected initially and then becomes infected. Therefore the first point of contact in this case is through the nose.

Nasal Cavity.

The nasal septum divides the nasal cavity into right and left. Each component contains an external vestibule and internal nasal cavities.

The vestibule is covered with skin of the nose. The epithelium of the vestibule as it enters into the nostrils changes from keratinized to respiratory epithelium.

Respiratory Epithelium also called ciliated pseudo stratified epithelium consist of;

Pseudo stratified epithelium

Ciliated columnar epithelium

Small granule cells( which are neuroendocrine in function and aids in sneezing reflex)

Basal cells: regenerative ( gives rise to new cells)

Goblet cells ( produce mucus)

The internal nasal cavity has three bony shelf like projection called conchae which is covered with respiratory epithelium also in the internal nasal cavity, especially the superior conchae has olfactory epithelium which consist of; olfactory neurons, supporting cells, basal cells and Bowman's gland.

The Nasopharynx: it connects the nasal to pharynx. It is lined with respiratory epithelium.

It is numerous lymphoid cells packed together to form tonsils.

The Trachea: The trachea is a C- shaped hyaline cartilage. It is also lined with respiratory epithelium, numerous seromucous glands, submucosa glands, and lymphoid tissue.

Bronchi: The trachea divides into left and right bronchi which enter into the left and right lungs respectively at the Carina. The cartilage is not C- shaped . The bronchi as it enters the lungs, reduces in diameter to form the bronchioles. The epithelium of the bronchioles change from ciliated columnar to cuboidal. The bronchioles has no cartilage but replaced by smooth muscle.

The terminal bronchioles marks the end of the conducting zone.