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**COURSE-ANA 204**

**ASSIGNMENT**

***Explain the histological basic of upper respiratory system (conducting portion of the respiratory system) attacked by corona virus***

**ANSWER**:

The respiratory tract is the pathway through which much needed

oxygen enters the body. It begins at the nostrils of the nose,

continuing into the nasal cavity. From here, it passes through the

pharynx, larynx, trachea, bronchi, bronchioles and ends in the

alveoli. The airway as a whole can be divided into two

segments: a conducting segment (from the nostrils to the

terminal bronchiole) and a respiratory segment (from the

respiratory bronchioles to the alveoli). The upper respiratory system, or upper respiratory tract,

consists of the nose and nasal cavity, the pharynx, and the larynx.

**Nasal cavity**

The nose, as the primary mode of entry of air into the airway, has

both respiratory and olfactory functions. In its respiratory

capacity, it modifies the air so that gaseous exchange will occur

more efficiently in the lungs, while in its olfactory capacity, it

detects various odors and transmits those impulses to the

brain for interpretation.

It is also equipped with modified hairs, called vibrissae that

filter out larger particles from inspired air. The membrane

transitions from keratinized stratified squamous epithelium

to pseudo stratified columnar ciliated epithelium with goblet

cells (also called respiratory epithelium) at a point known as

the limen nasi.

The respiratory epithelium covers the floor, medial and

lateral walls (just below the superior concha) of the nasal cavity

to the choana (posterior boundary of the nasal cavity).

**PHARYNX**

The epithelia of the pharyngeal portion of the

conducting zone changes with respect to each pharyngeal

segment. In the nasopharynx, the epithelium is

continuous with that of the nasal cavity. The cilia here

continues to wharf foreign particles through the pharynx

to be swallowed.

In the oropharynx and laryngopharynx, the epithelium

transitions to non-keratinized stratified squamous

epithelium. This durable epithelium is better suited to

accommodate friction associated with swallowing food.

Additionally, lymphatic aggregates (distributed

throughout the mucosa) act as a first contact point for the

immune system to sort through particles entering the

body.

The pharynx is lined by both stratified squamous

epithelium and ciliated pseudo stratified epithelium with

goblet cells.

**LARYNX**

The larynx is a complex tubular segment of the

respiratory system formed by irregularly shaped plates of

hyaline and elastic cartilage. The mucosa form two pairs

of folds, false and true vocal cords, which extend into the

lumen of the larynx. The laryngeal epithelium

corresponding to the mechanically exposed areas consists

of stratified squamous non-keratinized epithelium.

Supra-basally in this epithelium, dendritic

antigen-presenting Langerhans cells (LCs) can be found.

In the rest of the larynx, the epithelium is ciliated

columnar pseudo stratified with a rich population of

goblet cells. Except in the true vocal cords, lamina

propria consists of rather loose connective tissue and

contains groups of small, branched tubulo-alveolar

glands.

The epiglottis is part of the larynx. It is composed of

elastic cartilage. The "Adam's apple" is a nickname for

part of the larynx formed by the thyroid cartilage.