SUMMARY

The present study is carried out on the mucosa of the nasal cavity, larynx, and trachea in 20 adult healthy rabbits, guinea pigs and albino rats of both sexes. The nasal mucosa in the three animals can be differentiated into vestibular, respiratory and olfactory regions.

The nasal vestibule of all animals was lined by keratinized stratified squamous epithelium. There were few hair follicles with few sebaceous glands in the rabbit & rat and numerous ones in guinea pig. Fibro-elactic connective tissue was present subepithellially which contained blood vessels and glandular elements. In guinea pig, the glands were numerous but few in rabbit and rat. As well, the glands had PAS positive reaction and AB negative one.

The nasal respiratory region in the three animals was lined by ciliated pseudostratified columnar epithelium with goblet cells. In rabbit, the goblet cells predominated towards the floor and the respiratory glands were PAS negative superficially and PAS-positive deeply of the subepithelial layer. The glands were numerous in guinea pig than in the rabbit and rat. These glands were PAS-positive. In rat, the goblet cells were

few and there were AB-positive intra-epithelial glands in the membranous part of the nasal septum. The subepithelial layer was exterimely vascular and cellular.

The nasal olfactory region in all animals was lined by tall pseudostratified columnar epithelium free of goblet cells. There were Bowmann's glands in the sub-epithelium layer and situated between the olfactory nerve bundles. As well, these glands and their ducts had AB and PAS-positive reaction.

The larynx of rabbit, rat and guinea pig was lined by stratified squamous epithelium anteriorly and ciliated pseudostratified columnar with goblet cells posteriorly. The goblet cells had AB and PAS-positive reaction. The glandular elements in guinea pig were little than that of rat and greater than that of rabbit.

Trachea was lined by ciliated pseudostratified columnar epithelium with few goblet cells in the rabbit and rat, while these goblet cells were numerous at folds in trachea of guinea pig. Tracheal glands in the rabbit and guinea pig were PAS-positive.But these glands were AB-positive in rat. Tracheal cartilage was C-shaped in the rabbit & guinea pig and fragmented in rat. While

the tracheal muscle was thick in guinea pig and rat, but thin in rabbit.

Histochemically, the alkaline phosphatase, acid phosphatase, adenosine triphosphatase, non-specific esterase, and succinic dehydrogenase reactivities were studied on the mucosa of the nasal cavity, larynx, and trachea of the rabbit, guinea pig and rat.