

## **A comparative histomorphological and histochemical study for trachea in postnatal and adult rats *Rattus***

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### **Abstract**

This study's objective was to describe development structure of trachea, comparison the grossly, histological and histochemical features of trachea between rat (one day) postnatal and adult . Two sets of seven rats each—seven adults and seven newborns—were created from a total of fourteen healthy rats. Gross study; describe the development of trachea, measurement length and diameter of trachea in different ages of rat. For histological and histochemical studies; the specimens were taken from the different regions of trachea and fixed in 10% formaldehyde to histological technique after that embedded in paraffin wax, then sectioned, stained with routine stain, AB, Masson's Trichrome. The length and diameter of the trachea in one day age was (0.405±0.012; 0.09±0.008 cm) respectively, while in adult age was (3.7±0.07; 0.507±0.006 cm) respectively. The results statistical analysis show that there were significant differences (P> 0.05) in the length and diameter of the trachea also length and weight of lung with different times in the postnatal stage .

The findings showed that the trachea of (one day) postnatal lined with pseudostratified columnar non ciliated epithelial with development mucous glands, lamina propria, consists of loose connective tissue and sub mucosa contained loose connective tissue in one day age. while in adult rat lined with ciliated pseudostratified columnar epithelial with seromucous glands, in adult the lamina propria was consists of dense connective tissue. The hyaline cartilage consists chondrocytes, within the lacunae, the adventitia was made up of loose connective tissue, with many elastic fibers.

**Key words: Rats, Trachea, Development, Histological**