

## Studies on Absorptive Function of Tracheo-Bronchial Wall Using Radioisotope

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The pathophysiological aspects of tracheo-bronchi were studied from the standpoint of the absorptive function. The present report was shown the absorptive function of tracheo-bronchial wall of dogs.

The absorptive function of tracheo-bronchial wall was assessed in terms of introducing RI ( $^{32}\text{P}$ ) into a certain tracheo-bronchial lumen and analyzing its blood radioactivity curves and the transition of intracellular RI on its autoradiogram were identified. The following results were obtained.

1. There was seen the difference in the absorptive function due to the concentration of RI solution. High concentration made the absorptive function tend to decrease and 20 per cent glucose made it good. The influence of low concentration on absorptive function was not remarkable.

2. Under the influence of vagus on the absorptive function of tracheo-bronchial wall, the absorptive function tended to decrease in vagotomized and stimulated group, compared with the normals.

The influence on the absorptive function on tracheo-bronchia wall was insignificant by lateral stimulation of vagus and lateral vagotomy, but by bilateral stimulation of vagus, remarkable reduction of absorptive function was recognized. The absorptive function on

bilateral vagotomy was less decreased than the group of bilateral stimulation of vagus.

3. Under the influence of drugs on the absorptive function of tracheo-bronchial wall, the absorptive function was slightly decreased by adrenaline and pirocarpine, but histamine gave the reduction to the absorptive function. By acetylcholine, it was differed from other absorbing curves. It showed the reduction of absorptive function at the first, and gradually it was turned good. The group injected histamine and acetylcholine into airway showed the reduction of the absorptive function.

4. The regional pulmonary circulatory disturbance in pulmonary scintigramming were distinctly correlated with absorptive function of bronchial wall. The regional disturbance of pulmonary blood flow was seen in many of the cases reduced absorptive function of bronchial wall.

5. On the autoradiogram of tracheo and bronchial wall, introduction of RI into cells in tracheo and bronchial wall was comparatively clear. The autoradiogram showed a character of the absorptive function.

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## Lung Scintiphotograms of Children Suffering from Bronchial Asthma

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Lung Scintiphotograms of 40 bronchial asthmatic patients were performed with  $^{131}\text{I}$ -

MAA or  $^{113\text{m}}\text{In}$ -macroparticles in both attacks and their intervals.