

## Pharmacological aspects of Respiratory Diseases

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With the recent aging population, pneumonia, lung cancer, and chronic obstructive pulmonary disease (COPD) are leading death causes, and asthma and interstitial pneumonia are common. Suppression of drug-resistant bacteria has become a global topic, and one of the most interesting findings in Japan is macrolide therapy on several chronic respiratory diseases with its new effects other than antibacterial activity.

In asthma and COPD, inhalation medications have gained clinical benefits, but phenotype differences between Japanese and Western patients are focused. According to the Japanese guidelines for asthma-COPD overlap (ACO), proper diagnosis and treatment indication of various combinations of inhaled corticosteroids, long-acting  $\beta_2$  agonists and muscarinic  $M_3$  receptor antagonists will be focused.

Antifibrotic drugs are used in patients with idiopathic pulmonary fibrosis (IPF), and new drug discovery is progressing from more detailed knowledge of the mechanism of pulmonary fibrosis.

Pulmonary hypertension is common in both patients with interstitial pneumonia and COPD, but little treatment progress is seen compared to primary pulmonary hypertension. Advanced knowledge about diagnosing and treating this disease are expected.

I will introduce interesting topics of respiratory diseases from a pharmacological and clinical viewpoints and perspectives, in addition to the understanding of respiratory system and diseases.