Special Issue

Microbiome and Pneumonia

Message from the Guest Editors

There is plenty of evidence of existing microorganisms in the lungs that can correlate with the pathogenesis and development of chronic lung diseases, such as asthma, chronic obstructive pulmonary disease, interstitial lung disease, lung cancer, etc. Recent studies have shown that the gut microbiome affects an immune response in pneumonia. The gut dysbiosis that can be caused by lung dysbiosis mutually, which is called the gut–lung axis, contributes to the severity of pneumonia and clinical outcome. Furthermore, gut dysbiosis can contribute to decreasing antibody production after pneumococcal vaccination among allergic patients, such as severe atopic dermatitis. This issue might have impacted the high mortality rate of invasive pneumococcal disease, even though the patients were vaccinated with the pneumococcal vaccine. Modulating the dysbiosis in the lung and gut can be an essential treatment for pneumonia to improve the outcomes in patients with dysbiosis conditions. This review focuses on how the microbiome affects pneumonia's pathogenesis and clinical outcomes.

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"Microorganism" merges the idea of the very small with the idea of the evolving reproducing organism is a unifying principle for the discipline of microbiology. Our journal recognizes the broadly diverse yet connected nature of microorganisms and provides an advanced publishing forum for original articles from scientists involved in high-quality basic and applied research on any prokaryotic or eukaryotic microorganism, and for research on the ecology, genomics and evolution of microbial communities as well as that exploring cultured microorganisms in the laboratory.

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