The lung microbiome: A new frontier in pulmonary medicine

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More than 170 microbiologists, basic respiratory scientists, and pulmonary clinicians traveled from nine countries to convene at the three-day conference, which took place in June 2013 in Aspen, CO. Research from 12 state-of-the-art speakers, 24 oral research presentations, and 20 posters from pioneers in the emerging field are included in the supplement, as well as an introduction from conference chairs Richard J. Martin, MD, Sonia Flores, PhD, and Monica Kraft, MD, and a conference summary from James Kiley, PhD.

"The lungs of healthy humans have traditionally been considered to be sterile when examined by culture-based techniques," James Beck, MD, chief of medicine at the VA Eastern Colorado Health Care System in Denver, notes in his presentation. "However, molecular identification techniques are now being used to explore the lung microbiome in ways that mirror study of other body sites and organ systems. This emerging and exciting field of investigation is leading to new ways of thinking about the lung and about lung disease."

In the conference summary, Dr. Kiley, the director of the Division of Lung Diseases at National Heart, Lung, and Blood Institute, notes: "This meeting highlighted early scientific progress in understanding the lung microbiota in healthy and diseased subjects, addressed current challenges and opportunities, and discussed trends and future directions for functional studies to unravel the mechanism of disease and a more defined role of microorganisms in health.

"Part of the new frontier is that microbes were originally considered the 'enemy,' and the approach was to eradicate a bug and cure the disease. We now recognize this paradigm has evolved from microbes being enemies to being partners, and a new challenge is to understand the delicate balance and symbiosis of those communities in defining the role of the microbiome(s) in health and disease."