Acute and Chronic Lung Infections

Novel Pathogens, Diagnostics, and Therapeutics

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The Pittsburgh Lung Conference was established in 2002 by Dr. Augustine Choi to present cutting edge clinical, translational, and basic investigations in an area of lung disease selected each year. The conference brings together leading clinical and basic scientists, practicing clinicians, industry and government leaders, and trainees for 2 days of presentations and discussions focusing on a particular topic in pulmonary medicine. The first conference was dedicated to interstitial pulmonary fibrosis. Other past conferences have featured leaders in fields such as acute respiratory distress syndrome, personalized medicine, and asthma (Table 1). The theme of the 2013 Pittsburgh Lung Conference was acute and chronic lung infections, with a focus on novel pathogens, emerging diagnostic modalities, and innovative therapeutics.

Pulmonary infections are a leading cause of mortality worldwide. According to World Health Organization statistics, pneumonia is the most common cause of death in children younger than 5 years old worldwide and in adults in low-income countries (1). In the United States, influenza and pneumonia are the ninth leading cause of death (2). Specific types of pneumonia, such as tuberculosis, with more than 6 million cases worldwide in 2010, are responsible for a large degree of morbidity and mortality and represent a significant public health challenge (3). Pulmonary infections are

also of increasing importance in the expanding population of patients who are immunosuppressed secondary to organ transplantation or chronic HIV infection

(4–6). Emergence of resistant organisms and evolution of new pandemics provide a growing challenge to development of innovative treatments and preventive

Table 1. Topics and organizers of past Pittsburgh Lung Conferences

Title	Organizer(s)	Year
Idiopathic Pulmonary Fibrosis	Augustine M. K. Choi, M.D.	2002
Functional Genomics of Lung Disease: Bench to Bedside	Augustine M. K. Choi, M.D.	2003
Acute Respiratory Distress Syndrome/Sepsis	Augustine M. K. Choi, M.D.	2004
Asthma	Augustine M. K. Choi, M.D.	2006
Chronic Obstructive Pulmonary Disease	Frank C. Sciurba, M.D. Michael Donahoe, M.D.	2008
Spotlight on Pulmonary Hypertension and Pulmonary Vascular Biology	Mark T. Gladwin, M.D.	2009
Understanding the Interface between Asthma, Host Defense, and Mucosal Immunity	Sally Wenzel, M.D. Anuradha Ray, Ph.D. Prabir Ray, Ph.D. Mark T. Gladwin, M.D.	2010
Personalized Medicine of Lung Disease	Naftali Kaminski, M.D. Mark T. Gladwin, M.D.	2011
Acute Lung Injury: New Mechanisms, Future Therapies, and the Translation to Clinical Care	Rama Mallampalli, M.D. Mark T. Gladwin, M.D.	2012
Acute and Chronic Lung Infections: Novel Pathogens, Diagnostics, and Therapeutics	Alison Morris, M.D., M.S. Karen A. Norris, Ph.D. Mark T. Gladwin, M.D.	2013

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measures. In addition, the role of infections in chronic lung diseases, such as chronic obstructive pulmonary disease and asthma, demonstrate that the impact of lung pathogens extends beyond acute pneumonia. Innovative technologies are rapidly expanding diagnostic approaches and establishing new areas of research, such as the role of the microbiome in pulmonary diseases. Despite the global importance of lung infections, development of new antibiotics, vaccines, and novel therapeutics has been slow, and a pipeline for new drugs is lacking.

The 2013 Pittsburgh Lung Conference highlighted both clinical innovations and research advances in a series of six scientific symposia, a poster session, and a Meet the Professor seminar for fellows and junior faculty. Each year, the conference also highlights a keynote speaker at an evening banquet. This year's speaker was Donna E. Shalala, Ph.D., former Secretary of Health and Human Services and President of the University of Miami, who spoke on health

care delivery and the challenges it poses to academic medicine. The specific topics covered in the scientific symposia included: (1) Pneumonia: treatment and diagnosis; (2) The microbiome and the lung: does it matter?; (3) Challenges and the future in vaccine and drug development; (4) Infections in the immunosuppressed host; (5) Infections in "noninfectious" lung diseases; and (6) Emerging and resistant infections. Speakers included M.D.s and Ph.D.s from academics, governmental organizations, and industry. The talks in these sessions are summarized in the following series of articles.

We thank the speakers, moderators, and attendees. We also thank Theresa Dobransky and Christina O'Neil for outstanding conference planning as well as the organizing committee: James Beck, Cornelius Clancy, Kristina Crothers, JoAnne Flynn, Elodie Ghedin, Rama Mallampalli, Henry Masur, John McDyer, Anurhada Ray, and Prabir Ray. Advancement of any field relies on

interaction among scientists with diverse backgrounds and perspectives. This is especially true for interdisciplinary fields involving both basic scientists and clinicians as well as fields that are making major breakthroughs and growing rapidly; such is the case for the field of infectious lung diseases. We hope this Conference had a broad appeal to clinicians, basic and translational researchers, allied health personnel, public health experts, and industry scientists, each of whom has a major research and/or clinical interest in lung and infectious diseases biology, diagnostics, and therapeutics. We look forward to the 2014 Pittsburgh Lung Conference: Aging and Lung Disease: Clinical Impact and Cellular and Molecular Pathways, October 23 and 24, 2014, organized by Mauricio Rojas, Ana Mora, and Mark Gladwin. ■

Author disclosures are available with the text of this article at www.atsjournals.org.

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