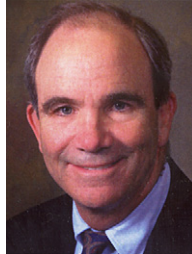


Preface



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Since the initial review in the *Clinics in Chest Medicine* of the acute respiratory distress syndrome (ARDS) by Dr. Roger Bone a quarter of a century ago, significant advances have occurred in the knowledge of the epidemiology, pathogenesis, and treatment of acute lung injury (ALI) and ARDS. The last decade has been especially productive with the publication of high-quality studies. A major driving force in the generation of new knowledge has been the creation of the ARDSNet clinical trials network sponsored by the National Heart, Blood and Lung Institute. This group and others have produced major studies of the treatment of ALI and ARDS in the last decade.

The current issue is an update of the previous issue edited by two of us in 2000 and summarizes considerable information in 16 chapters that range from epidemiology to the genetics of ALI. The first article, by AVECILLAS and colleagues, is a brief summary of the epidemiologic information. GATTINONI and coworkers present a masterful discussion of the potential role that computerized tomography may play in guiding therapy for ALI/ARDS. The next article, by PENEUELAS and colleagues, reviews the histopathological findings

that are common in patients with ALI/ARDS (an update of previous great articles in the issues published in 1982, 1990, and 2000) and extends the discussion to the correlation between histopathological findings and the clinical definition of ALI/ARDS. SURATT and PARSONS update the previous review of the mechanisms of acute lung injury, and LOONEY closes this section with a review of newer, less well recognized causes of ALI/ARDS.

The section on therapy starts with a review by RAMNATH and coworkers about the use of conventional mechanical ventilation. This article is followed by a one in which alternative modalities of mechanical ventilation are discussed by FAN and STEWART. The review by HERESI and colleagues, based on the recent publications of the ARDSNet, addresses the use of the pulmonary artery catheter and fluid management. ANZUETO and GUNTUPALLI present the topic of adjunctive therapies of mechanical ventilation. BUDINGER and SZNAJDER review the function of the alveolar-epithelial barrier, with emphasis on potential therapy that can modify the abnormalities present in ALI/ARDS, and HUDSON and HOUGH close the section

on therapy with a discussion of potential therapy for late-phase ARDS.

The last five articles in this issue begin with a discussion by Hopkins and Herridge about an important issue, the quality of life, emotional abnormalities, and cognitive dysfunction present in survivors. Hough follows with a review of another important issue that affects survivors, neuromuscular abnormalities. An excellent discussion of genetic epidemiology and potential implications for therapy is presented by Gong, followed by an article in which Vincent and Zambon discuss why patients with ALI/ARDS die of multisystem organ dysfunction. We close the issue with a discussion by Rice and Bernard about challenges in the research of ALI/ARDS.

We believe that this issue is a comprehensive summary of the current knowledge in the field, thanks to the outstanding contributions of our authors. We want to thank the team of W.B. Saunders, particularly Sarah Barth, who worked so hard with us to meet our deadlines.

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