

Bringing translational research in acute lung injury closer

The prevalence of acute lung injury (ALI) in the intensive care unit (ICU) is high, represents a high morbidity and mortality in mechanically ventilated patients, and current treatment is only supportive. Therefore, clinicians and scientists hoped that new pharmacologic, biologic, and genetic approaches for a better understanding of pathogenesis, pathophysiology and treatment of acute respiratory distress syndrome (ARDS) would improve clinical outcomes in the near future.

The second symposium on Translational Research in ARDS, held under the auspices of European Society of Intensive Care Medicine (ESCIM), Society of Intensive Medicine of the Community of Madrid (SOMIAMA), Spanish Society of Intensive Care Medicine and Coronary Units (SEMICYUC) and Centro de Investigación Biomédica en Red (CIBERES) was held in Madrid, Spain over 2 days where the current state of the art on translational research in this area, including both clinical and experimental investigations were reviewed.

The program was organized into eight thematic half-day sessions, with each successive session building on the concepts and data presented in the previous session. The first day was inaugurated by presentations by Andrés Esteban (Getafe, Spain), Lieuwe Bos (Amsterdam, Netherlands), Marcus J. Schultz (Amsterdam, Netherlands), Paolo Pelosi (Genoa, Italy), Rachel Herrero (Getafe, Madrid), Antonio Artigas (Barcelona, Spain), Fernando Suarez Sipmann (Uppsala, Sweden), Nicole Jufferman (Amsterdam, Netherlands), Lorenzo del Sorbo (Toronto, Canada), Ramón Farré (Barcelona, Spain), Guillermo Muñoz Albaiceta (Oviedo, Spain), Javier García (Madrid, Spain) and focused attention on the clinical challenges and basic mechanisms that distinguish diffuse alveolar damage (DAD) and ALI from others manifestations of pulmonary injury, subphenotypes of ARDS, recruitment maneuvers, novel therapeutic strategies for nebulized medications for ARDS, effect of mechano-transduction signals in ALI, and basic mechanisms of decellularization of the lungs for clinical research. With key presentations by Marcelo Gama de Abreu (Dresden, Germany), Giacomo Bellani (Monza, Italy), Lluís Blanch (Barcelona, Spain), Esther Barreiro (Barcelona, Spain), José Ángel Lorente, Óscar Peñuelas and Nicolás Nin (Getafe, Spain) the focus of the second day moved to the topics of lung protective ventilation strategies on non-injured lungs, effect of hypercapnia in clinical outcomes, and the interactions between lungs and organ remote affectations (muscle, diaphragm, brain), and finally the clinical search for novel biomarkers for ARDS and the antioxidant effect of human adult adipose-derived mesenchymal stem cells in ALI. The international symposium also featured ten short oral presentations by junior investigators

The objective of this issue of the journal is to present the main monographic reviews carried out by the speakers of the symposium to contribute to the dissemination of the current knowledge about the most relevant topics of ARDS, and the management and translational research of ALI in critically ill patients requiring mechanical ventilation.

The manuscripts and symposium summary presented in this issue of the *Annals of Translational Medicine* reflect two remarkable days of discourse, discovery, discussion, contemporary thinking about mechanisms of ALI and novel therapeutical strategies in ARDS based on translational research that allows a scenario of cooperation in research exchange of scientific collaborations between research groups, and the promotion of young researchers that may serve as a reference framework for the dissemination of translational research in ARDS at European level.

We hope that the reader will enjoy these contributions and they would be stimulated in their thinking about newer strategies for “Bringing translational research in ALI, closer”.

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