HHS Public Access

Author manuscript

Nephron. Author manuscript; available in PMC 2021 November 02.

Published in final edited form as:

Nephron. 2020 ; 144(12): 607–608. doi:10.1159/000512339.

Proceedings of the 10th Annual UAB-UCSD O'Brien Center Symposium: Changing Paradigms in Acute Kidney Injury: From Mechanisms to Management

Kelly K. Andringa, PhD

Department of Medicine, Division of Nephrology, University of Alabama at Birmingham

Introduction

Acute kidney injury (AKI) can occur within hours or up to a few days and consists of a sudden onset of kidney damage that leads to organ failure, inappropriate fluid balance in the body and multiple subsequent medical issues. Thus, research to further understanding of the mechanisms, causes and other organ effects of AKI is important and valuable to both the medical community as well as the patient population for which this research is directed. This issue summarizes the proceedings of the 10th annual symposium that was sponsored by the University of Alabama at Birmingham (UAB) - University of California San Diego (UCSD) O'Brien Center for Acute Kidney Injury Research and held during the 25th annual Continuous Renal Replacement Therapy conference in San Diego, California on February 24, 2020.

The overall goal of this symposium continues to allow for a comprehensive review of the most recent developments in the study of AKI and elucidate some of the emerging knowledge from those covering the spectrum of basic to translational research. The meeting included 20 experts invited from around the world and over 100 participants were in attendance. Symposium sessions focused on defining key molecules, mechanisms and targets involved in AKI. Presenters in this session discussed mechanisms in how proteins are involved in signaling or causing repair and damage, also discussed were mechanisms of oxygen consumption, iron homeostasis and how to harness immunological cells in learning about progression of AKI. The symposium also included discussion of how to best utilize animal model results in AKI studies and coordinate that to the human condition. Presenters in this section discussed models of regeneration, pathways of repair and how organelles and proteins cause and affect both kidney and other organ systems in these models. Further discussions were also involved how to translate discoveries to clinical care and issues in the treatment and understanding of AKI. These involved new biomarkers, new uses for cells, proteins and regions in furthering research. Also discussed was infection rates and how some techniques may lead to development of AKI.

The UAB-UCSD O'Brien Center has taken a key role in the development and availability of scientific and clinical data resources for investigators performing AKI related research. The Center is involved in identifying research trends, emerging technologies and assisting in the pursuit of opportunities through enhanced core resources, training on techniques, and adding to the educational opportunities available by creating and support workshops and symposia.

The proceedings from this symposium provide a unique assembly of information and developments in the field of AKI research that we anticipate will stimulate further interest in exploring the causes and mechanisms of disease development, treatment and outcomes and follow-up of those affected with AKI.