

Submission No. : CKD1-0003

Session Title : Chronic Kidney Disease 1

Session Topic : Advances in Understanding the Mechanisms and Therapies for Kidney Fibrosis

Date & Time, Place : June 14 (Fri) / 08:30-10:00 / Room 3 (GBR 104-105)

Gut dysbiosis and CKD

Sang-kyung Jo

Korea University Anam Hospita, Republic of Korea

Gut is a home of 100 trillion microbial cells and in a state of dynamic interaction with hosts participating diverse physiological functions including development, metabolism and immune modulation. There is mounting evidence suggesting that dysbiosis and aberrant gut microenvironment are associated with various metabolic, inflammatory conditions including chronic kidney disease (CKD). Inflammation is an important link in the development and progression of CKD as well as various complications of CKD. In addition to traditional risk factors of inflammation including uremic toxins, cytokines, oxidative stress, acidosis, and dialysis related factors, gut dysbiosis has recently been recognized as an important player in CKD associated inflammation. Recent advances in sequencing technology have offered unprecedented insights into characteristics of gut dysbiosis in CKD patients. Animal studies have demonstrated that disrupted gut barrier and dysregulated mucosal immune response contribute to systemic inflammation and kidney fibrosis. The recent dietary interventional studies on gut microbiome showing beneficial effect might suggest that targeting the gut might provide novel therapeutic opportunities for CKD.

Keywords: CKD, gut dysbiosis, inflammation