# KSN 2017 Abstract

KSN-17-P212

## The effect of APX-115 on chronic renal injury in an experimental murine model of unilateral ureteral obstruction

Jin joo CHA[1], Hye sook MIN [2], Jung yeon GHEE [1], Ji ae YOU [1], Ji eun LEE [2], Jee young HAN [3], Young sun KANG [1], *Dae ryong CHA[1]

[1]Internal Medicine, Korea University Internal Medicine, Korea,South, [2]Internal Medicine, Wonkwang University, Gunpo Hospital, Korea,South, [3]Pathology, Inha University, Korea,South, [4]Life Science, Ewha Woman's University, Korea,South

**Objectives :** NADPH oxidases (Noxes) are major sources of reactive oxygen species in the kidney, and upregulation of its isoforms have been implicated in the progression of various kidney disease such as diabetic nephropathy and hypertensive nephropathy. In a previous report, we have demonstrated that broad inhibition of Noxes with APX-115 ameliorated progression of diabetic nephropathy. Nox1, Nox2 and Nox4 are the predominant isoforms expressed in the tubular segment of the kidney. Therefore, we investigated the effect of APX-115 on experimental murine model of unilateral ureteral obstruction (UUO).

**Methods :** APX-115 was administered by oral gavage at a dose of 60mg/kg/day for 1 week in UUO-induced C57BL/6 mice

**Results :** There were no significant differences between plasma and urinary 8-isoprostane levels between the UUO groups. Albumin excretion were decreased with APX-115 treatment. Nox inhibition with APX-115 significantly decreased renal mRNA expressions of collagen1 and PAI-1, but not collagen IV, TGF-β and CTGF in UUO mice. Nox2, 4 protein expressions in APX-115 treated group were decreased compared to UUO group. However, there were no significant change in protein expressions of TGF-β, CTGF nor NF-κB.

**Conclusions :** Conclusions: Broad inhibition of Noxes may not be beneficial in certain type of renal injury. More research into this area is required to fully understand the balance between the expressions and inhibition of Noxes in the kidney.

**Keywords :** APX-115, Unilateral ureteral obstruction, chronic renal injury