

**Abstract Type : Oral Presentation**  
**Abstract Submission No. : F-006583**

## **Large Kidney Volume is a Protective Factor against Chronic Kidney Disease in Old Kidney Donors**

**EunAh Jo<sup>1</sup>**, Sangil Min<sup>2</sup>, Ahram Han<sup>2</sup>, Jongwon Ha<sup>2</sup>

<sup>1</sup>Department of Surgery, Seoul National University Bundang Hospital, Republic of Korea

<sup>2</sup>Department of 외과, Seoul National University Hospital, Republic of Korea

**Introduction:** Old age is a known risk factor for chronic kidney disease as functional nephron loss occurs starting at the age of 60. This study aimed to assess whether old age kidney donors with larger kidney volumes have lower risks of developing chronic kidney disease after donor nephrectomy.

**Methods:** A retrospective analysis of 1087 living kidney donors was performed. The remnant kidney whole volume was measured using preoperative computed tomography (CT) through a fully autosegmentated program. A univariate and multivariate analysis for development of chronic kidney disease (CKD) post donor nephrectomy was performed using preoperative factors including baseline characteristics, laboratory results, and remnant kidney volume.

**Results:** Compared to young donors ( $\leq 60$  years,  $n=1006$ ), old age donors ( $>60$  years,  $n=81$ ) had lower baseline eGFR ( $95.6 \pm 9.5$  vs.  $104.5 \pm 14.4$ ;  $p<0.001$ ). Other baseline characteristics, including weight, kidney whole volume quartile distribution, and gender were similar in both groups. The cumulative CKD free survival for 5-years was worse in old age donors (HR 3.36; 95% [CI] 2.14-5.26;  $p<0.001$ ). Multivariate Cox regression model for CKD in old age donors showed that male gender was a significant risk factor (OR 4.834; 95% [CI] 1.746-13.381;  $p<0.002$ ) and large kidney whole volume to weight ratio was a protective factor against CKD (OR 0.263; 95% [CI] 0.054-1.272;  $p<0.097$ ).

**Conclusion:** Large kidney volume to weight ratio acts as a protective factor against the development of chronic kidney disease in old age donors.