

**Abstract Type : Poster**

**Abstract Submission No. : PO-1657**

## **The Natural Course of Total Kidney Volume in Hemodialysis Patients with Autosomal Dominant Polycystic Kidney Disease**

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**Objectives:** The natural course of native kidneys after hemodialysis in patients with autosomal dominant polycystic kidney disease (ADPKD) remains poorly understood.

**Methods:** We measured the total volumes of native kidneys in 12 patients who had at least one enhanced computed tomography(CT) image before and after initiation of hemodialysis respectively; and in 18 patients who had no image before dialysis and more than two images after dialysis. The last image was used for analysis in patients with images only after dialysis.

**Results:** The mean total kidney volume (TKV) ( $\pm$  SD) prior to hemodialysis was  $3132 \pm 1413$  mL and the mean TKV of the last image was  $3047 \pm 1323$  mL in the 12 patients who had images before and after dialysis. The mean TKV change rate(%) was  $5.2 \pm 27.4\%$  lower ( $p > 0.05$ ) after a follow-up during  $3.9 \pm 1.9$  years in the 12 patients with images before and after initiation of hemodialysis. The mean TKV change rate was  $2.8 \pm 34.4\%$  higher ( $p > 0.05$ ) in the 18 patients who had more than two images after initiation of hemodialysis. Follow-up period after dialysis ranged from  $4.2 \pm 4.7$  to  $8.0 \pm 5.2$  years.

**Conclusions:** In this study, results suggest that the TKV of native polycystic kidneys decreases substantially after hemodialysis. The reduction of TKV occurs mainly during early post-hemodialysis period and followed by a slow enlargement of TKV.