

KSN 2016 Abstract Submission

Clinical Nephrology

KSN2016ABS-1548

Glomerular filtration rate declines after adrenalectomy in patients with primary aldosteronism: identification of predictors for decreased renal function.

Il Young Kim^{*1}, Joo Hui Kim¹, Harin Rhee², Sang Heon Song², Eun Young Seong², Dong Won Lee¹, Soo Bong Lee¹, Ihm Soo Kwak²

¹Department of Internal Medicine, Pusan National University Yangsan Hospital, Yangsan, ²Department of Internal Medicine, Pusan National University Hospital, Busan, Korea, Republic Of

Background: Glomerular filtration rate (GFR) has been reported to decrease after unilateral adrenalectomy in patients with primary aldosteronism (PA). The aim of this study was to identify clinical predictors for decreased GFR after adrenalectomy in patients with PA.

Methods: The records of 187 patients (98 patients with PA and 89 patients with non-PA adrenal disease) who were followed for 6 months after unilateral adrenalectomy were retrospectively analyzed. Estimated GFR (eGFR) was investigated at 1, 3, and 6 months after surgery. Pre-operative predictors for eGFR % decrement at 1 month [(pre-operative eGFR - eGFR at 1 month)/pre-operative eGFR] were investigated.

Results: In baseline characteristics, PA group showed higher levels of systolic/diastolic blood pressure (SBP/DBP), aldosterone to renin ratio (ARR), and lower levels of potassium than non-PA group. The eGFR decreased significantly at 1 month ($P < 0.001$) and remained stable in PA group. However, there were no significant changes of eGFR in non-PA group throughout 6 months. In PA group, univariate analysis showed that SBP ($r = 0.291$, $P = 0.004$), DBP ($r = 0.359$, $P < 0.001$), ARR ($r = 0.572$, $P < 0.001$), and pre-operative eGFR ($r = 0.309$, $P = 0.002$) correlated with eGFR % decrement at 1 month. Multiple linear regression analysis revealed that higher pre-operative eGFR ($\beta = 0.286$, $P = 0.001$) and ARR ($\beta = 0.464$, $P < 0.001$) were independent predictors for eGFR % decrement at 1 month.

Conclusion: Renal function seems to deteriorate significantly after unilateral adrenalectomy in patients with PA. Clinicians need to pay attention to post-operative renal function in patients with PA, particularly who showed higher pre-operative eGFR and ARR.

Keywords: adrenalectomy, primary aldosteronism, Renal function