

Abstract Type : Poster

Presentation No. : PGN 008

High renin-aldosterone ratio and lateralization index are associated with adverse renal outcomes in primary aldosteronism patients who underwent adrenalectomy

Jee Young Lee, Joohyung Ha, Yooju Nam, Seon yeong Lee, Sangmi Lee, HyOUNGNAE Kim, Jung Tak Park, Seung Hyeok Han, Shin-Wook Kang, Tae-Hyun Yoo
Department of Internal Medicine, Shinchon Yonsei Hospital, Korea, Republic of

Objectives: Previous studies reported that renal impairment develop in PA patients after adrenalectomy. However, aldosterone-induced glomerular hyperfiltration can lead to masked preoperative renal dysfunction in PA patients. We aimed to elucidate risk factors for renal impairment after adrenalectomy in these subjects.

Methods:

In this retrospective study, total 109 PA patients and 193 pheochromocytoma patients as control, who underwent adrenalectomy between January 2006 and November 2017 at Yonsei University Severance Hospital, were enrolled. Acute kidney injury (AKI) after adrenalectomy was defined as increase in serum creatinine >0.3 mg/dL or decrease in eGFR $>30\%$ from preoperative baseline values. Postoperative chronic kidney disease (CKD) was defined as eGFR <60 mL/min/1.73m² for more than 3 months post-adrenalectomy. In all PA patients, adrenal vein sampling (AVS) was performed to evaluate aldosterone and cortisol levels in each adrenal glands.

Results:

The mean age was 49.6 years and 140 (46.4%) were male. Among 109 PA patients, the incidence of AKI and CKD were 28 (25.7 %) and 34 (31.2 %) after adrenalectomy. Meanwhile, among 193 pheochromocytoma patients, the incidence of AKI and CKD were 21(10.9%) and 6(3.1%), respectively. Multivariate logistic regression analysis showed PA patients compared to pheochromocytoma is a risk factor for incident CKD after adrenalectomy. We further evaluated the risk factor for CKD development in PA patients. Univariate logistic regression analysis identified diabetes mellitus, duration of hypertension, high aldosterone-cortisol ratio and lateralization index in AVS as risk factors for development of postoperative CKD in PA patients. Multivariate analysis revealed high AVS aldosterone-cortisol ratio and lateralization index were independent risk factors for CKD development after adrenalectomy.

Conclusions:

Present study demonstrated incidence of CKD was more frequent in PA patients compared to pheochromocytoma patients post-adrenalectomy. Also, high AVS aldosterone-cortisol ratio and lateralization index are independent risk factors for adverse renal outcomes in PA patients post-adrenalectomy.