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Contralateral Suppression at Adrenal Venous Sampling Is Associated with Renal Impairment Following Adrenalectomy for Unilateral Primary Aldosteronism (*Endocrinol Metab* 2021;36:875-84, Ye Seul Yang et al.)

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We thank Tan et al. for their interest in our study and for their effort to elaborate on the association between age and chronic kidney disease (CKD) after adrenalectomy in patients with primary aldosteronism (PA). We demonstrated that a contralateral suppression index (CSI) ≤0.26 at adrenal venous sampling was associated with incident CKD, especially in patients >50 years of age, after adrenalectomy [1]. We determined the cut-off age for this study by performing a receiver operating characteristic curve analysis.

We agree with their interest in differences between elderly patients and nonelderly patients regarding renal outcomes after adrenalectomy. In our study population, the prevalence of postoperative CKD, which was defined as a postoperative estimated glomerular filtration rate (GFR) less than 60 mL/min/1.73 m^2 in cases where the preoperative GFR was ≥60 mL/min/1.73 m^2, and post-adrenalectomy hyperkalemia was higher in the elderly group (≥60 years old, n=55) than in the nonelderly group (<60 years old, n=208) (P=0.041 and P=0.011, respectively), even though the prevalence of preoperative CKD was comparable between groups. However, there were no significant differences in renal outcomes except for GFR after adrenalectomy, when patients ≥65 years of age were defined as elderly. This might have been due to the small size of the population, as only 28 (10.6%) patients were ≥65 years old.

The elderly group had a longer duration of hypertension (11.1 years vs. 6.3 years, P<0.001), lower diastolic blood pressure (82.1 mm Hg vs. 92.7 mm Hg, P<0.001), a lower preoperative GFR (75.6 mL/min/1.73 m^2 vs. 87.8 mL/min/1.73 m^2, P<0.001), a lower plasma aldosterone-to-renin ratio (136.8 ng/dL per ng/mL/hr vs. 216.5 ng/dL per ng/mL/hr, P=0.015), and higher CSI (0.25 vs. 0.20, P=0.022) than the nonelderly group. However, logistic regression analysis showed that only the CSI significantly predicted renal impairment in the elderly group.

A recent study also showed that contralateral suppression, baseline plasma aldosterone, and female sex were associated with decreased GFR after adrenalectomy in patients with PA [2]. In our study [1], age was associated with renal impairment in the univariate analysis (P=0.03), but was not significant after adjusting for the CSI in the multivariate analysis (P=0.072). Therefore, the CSI is considered to be a more important factor in the deterioration of renal function after adrenalectomy than the patient's age itself. It would be interesting to study the effect

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of the CSI on renal impairment in various age groups from other study populations [3-7]. We deeply appreciate the valuable insights of Tan et al., which have broadened the understanding of our article.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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