

**Renal impairment is an independent predictor of residual hypertension in aldosterone producing adenoma patients after surgery – The TAIPAI study**

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# **Taiwan Primary Aldosteronism Investigation** (TAIPAI) study group including Vin-Cent Wu, MD, Yen-Hung Lin, MD, Hung-Wei Chang, MD, PhD, Lian-Yu Lin, Fu-Chang Hu, M.S., Sc.D. Kou-Lung Liu, Shih-Chieh Chueh, MD, PhD, Wei-Jo Lin, MD, PhD and Kwan-Dun Wu, MD, PhD.

**Summary**

**Context:** Autonomous elevated aldosterone will increased glomerular filtration rate and renal damage in patients with primary aldosteronism (PA), but the clinical evidence of the contribution of early renal impairment on post-adrenalectomy residual hypertension is limited.

**Objectives:** To determine the effect of early renal impairment on post-adrenalectomy cardiovascular disease and residual hypertension in patients with aldosterone producing adenoma (APA).

**Design, Setting, and Patients:** Observative cohort study for based on the TAIPAI database.

**Main Outcome Measures:** From July 1999 to January 2007, 150 patients (61 male, 89 female,  $47.2 \pm 11.6$  years old) diagnosed with APA had undergone surgical intervention in National Taiwan University Hospital. The variables responsible for post-operative residual hypertension were evaluated. Renal function was categorized as impairment if creatinine clearance (CrCl)  $< 90 \text{ mL/min/1.73 m}^2$ .

**Results:** Ninety- nine (66%) patients had renal impairment before operation. Over a mean 58.7 months follow-up after adrenalectomy, the incidence rate of cardiovascular disease was 8.2% person-year, 55 (36.6%) patients still had post-operative residual hypertension. The independent risk factors for post-operative residual hypertension were a longer duration of hypertension before operation ( $p = 0.001$ ), higher pre-operative body mass index ( $p = 0.001$ ), and renal impairment ( $p = 0.021$ ).

**Conclusions:** Nearly two-third of the APA patients were cured of hypertension after adrenalectomy. Renal impairment, even with low normal CrCl, appeared to be associated with high incidence of cardiovascular disease and post-operative residual hypertension.