Short Communication

Clinical outcomes of laparoscopic-based renal denervation plus adrenalectomy vs adrenalectomy alone for treating resistant hypertension caused by unilateral aldosterone-producing adenoma

Yahui Liu

Zhengzhou University People's Hospital, China.

Abstract:

Our study aimed to evaluate the efficacy and safety of RDN from the adventitia of renal artery plus unilateral laparoscopic adrenalectomy to treat patients with resistant hypertension caused by unilateral aldosterone-producing adenoma (APA). A total of 60 consecutive patients with resistant hypertension caused by unilateral APA were enrolled in this study and randomly assigned to undergo RDN from the adventitia of the renal artery plus adrenalectomy (RDN group, n=30) or adrenalectomy alone (control group, n=30) and were followed up for 12 months. The primary efficacy end point was the change in 24-hours mean ambulatory systolic blood pressure (SBP) from baseline to 12 months. At the 12-month follow-up, the mean reduction of 24-hours average SBP and office SBP in the RDN group was 20.7 ± 15.2 and 37.1 ± 26.0 mmHg respectively, which was significantly higher than the mean reduction of 24-hours average SBP (11.9 ± 11.1 mmHg, P=0.017) and the office SBP (25.9 ± 16.8 mmHg, P=0.035) in the control group. Serum potassium levels returned to normal 12 months post-procedure. Patients in the RDN group had higher proportion of cured clinical and biochemical outcomes than those in the control group (35.7% vs 17.9% in clinical outcome; 96.4% vs 89.3% in biochemical outcome, respectively). There were no procedural-, device-, or treatment-related safety events during the 12-month followup period between the groups. In conclusion, RDN from the adventitia of the renal artery plus unilateral laparoscopic adrenalectomy is more effective than adrenalectomy alone for treating resistant hypertension caused by unilateral APA.

Keywords: Resistant hypertension, renal denervation, Progression, laparoscopic, aldosterone