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Clinical Efficacy and Safety of Spironolactone as an Add-on Therapy for Blood Pressure in Hypertensive Patients

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Objectives : Uncontrolled hypertension is a risk factor for developing kidney disease, cardiovascular morbidity, and mortality. Therefore, blood pressure (BP) control is decisively important but often remains insufficiently achieved. Spironolactone is recommended as a fourth-line therapy for essential hypertension, despite limited supporting data for this indication.
Methods : A retrospective cohort study was conducted on hypertensive patients at the outpatient department from January 1, 2016, to December 30, 2019. Patients were assessed for their BP response to spironolactone. Kidney function, serum electrolytes, and safety profiles were evaluated during the study.
Results : Among the 358 patients who received spironolactone, 42.2% had diabetes, 30.5% had chronic kidney disease, and 18.7% had atherosclerotic heart disease. Patients treated with at least three antihypertensive agents comprised 56% of the cohort. Compared with baseline measurements, spironolactone significantly reduced systolic BP at months 6 (mean difference -6.1±19.8), 12 (mean difference -8.3±21.9), and 36 (mean difference -8.5±19.8) (Overall, $P < .001$). The systolic BP-lowering effects of spironolactone were significantly associated with baseline systolic BP (beta coefficient: -0.581, 95% CI: -0.674 to -0.488) and baseline serum creatinine (beta coefficient: 1.377, 95% CI: 0.605 to 2.149) as determined by multiple linear regression. Serum potassium levels increased by 0.46±0.58 mEq/L, and the estimated glomerular filtration rate (GFR) declined by -3.3±10.5 mL/min/1.73 m^2 per year during the study. The most frequent adverse events included hyperkalemia in 10 patients (2.8%), hypotension in 8 patients (2.2%), and gynecomastia in 5 patients (1.4%).
Conclusions : This study suggests that spironolactone has a significant antihypertensive effect, leading to a substantial reduction in systolic blood pressure in hypertensive patients. Spironolactone is generally well-tolerated.