

Rates of Primary Aldosteronism Screening Among High-Risk Populations

Seda Grigoryan. *Michigan State University*

Seda Grigoryan, MD¹, Sonja Marie Konzen, BS², Adina F. Turcu, MD, MS².

¹Michigan State University, Lansing, MI, USA, ²University of Michigan, Ann Arbor, MI, USA.

Background: Primary aldosteronism (PA) is the most common form of secondary hypertension. PA is associated with higher cardiovascular and renal morbidity and mortality than equivalent essential hypertension. Data on PA screening rates are scarce.

Objective: To evaluate the rates of PA screening among at-risk populations.

Methods: We conducted a retrospective review of adult patients (age ≥ 18 years) with hypertension (HTN) seen in a University setting outpatient clinics between 2010-2019 who had: 1) resistant HTN; 2) HTN and hypokalemia; 3) HTN at age <40 ; 4) HTN and known adrenal mass; or 5) HTN and obstructive sleep apnea (OSA). We excluded patients with known high-renin HTN, renovascular HTN, or congenital adrenal hyperplasia.

Results: We identified 11,627 patients with HTN meeting at least one of the inclusion criteria. Of these, only 3.27% were ever screened for PA. Patients screened were younger (47.5 ± 17.8 vs. 51.3 ± 16.9 , $p < 0.0001$), more often women (55.28% vs. 45.71%, $p = 0.0003$), had lower serum K⁺ (3.4 ± 0.5 vs. 3.7 ± 0.4 , $p < 0.0001$), and were more likely to have chronic kidney disease (29.27% vs. 17.5%, $p < 0.0001$) and cerebrovascular accidents (9.21% vs. 6.16%, $p = 0.02$) than those never screened. While most patients in this cohort were white (79.9% vs. 15.3% black, and 2.3% Asian), screening rates were overall higher in Asian (8.4%) and black (6.1%) than in white Americans (2.8%, $p < 0.0001$). Of the different indications for PA screening, the rates were highest among patients with adrenal nodules (35%) and lowest in patients with HTN and OSA (2.1%). The rates of screening were similar in patients younger vs. older than age 40 (3.2%, $p = 0.9$). Among patients with resistant hypertension, those screened were on average 10 years younger (58.5 ± 14.0 vs. 68.7 ± 12.8 , $p < 0.0001$) and twice as often black (20.7% vs. 10.1%) compared to those not screened for PA. Conversely, in patients with adrenal masses, there were no sex, age, or race differences between those screened vs. not screened for PA. PA screening was initiated most often by general internists (53.9%), followed by endocrinologists (15.8%), and rarely by nephrologists (9.5%), or cardiologists (4.2%).

Conclusions: Despite its high prevalence and associated cardio-renal morbidity, PA screening is pursued in only 3% of high-risk populations. While patients screened are generally younger and more often black than those not screened, the diagnosis is often suspected after complications have already developed. These data indicate that initiatives to encourage PA screening are crucial for preventing cardiovascular and renal morbidity in many patients with HTN.