

ORIGINAL RESEARCH SCIENTIFIC ABSTRACT EXAMPLE:

Title

Diagnostic Delay in Primary Aldosteronism: A Multicenter Retrospective Study of Time to Diagnosis and Associated Cardiometabolic Outcomes

Objective(s)

Primary aldosteronism (PA) is a common and potentially curable cause of secondary hypertension. However, delayed recognition and diagnosis are frequent and may lead to preventable cardiometabolic complications. The objective is to characterize the time from initial hypertension diagnosis to confirmed PA diagnosis and to evaluate the association between diagnostic delay and clinical outcomes.

Methods / Materials

We conducted a retrospective cohort study across three academic medical centers, identifying adults diagnosed with PA between 2012 and 2022. Demographic, clinical, and biochemical data were extracted from electronic health records. Diagnostic delay was defined as the time from the first recorded elevated blood pressure reading to formal PA diagnosis.

Outcomes included presence of resistant hypertension, number of antihypertensive agents, incidence of atrial fibrillation, and chronic kidney disease (CKD) stage at the time of diagnosis. Statistical analyses included multivariable regression to assess associations between diagnostic delay and outcomes, adjusting for age, sex, and comorbidities.

Results

A total of 314 patients with confirmed PA were included (mean age 52.7 ± 10.8 years; 58% female). Median time to diagnosis was 5.4 years (IQR 2.7–8.6). Longer diagnostic delay was significantly associated with increased odds of resistant hypertension (OR 1.12 per year delay; 95% CI 1.04–1.21, $p=0.003$) and atrial fibrillation (OR 1.09 per year; 95% CI 1.02–1.17, $p=0.01$). Patients with delays >7 years had a higher mean number of antihypertensive medications (3.2 vs 2.5, $p=0.01$) and more advanced CKD (stage 3 or higher: 34% vs 18%, $p=0.02$).

Discussion/Conclusion

Our findings highlight a substantial delay in diagnosing PA, often spanning several years. This delay is associated with a higher burden of resistant hypertension, atrial arrhythmias, and renal dysfunction—

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complications that may have been mitigated with earlier recognition. The study underscores a critical gap in screening and diagnostic practices for secondary hypertension.

Delayed diagnosis of primary aldosteronism is common and associated with adverse cardiometabolic outcomes. Efforts to promote earlier screening among patients with hypertension could reduce long-term complications and improve patient care.