



Bridging Global and Local Perspectives on Primary Aldosteronism

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Primary aldosteronism (PA) is recognized as a common, yet underdiagnosed, cause of secondary hypertension that significantly impacts cardiovascular health [1-3]. The 2023 Korean Endocrine Society Consensus Guidelines provide a comprehensive update that integrates the latest international research with key Korean studies, thereby offering a well-rounded perspective on global data [4-6]. These guidelines were developed to standardize the diagnosis, treatment, and monitoring of PA while reflecting the most recent advancements in the field.

PA is increasingly identified in individuals with hypertension. The estimated prevalence of PA in patients with hypertension ranges from 5.9% to 34%, with specialized centers that routinely conduct biochemical screenings reporting higher detection rates [1,4,5]. Notably, PA screening in Korea has revealed a growing number of cases among patients with hypertension, a trend consistent with global findings [7].

The guidelines emphasize the importance of expanding the criteria for PA screening. They note that hypokalemia is present in fewer than 40% of PA cases, indicating that reliance on this symptom alone may lead to underdiagnosis [5,8]. The updated guidelines advocate routine screening for a broader hypertensive population, including patients with treatment-resistant hypertension, adrenal incidentalomas, and individuals with a family history of early-onset hypertension or cerebrovascular events [6,9]. This proactive strategy aims to reduce underdiagnosis and facilitate timely, effective interventions.

Regarding diagnostic procedures, the guidelines detail protocols for aldosterone-to-renin ratio (ARR) screening, taking into account factors that may affect diagnostic accuracy [3,6,9]. They emphasize the importance of proper patient preparation for ARR measurement and recommend one or more confirmatory tests, such as the saline infusion test or the captopril challenge test, which are commonly used in tertiary care settings [3,9]. Korean studies have further elucidated the complexities of accurately diagnosing PA. For example, cross-sectional imaging studies in Korea have shown that adrenal computed tomography scans may fail to localize unilateral PA in up to 30% of cases, thereby necessitating adrenal venous sampling (AVS) for precise subtyping [10].

AVS remains the definitive method for PA subtyping, and the guidelines offer strategies to enhance its success rates, which exceed 80% in specialized Korean centers due to standardized protocols and improved operator expertise [11]. They highlight essential patient preparation protocols and provide recommendations for managing medication interference to optimize diagnostic accuracy. Although the Endocrine Society guidelines suggest that AVS might be omitted in certain patients, such as those under 35 [3], some studies contend that AVS should still be performed in this age group [10,12]. The Korean guidelines introduce a novel diagnostic algorithm that identifies criteria for bypassing AVS. This approach is particularly beneficial for non-obese patients with unilateral adrenal nodules, hypokalemia, an

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ARR ≥ 150 , and a plasma aldosterone concentration ≥ 30 ng/dL, who can proceed to surgery without AVS while maintaining high diagnostic sensitivity [13]. This advancement reflects a tailored strategy that optimizes patient outcomes based on individual risk profiles [13]. The Korean guidelines incorporate these latest perspectives on AVS.

Regarding treatment, the guidelines concur with the international consensus favoring adrenalectomy for unilateral PA and mineralocorticoid receptor antagonist (MRA) therapy for bilateral forms [3,14]. The Primary Aldosteronism Surgical Outcome study demonstrated that adrenalectomy yields significant clinical success, reducing blood pressure in over 80% of patients and achieving complete biochemical success in more than 90% [14]. Among patients who require ongoing antihypertensive therapy postoperatively, the medication burden is significantly reduced. For bilateral PA or patients who are not candidates for surgery, MRAs such as spironolactone and eplerenone remain the cornerstone of treatment [3,6,9]. Effective blood pressure control, normalization of potassium levels, and resolution of plasma renin suppression (plasma renin activity ≥ 1 ng/mL/hr) serve as indicators for administering an adequate MRA dose [15]. The Primary Aldosteronism Medical Treatment Outcome study recently reported that 52.9% of patients on medical therapy achieved a complete biochemical response, while 18.3% attained a complete clinical response in an international cohort [16]. Additionally, the guidelines explore the emerging potential of novel agents such as finerenone and baxdrostat, which represent the latest advancements in hypertension management [17,18].

The guidelines also address the management of PA-related comorbidities, including complications affecting cardiovascular, renal, and bone health. Korean data indicate that patients with PA face higher risks of developing conditions such as atrial fibrillation, chronic kidney disease, and osteoporosis compared to those with essential hypertension [7,19,20]. Early intervention and ongoing monitoring are strongly emphasized to mitigate these long-term risks.

Additionally, the guidelines provide specific recommendations for managing PA in special populations, such as pregnant women and those planning to conceive, reflecting a commitment to comprehensive, patient-centered care [6]. The use of MRAs during pregnancy remains limited due to safety concerns, underscoring the need for alternative therapeutic strategies.

The 2023 Korean guidelines for PA represent the most current resource for clinicians worldwide. By integrating global research with recent Korean studies, these guidelines offer a comprehensive, evidence-based approach applicable across diverse

healthcare settings. Their implementation is expected to improve patient care, reduce the issues associated with undiagnosed PA, and contribute significantly to the global discourse on hypertension and hormonal health.

Looking ahead, further research is necessary to examine the long-term outcomes of guideline implementation, the role of genetic testing in clinical practice, and the development of novel therapeutic agents. Future prospective studies evaluating the effects of surgery and MRA therapy on cardiovascular outcomes in Korean PA patients will be vital in refining treatment guidelines. Ongoing collaboration with international medical communities is essential to continuously improve and update these guidelines, ensuring they remain at the forefront of global PA management. The integration of Korean clinical data into global PA research is expected to expand our understanding of the disease and optimize treatment strategies for diverse patient populations.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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