Letter to the Editor

ENDOCRINE HYPERTENSION: AN UNDERRECOGNIZED BUT TREATABLE CAUSE OF SECONDARY HYPERTENSION

Dear Editor,

Hypertension remains a major global health issue, impacting over 1.4 billion people worldwide [1]. While most cases are classified as essential hypertension, about 5–15% are caused by secondary factors, many of which are related to endocrine issues. Endocrine hypertension (EH) is a type of high blood pressure influenced or driven by hormonal imbalances. These conditions typically result from either excessive or insufficient hormone secretion that governs fluid balance, vascular tone, and sodium metabolism. EH is a potentially treatable form of hypertension, but it is often underdiagnosed and undertreated in healthcare. As awareness of its prevalence and cardiovascular risks grows, there is a renewed focus on early detection and targeted management of EH [2].

Among them, primary aldosteronism (PA) has emerged as the most prevalent form, affecting 10–20% of patients with resistant hypertension and up to 6% of those with mild hypertension, with some studies reporting even higher rates [3]. Despite strong evidence, PA remains substantially underdiagnosed. Early and systematic screening using the aldosterone-to-renin ratio (ARR) is recommended for patients with resistant hypertension, spontaneous or diuretic-induced hypokalemia, adrenal incidentalomas, or a family history of early-onset hypertension. Timely identification is critical, as unilateral aldosterone-producing adenomas can be surgically cured, while bilateral adrenal hyperplasia benefits significantly from targeted therapy with mineralocorticoid receptor antagonists, including newer nonsteroidal agents [4].

Other important endocrine causes of hypertension include pheochromocytoma and paraganglioma (PPGL), Cushing's syndrome, and thyroid dysfunction, all of which remain frequently overlooked in clinical practice. PPGLs, though rare, carry substantial morbidity and exhibit a high prevalence of germline mutations, approximately 70%, making genetic counseling a central component of evaluation [5]. Cushing's syndrome, including its subclinical adrenal form, is associated with rapid-onset hypertension, metabolic complications, and increased cardiovascular risk [2]. Thyroid disorders also contribute meaningfully: hyperthyroidism often induces systolic hypertension via increased cardiac output, while hypothyroidism leads to diastolic hypertension through increased vascular resistance [6]. Given these diverse mechanisms, clinicians should incorporate routine thyroid function tests and maintain vigilance for characteristic endocrine features in patients with atypical or difficult-to-control hypertension.

Considering these findings, clinicians should maintain a high index of suspicion for EH in patients with resistant hypertension, early-onset hypertension (<30 years), or specific clinical

features. Early identification not only improves blood pressure control but may also reverse cardiovascular remodeling, such as left ventricular hypertrophy and arterial stiffness.

Looking ahead, the development of multidisciplinary hypertension centers and AI-powered diagnostic tools may enhance the detection and management of EH, ensuring that patients receive personalized, etiology-specific treatments [7].

In conclusion, endocrine hypertension, although often overlooked, represents a clinically significant and highly treatable category of secondary hypertension. In light of the proven benefits of accurate diagnosis and targeted treatment, routine screening in high-risk patients should be encouraged. Strengthening adherence to current guidelines, improving physician awareness, and integrating structured endocrine evaluation into routine hypertension management pathways are essential next steps.

Sincerely,

Ergita Nelaj

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