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Role of Hypercortisolism in Blood Pressure Control and Resistant Hypertension

This infographic is intended for researchers and healthcare professionals and reflects the content of the following article:

Cavender, M. A. (2026). Importance of hypercortisolism in BP control, cardiovascular risk and in patients with difficult-to-control hypertension: an overview for primary care physicians. *Diabetes, Obesity and Metabolism*. https://doi.org/10.1111/dom.71019

Hypertension is one of the most common cardiovascular risk factors globally



1.28 billion adults affected worldwide

> 1 in 4 patients achieve optimal blood pressure control

Poorly controlled blood pressure is linked to an elevated risk of:

- Heart attack
- Stroke
- Heart failure
- Chronic kidney disease
- Cognitive decline

Elevated Risk in Resistant Hypertension

Patients with hypertension are usually treated with a combination of:

- Thiazide diuretic
- Renin–angiotensin receptor inhibitor
- Calcium channel blocker

Resistant hypertension is defined as blood pressure that remains above the optimal range

- Despite three appropriately chosen medications, including a diuretic
  or
- Requires four or more agents to achieve optimal control

Patients with resistant hypertension carry a higher risk of:

- Myocardial infarction
- Stroke
- Chronic kidney disease

Secondary Hypertension

Secondary hypertension, unlike primary hypertension, has an identifiable cause and often responds to targeted treatment

8.5–20% of patients with hypertension may have secondary hypertension

Common causes

- Obstructive sleep apnea
- Chronic kidney disease
- Primary aldosteronism (PA)
- Drug or alcohol use
- Energy drinks
- Renal artery stenosis (RAS)
- Hypercortisolism

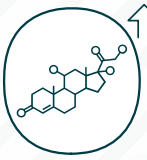
Uncommon causes • Thyroid disease • Pheochromocytoma/paraganglioma

Patients with resistant hypertension or controlled resistant hypertension should be evaluated for secondary causes

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Hypercortisolism: An Underrecognised Cause of Resistant Hypertension



Elevated cortisol levels can contribute to hypertension by promoting sodium and water retention, increased vascular reactivity, and activating both the renin–angiotensin and sympathetic nervous systems

Emerging evidence suggests hypercortisolism may be more common than previously thought in patients:



Without classic signs of Cushing's syndrome



With difficult-to-control hypertension

Patients with resistant hypertension are not adequately screened for hypercortisolism

Early Findings from the CATALYST Study

High prevalence of endogenous hypercortisolism



Among patients with difficult-to-control type 2 diabetes



Among patients requiring three or more antihypertensive medications

Findings indicated that hypercortisolism may be associated with resistance to the treatment of cardiometabolic disease and hypertension

Confirmation from the MOMENTUM Study

Prospective registry of 1,000 patients with resistant hypertension



Patients had endogenous hypercortisolism



Patients with endogenous hypercortisolism had adrenal nodule

Screening Patients with Resistant Hypertension or Controlled Resistant Hypertension

Patients should be screened for secondary causes including:

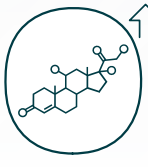


PA

- PA suspected if aldosterone-to-renin ratio (ARR) is > 30
  or
- ARR is > 20 in the setting of an elevated plasma aldosterone



RAS
'Tardus-parvus' waveform during renal duplex ultrasound evaluation indicates RAS



Hypercortisolism

If screening tests are positive, ensure endocrinology involvement or a hypertension specialist

Key Message

Hypercortisolism may be prevalent in patients with resistant hypertension, and timely detection of this secondary cause may help develop new strategies to improve blood pressure control and reduce cardiovascular risk

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