

Hypertension management: Personalized, lifestyle, digital futur.

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Introduction

The 2023 ESH guidelines provide comprehensive recommendations for the diagnosis, treatment, and management of arterial hypertension. They emphasize individualized patient care, lifestyle modifications, and the strategic use of pharmacological agents to achieve blood pressure targets, aiming to reduce cardiovascular risk across diverse patient populations [1].

This scientific statement from the American Heart Association outlines critical lifestyle modifications for preventing and managing hypertension. It details the impact of dietary changes, physical activity, weight management, and reduced alcohol consumption, providing evidence-based strategies for clinicians and patients to lower blood pressure and improve overall cardiovascular health [2].

This article provides an update on resistant hypertension, a challenging form of high blood pressure that remains uncontrolled despite optimal therapy with three or more antihypertensive medications. It covers diagnostic approaches, the importance of excluding pseudo-resistance, and current treatment strategies, including pharmacological and interventional options, highlighting areas for future research [3].

This Mendelian randomization meta-analysis offers robust genetic evidence confirming the causal relationship between higher blood pressure and increased risk of various cardiovascular diseases. It underscores the importance of blood pressure control as a primary strategy for preventing heart disease, stroke, and heart failure, providing insights into the underlying genetic architecture [4].

This review updates clinicians on the diagnosis and management of secondary hypertension, which accounts for a significant portion of hypertension cases. It emphasizes the importance of thorough evaluation to identify underlying causes like renal artery stenosis, primary aldosteronism, and sleep apnea, as targeted treatment of these conditions can lead to blood pressure control [5].

This narrative review explores the global burden of hypertension and its intricate links with cardiovascular disease risk. It discusses recent epidemiological trends, geographic variations, and the societal impact of uncontrolled blood pressure, emphasizing the need

for effective public health strategies and improved access to care worldwide [6].

This update on pediatric hypertension addresses the evolving understanding of high blood pressure in children and adolescents. It covers contemporary diagnostic criteria, non-pharmacological and pharmacological management strategies, and the long-term implications for adult cardiovascular health, highlighting the importance of early detection and intervention [7].

This narrative review explores the increasing role of digital health technologies, including wearable devices and remote monitoring systems, in hypertension management. It discusses their potential to improve blood pressure control, enhance patient engagement, and provide valuable data for personalized treatment, while also addressing challenges related to data privacy and clinical integration [8].

This review delves into the emerging field of precision medicine for hypertension, exploring how 'omics' technologies (genomics, proteomics, metabolomics) can inform individualized treatment strategies. It highlights the potential for tailoring antihypertensive therapies based on a patient's unique biological profile, moving beyond a one-size-fits-all approach to achieve better blood pressure control and reduce adverse effects [9].

This article discusses the complex interplay between hypertension and chronic kidney disease (CKD), emphasizing recent advances in understanding and managing elevated blood pressure in this vulnerable population. It covers the rationale for strict blood pressure control, the role of specific antihypertensive agents, and strategies to mitigate kidney disease progression and cardiovascular risk in patients with CKD [10].

Conclusion

Recent advancements in hypertension management emphasize comprehensive guidelines, like the 2023 ESH recommendations, advocating for individualized patient care, crucial lifestyle modifications, and strategic pharmacological interventions to achieve blood pressure targets and reduce cardiovascular risk [1]. Lifestyle

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changes are fundamentally important for preventing and managing hypertension, with evidence-based strategies focusing on optimized diet, consistent physical activity, effective weight management, and reduced alcohol consumption [2]. Genetic studies robustly confirm a causal link between higher blood pressure and an increased risk of various cardiovascular diseases, reinforcing the importance of effective blood pressure control as a primary preventive strategy [4]. The global burden of hypertension is a significant public health challenge, highlighting recent epidemiological trends and the pressing need for improved access to care worldwide [6]. Specialized approaches are necessary for complex cases such as resistant hypertension, which requires advanced diagnostic strategies and novel treatment options [3], and secondary hypertension, where identifying and treating underlying causes is key to achieving blood pressure control [5]. Pediatric hypertension also necessitates early detection and tailored management strategies for long-term cardiovascular health outcomes [7]. The intricate interplay between hypertension and Chronic Kidney Disease (CKD) emphasizes the need for strict blood pressure regulation to slow disease progression and mitigate cardiovascular risk in this vulnerable population [10]. Looking ahead, digital health technologies, including remote monitoring, are increasingly enhancing patient engagement and blood pressure control [8]. Precision medicine, utilizing 'omics' data, promises to revolutionize treatment by tailoring therapies to individual biological profiles, moving away from a one-size-fits-all approach and improving patient outcomes and reducing adverse effects [9].

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