

TWO VIEWS: Treating Hypertension

VIEW ONE

ADDRESSING HYPERTENSION THROUGH INTEGRATIVE MEDICINE APPROACHES IN THE CLINICAL SETTING

By Sandy Wang, MD and Sachiko Kaizuka, MD

Hypertension is the most common cardiovascular disease that family medicine physicians will actively manage in clinic.¹ It is also a complex multifactorial illness that is affected by lifestyle choices (diet, physical activity), mental emotional health, medications, supplements, genetics, and comorbid illnesses.² Despite well studied therapies being available for many decades, high blood pressure is still poorly controlled in the United States.³ Antihypertensive use has already increased by 14% in one decade,⁴ with only half of hypertensive patients' blood pressures adequately controlled,⁵ and 70% of those individuals eventually requiring combination therapy.⁶ Moreover, 45% of patients with hypertension and 84% of those with uncontrolled hypertension do not adhere to their antihypertensive regimen.⁷

With the mainstay of hypertensive treatment being pharmacotherapy, non-pharmaceutical therapies are often overlooked as they may not provide as impressive of blood pressure lowering effect.⁸ However, even a mild weight or blood pressure reduction has been associated with improved mortality caused by stroke, heart disease, and all-cause mortality.^{9,10} The PREMIER clinical trial demonstrated that the combination of lifestyle changes reduced blood pressure more than individual lifestyle factors.¹¹ Approaching hypertension with an integrative medicine mindset may provide more realistic and long-term sustainability for many patients.^{2,10} The need for integrative medicine education for physicians is urgent, and in this paper, we will review and provide updated evidence-based integrative medicinal approaches to treating hypertension including physical activity, dietary modifications, mind – body therapies, and herbal supplements.

Starting Physical Activity

Some of the easiest and most cost effective interventions involve lifestyle modifications. Thirty minutes of aerobic exercise three times a week can reduce systolic BP by 3–4 mm Hg, and physicians should help patients find activities that are both enjoyable and appropriate for their needs.²

For those individuals who have time concerns, finding ways to incorporate busy work with activity can help motivate them as well as alleviate the mental stress of a long to-do list. For example, doing sit ups while watching TV, reading while on a stationary bike, or listening to podcasts while on walks, are all potential ways to get activity in.

If a patient faces inertia in starting physical activity, it may be worthwhile to consider starting a graded exercise therapy, in which

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VIEW TWO

CONSIDERATION OF COMBINATION THERAPY FOR TREATMENT OF HYPERTENSION IN THE CLINICAL SETTING

By Jasdeep Singh Bajwa, DO; Arthi Chawla, MD and Sandy Wang, MD

Hypertension is a growing major public health concern in the United States, affecting nearly 77 million Americans; the prevalence of hypertension is expected to increase, approximately, by an additional 30 million by the year 2030.⁴ Uncontrolled hypertension is a known risk factor for cardiovascular disease, and additionally can lead to stroke, end-stage renal disease and death. Adequate control of hypertension can reduce the incidence of these comorbidities and reduce mortality. Although pharmaceutical options to better control hypertension have improved over the last three decades, hypertension remains inadequately managed, resulting in significant economic burden on both patient and the healthcare system.⁸ Primary care physicians face challenges in balancing efficacious therapy in order to lower BP and in reducing cardiovascular end points, while emphasizing practical applications in consistently achieving and maintaining goal BP in clinical practice.¹⁴

First-line treatment with most hypertensive patients begin with lifestyle modifications, which includes incorporating the DASH (Dietary Approaches to Stop Hypertension) diet and implementing regular exercise. In patients with inadequate response to these lifestyle modifications, initiating pharmacological therapy would be the next step with respect to special populations (ACE-I/ARB in non-Black and CCB/thiazides in Black individuals.¹⁰) Most treated patients only receive monotherapy, which has low potency even at high doses.¹⁵ Low-dose combination therapy holds considerable promise in this regard since at low doses most side-effects are avoided, and most benefits are maintained.¹⁵ Additionally, combination therapy may have up to 11% cardiovascular risk reduction compared to those starting on monotherapy.²

New studies suggest that combination therapies have a number of advantages over monotherapy for a number of reasons; the different mechanisms of action work synergistically;⁵ they result in more rapid blood pressure control;³ they are more affordable¹ and they decrease the adverse effects of high-dose monotherapy.⁵ They can also neutralize counter regulatory mechanisms and improve tolerability for patients.^{6,7} For example, calcium channel blockers (CCBs) stimulate arterial vasodilation to a greater extent than venodilation, thereby causing fluid accumulation in interstitial spaces and limiting its upward titration. Adding ACE-I/ARBs can increase both arterial and venous dilation and thus function to counteract some of the CCB-induced arterial dilation, which is thought to result in a

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corresponding reduction in lower-extremity edema.⁴ Moreover, the comorbidities that exist or that arise from the sequelae of poorly controlled hypertension would benefit from these synergistic mechanisms, such as starting lisinopril for renal-protective benefits in diabetes.¹² Furthermore, treatment for patients with chronic kidney disease and proteinuria should include an ACEI or ARB plus a thiazide diuretic or a calcium channel blocker.⁸

Despite these promising findings, 45% of patients with hypertension and 84% of those with uncontrolled hypertension do not adhere to their antihypertensive regimen, with persistence and compliance listed as possible barriers.¹³ Fortunately, single pill combination therapies are now available, with research demonstrating simplification of a drug regimen improves persistence in prescribed therapy.¹¹ Combination therapy is available either as fixed-dose combination (FDC), which includes at least 2 active agents combined in a single pill (also known as a single-pill combination), or as a free-equivalent combination (FEC, also known as a free combination), which involves separate use of the corresponding drug components.¹⁷ A number of studies have indicated that the FDC can have a better impact on blood pressure control as well as reducing the use of medical resources by increasing patients' adherence (compliance) and persistence to treatment.¹⁷ Use of FDC in hypertension is associated with superior persistence and reduced mortality compared with use of two pills, suggesting a higher priority for the use of fixed-dose combinations.¹⁶

In summary, while the problems associated with inadequate blood pressure control are multifactorial, many are interrelated. Research and literature suggest that low-dose combination therapy may help with better hypertension control by reducing side effects associated with high dose monotherapy regimens and utilizing the synergism of multiple mechanisms of action. The global socio-economic burdens of uncontrolled hypertension contribute significantly to the total amount of disability adjusted life years and an increasing amount of medical resource consumption. Single pill combination therapy can help combat these effects by reducing pill burden, leading to improved compliance, fewer physician visits and fewer hospitalizations for uncontrolled hypertension and cardiovascular events.¹² We recommend that family medicine physicians consider these medications in hypertensive patients requiring further medication titrations.

Endnotes

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