

Effective Treatment of Hypertension Without Medication: Is It Possible?

Marvin Moser, MD
Editor in Chief

In this issue of *The Journal of Clinical Hypertension*, Wilburn and associates (p. 242) review data on the management of hypertension using vitamins, minerals, herbs, and other botanicals and discuss specific agents that were found, in a review of the literature, to lower blood pressure to a degree that was considered clinically significant.¹ It is important to put these and other nonpharmacologic approaches to the treatment of hypertension in perspective.

LIFESTYLE CHANGES

For many years, the media has advised the general public that losing weight, reducing sodium intake, performing moderate exercise, and moderating alcohol intake are sufficient to reduce blood pressure in a large number of patients. National committees also appropriately suggest this approach as initial therapy for hypertensive individuals²—but how well does this work, and in how many patients is it effective without some medication?

Numerous studies have demonstrated that in a number of people, blood pressure can be reduced by following a low-sodium diet. Many of these trials were short term, many involved a reduction in sodium that would be impractical for most people, and many lacked adequate controls. However, based on long-term epidemiologic data and the overall results of studies that demonstrated the benefits of dietary sodium reduction, national guideline committees have recommended a reduction in sodium for all hypertensive patients and indeed for most everyone.³ This is a reasonable recommendation. As a nation we ingest far too much sodium. As a public health measure, a decrease in sodium intake is to be encouraged. But sodium restriction alone will not lower blood

pressure to goal levels except in some cases of stage 1 hypertension.

Another nonpharmacologic recommendation for hypertension treatment is weight loss, and there is little doubt that weight loss is an effective treatment for many patients (in fact, probably the most effective of all recommended strategies). However, persistent weight loss is difficult to maintain over time. If weight loss is achieved and maintained and blood pressure is reduced, no further action is needed. But this approach should not be considered definitive treatment for most persons with hypertension. If, in the course of medical management with specific antihypertensive drugs, a weight loss of 15 or 20 lb occurs and goal blood pressures have been achieved, medication can be stopped to see if blood pressures remain at acceptable levels.⁴

There is little doubt that increasing exercise can reduce blood pressure. Again, however, there are few data indicating that this modality can be depended on as definitive treatment for the majority of persons with hypertension, especially if the newer goals of blood pressure control are to be met.

Moderation of alcohol from an intake of more than four or five drinks per day to one or two drinks per day has also been shown to reduce blood pressure to some degree in some patients.

If all of the interventions that have proven most effective (weight loss, sodium intake reduction, and a program of moderate exercise) are followed, it is possible that as many as 20% of patients with hypertension will not have to be treated with medication (exact numbers have not been quantified in real-world situations). This is a considerable number, but the large remaining percentage of the population will require pharmacologic therapy to control blood pressure.



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Under ideal conditions, a weight reduction of about 20 lb will reduce systolic blood pressure by about 10–20 mm Hg, sodium restriction by about 3–6 mm Hg, physical activity by about 5–8 mm Hg, and moderation of alcohol intake by 2–4 mm Hg. If a Dietary Approaches to Stop Hypertension (DASH) diet eating plan (emphasizing fruits, vegetables, and low-fat dairy products) can be followed, a decrease of about 10–12 mm Hg can be expected.⁵ These are not insignificant changes but are not as readily achievable in practice as they are in specialized clinics or studies.

The bottom line is that the nonpharmacologic approach to management of hypertension with lifestyle changes may be effective in some patients but should not be depended on by most as definitive treatment.

NATURAL TREATMENTS

The natural treatment of hypertension, which has been advocated by many groups through the years, is being reexamined. People are reacting to being bombarded by advertisements for medications. But there are questions. “Natural” products, which are often considered safe, are preferred by many patients instead of medication. Yet some of these substances, as pointed out by Wilburn et al., are not quite as safe as might be imagined. In fact, some may be less safe or more harmful than some of the antihypertensive medications in use today. Advertisements in nutrition magazines herald improvement in lifestyle and equivalent results to medicines with natural remedies. Billions of dollars per year are spent on these therapies with the expectation that not only can hypertension be controlled but also hyperlipidemia and other disease states.

An example of this is garlic. Wilburn and colleagues note that garlic is considered “possibly effective” when taken by mouth for hypertension. Several years ago, my colleagues and I attempted to determine (in a placebo-controlled study) if the use of a garlic preparation with little odor would result in a decrease in blood pressure. An adequate dose of garlic was given in this study, which reported no effect on blood pressure (and also no effect on lipid parameters).⁶ Several studies and meta-analyses have, however, claimed that garlic is effective and, as we all know, it is still being advertised as a measure to lower cholesterol levels and blood pressure. The data upon which these advertisements are based are either from uncontrolled, short-term studies or from meta-analyses that included short-term, uncontrolled studies. Garlic adds flavor to food

and is harmless (except in people who may have a sensitivity to its active ingredients), but despite the theoretic considerations about its effects on blood clotting and cholesterol synthesis, should not be used with expectations of important benefits regarding cholesterol or blood pressure reductions.

Wilburn and colleagues also present a fair view of what can be expected with the use of agents such as L-arginine, a substrate of nitric oxide. It might be assumed that this agent would be effective in lowering blood pressure. Nitric oxide is a vasodilator that also has some beneficial effects on platelet aggregation and endothelial dysfunction. However, as the authors point out, L-arginine might not be effective in the long-term management of hypertension.

A review of data on vitamin C, a substance that is also listed as “possibly effective” in the treatment of hypertension and is taken by literally millions of people, indicates that the message is not clear. Although some studies demonstrate a reduction of more than 10 mm Hg in systolic blood pressure, the effect on diastolic pressure is minimal. Here again, many of the studies on vitamin C failed to have an adequate control group.

A great deal of emphasis has been placed in recent years on the use of high doses of omega-3 fatty acids. It has been reported that the intake of these substances reduces cholesterol levels. It has been claimed that blood pressure is lowered. Benefit, however, is only reported when large numbers of capsules of omega-3 acids are taken. Side effects are noted and most people stop taking the capsules. While there is some evidence that large doses of omega-3 acids will lower blood pressure, the use of this method of treatment is probably not practical for a majority of patients.

SHOULD NONPHARMACOLOGIC OR NATURAL THERAPIES BE DEPENDED ON AS DEFINITIVE THERAPY FOR HYPERTENSION?

It appears that while the commonly used nonpharmacologic approaches to hypertension management, such as weight loss, sodium restriction, exercise, and moderation of alcohol intake, will lower blood pressure, the majority of patients will require specific antihypertensive medication to achieve blood pressure goals.⁷ With regard to the use of natural substances to support a “healthy cardiovascular system,” there is little definitive long-term proof that the use of these agents, even the ones culled from the literature by Dr. Wilburn’s group, have a sustained, dependable effect on

blood pressure lowering. One can consider using these agents as adjuncts to lifestyle changes or along with conventional antihypertensive therapy. Some may produce some decrease in blood pressure, but major effects may not be noted. The public and physicians alike should also be concerned that these so-called safe and natural substances may produce side effects and may interfere with the action of other agents.

Although all of us would like to be in charge of our own destiny and be able to control cardiovascular risk factors such as hypertension and dyslipidemia without medication, this is the wrong message to pass on to the public. We have progressed from the time when Dr. Irvine Page, a pioneer in hypertension treatment, described the use of watermelon seeds, garlic, and a host of other relatively ineffective remedies for the management of hypertension to a time when we have specific, effective and safe antihypertensive medications. We no longer should depend on anecdotal evidence or poorly designed studies to determine therapy choice. It is possible that additional studies may demonstrate that some of the herbal products, vitamins, or plant substances do have an ongoing significant effect on blood pressure. Until then, we can continue to use nonphar-

macologic interventions and lifestyle changes and acknowledge that some of the natural treatments described by Wilburn and coworkers may help to lower blood pressure still further. At the same time, however, it should be recognized that specific medications are necessary in almost all cases and that side effects or drug-drug interactions may further limit the use of so-called natural remedies.

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