

Overcome Clinical Inertia to Control Systolic Blood Pressure

GENERATIONS OF physicians have learned in lecture halls and clinics that normal blood pressure (BP) is less than 140/90 mm Hg. During the past 30 years, an unending stream of effective hypertension medications has been developed and marketed, and classic epidemiologic studies and clinical trials have demonstrated again and again the importance of aggressive treatment of hypertension.

IMPORTANCE OF SYSTOLIC BP

But what do we do when one number is at goal and the other is not? It is clear that in individuals younger than 50 years, diastolic BP (DBP) is the better predictor of future complications of hypertension, whereas in those 50 years and older, systolic BP (SBP) is a better predictor of future complication risk.¹ Most individuals with hypertension are 50 years or older, and for these patients, SBP control is a high priority, even in the face of a perfectly normal DBP reading.^{2,3} In fact, Framingham data indicate that SBP alone correctly classifies hypertensive status in approximately 98% of adult patients.⁴⁻⁶

To provide optimal care to our patients, it is critical that we address SBP, even when DBP is within the reference range. Primary emphasis on SBP control in patients older than 50 years will significantly improve clinical outcomes during at least a 14-year follow-up period, as Sutton-Tyrrell et al⁷ note in this issue of the ARCHIVES. These data from the Systolic Hypertension in the Elderly Program demonstrate a 21% reduction in cardiovascular end points 14 years after initiation of treatment directed at control of SBP. The data suggest that only approximately 5 patients need to have SBP controlled to prevent 1 major cardiovascular event. Owing to issues of treatment duration and crossover, this benefit estimate is likely to be conservative. Moreover, early initiation of SBP treatment, before the identification of vascular complications, further increased the likelihood of benefit.⁷

See also page 2728

Concern remains that pursuit of SBP goals may lead to excessively low DBP in some patients. The longstanding debate about the potential disadvantages of DBP less than 55 mm Hg continues, and prudence suggests that DBP be maintained at approximately 55 mm Hg as a minimum in most patients. However, the problem of excessively low DBP is dwarfed by the much more common problem of uncontrolled SBP.

NEED FOR MULTIPLE AGENTS

Most patients with elevated SBP need aggressive treatment to reach their evidence-based systolic goal of less than 140 mm Hg. As understanding of BP treatment goals evolves, we are beginning to see the importance of treating SBP not to less than 140 mm Hg but to less than 130 mm Hg or even less than 120 mm Hg for some groups of patients, such as those with diabetes mellitus, congestive heart failure, or chronic kidney disease. Nearly all these patients are older than 50 years, and for most of them, emphasis on SBP is well advised because it, rather than DBP, is the variable that indicates the need for more intensive therapy.

Results of recent studies⁸⁻¹⁰ reinforce the benefits of thiazide diuretics and angiotensin-converting enzyme inhibitors as excellent choices for initial therapy. Most patients with hypertension will eventually require more than 1 antihypertensive drug to reach evidence-based levels of control. We need to anticipate the use of more than 1 antihypertensive agent and explain to patients that when the time comes for additional agents it does not necessarily represent a failure of care but rather progression of disease. The potential of weight loss, physical activity, and sodium restriction to improve BP should not substantially delay initiation or titration of drug therapy, especially in patients whose 10-year risk of cardiovascular events exceeds 20%.^{11,12}

Physicians need to do a better job of conveying to patients the seriousness of elevated BP. Once patients have internalized this message, they may be much more willing to adhere to the pharmacologic and behavioral dimensions of an effective treatment regimen. Primary care physicians are experts at individualizing care, and our knowledge of the particulars of a patient's case must also enter into the selection of optimal therapy.^{13,14}

THE PROBLEM OF CLINICAL INERTIA

Perhaps the most important action we can take to improve hypertension treatment is this: make a move! Do not waste office visits. Make a move whenever the patient has not yet reached his or her BP control goal. The most common mistake in chronic disease care is not prescribing the wrong drug or forgetting to check a creatinine or potassium level when indicated, it is failure to initiate or titrate medications until important evidence-based clinical goals are reached.

One of the major obstacles to better BP control is clinical inertia. *Clinical inertia* may be simply defined as

an office visit at which no therapeutic move was made to lower the BP of a patient with uncontrolled hypertension. At a particular office visit, the likelihood that a patient with uncontrolled BP, blood glucose level, or blood lipid levels will have medications started or titrated upward is generally less than 20%.¹⁵ The average patient with hypertension makes more than 5 office visits a year, yet less than half of those with diagnosed hypertension have reached evidence-based BP goals.

Clinical inertia can be a major threat to those with multiple uncontrolled cardiovascular risk factors, such as the estimated 24% of US adults with the metabolic syndrome. When multiple variables, such as SBP, low-density lipoprotein and high-density lipoprotein cholesterol levels, glucose level, and weight are not at goal, risks multiply. There is clear evidence from many studies¹⁶⁻¹⁸ that in such patients, SBP control is among the most important clinical risk reduction strategies possible.

THE PSYCHOLOGY OF CLINICAL INERTIA

We physicians are tempted to lay the blame for clinical inertia at the feet of our patients. Yet, there is accumulating evidence to suggest that approximately 75% of the time, physician inertia is the reason for the problem, and approximately 25% of the time, failure to intensify treatment is due to patient refusal or resistance.

We fail to recommend intensified treatment for a variety of reasons, only some of which are legitimate. We may not be thinking about hypertension if the visit is scheduled to address other concerns. We may not have enough time in a short visit to address issues beyond the patient's list of concerns for the day. We often delay or defer treatment of elevated SBP because DBP is normal or near normal. When we do recommend intensified BP therapy, patients may resist the suggestion for many reasons, such as concerns about adverse effects or out-of-pocket costs of the medications or to avoid more office visits or blood tests. Many patients are concerned that BP medications may impair sexual performance or have other adverse effects.

Furthermore, we may compound the problem by suggesting to patients that elevated BP is "not too bad" or "just a bit out of range." Such messages may misrepresent the risk of complications to patients and may provide false reassurance that makes subsequent aggressive treatment of hypertension more difficult. The situation is even worse if we ourselves believe that hypertension is a minor problem. Patients with elevated SBP experience a very high rate of major vascular complications and kidney failure over time, as the data from Sutton-Tyrrell et al⁷ illustrate.

OFFICE SYSTEMS TO COMBAT CLINICAL INERTIA

Each office visit represents a precious opportunity to make a clinical move that may benefit a patient. When a patient with uncontrolled hypertension leaves a physician's office without some move being made to control the hypertension, we have missed that opportunity.

Office information systems that track progress on BP, glycated hemoglobin, or lipids can identify and

prioritize patients who need intensified therapy. In the absence of such systems, we need to remember a simple message: if SBP is 140 mm Hg or greater, we ought to do something. Maybe we need not wait for the next visit. Maybe we should do something now. A lot of human suffering, much of it avoidable, hangs in the balance.¹⁹

Patrick J. O'Connor, MD, MPH
HealthPartners Research Foundation
PO Box 1524
Minneapolis, MN 55440-1524
(e-mail: patrick.j.oconnor@healthpartners.com)

REFERENCES

- Franklin SS, Larson MG, Khan SA, et al. Does the relation of blood pressure to coronary heart disease risk change with aging? The Framingham Heart Study. *Circulation*. 2001;103:1245-1249.
- Franklin SS, Jacobs MJ, Wong ND, L'Italien GJ, Lapuerta P. Predominance of isolated systolic hypertension among middle-aged and elderly US hypertensives: analysis based on National Health and Nutrition Examination Survey (NHANES) III. *Hypertension*. 2001;37:869-874.
- Chobanian AV, Bakris GL, Black HR, et al. The seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: The JNC 7 Report. *JAMA*. 2003;289:2560-2572.
- Lloyd-Jones DM, Evans JC, Larson MG, O'Donnell CJ, Levy D. Differential impact of systolic and diastolic blood pressure level on JNC-VI staging: Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. *Hypertension*. 1999;34:381-385.
- Kannel WB. Elevated systolic blood pressure as a cardiovascular risk factor. *Am J Cardiol*. 2000;85:251-255.
- Haider AW, Larson MG, Franklin SS, Levy D. Systolic blood pressure, diastolic blood pressure, and pulse pressure as predictors of risk for congestive heart failure in the Framingham Heart Study. *Ann Intern Med*. 2003;138:10-16.
- Sutton-Tyrrell K, Wildman R, Newman A, Kuller LH. Extent of cardiovascular risk reduction associated with treatment of isolated systolic hypertension. *Arch Intern Med*. 2003;163:2728-2731.
- ALLHAT Officers and Coordinators for the ALLHAT Collaborative Research Group. Major outcomes in high-risk hypertensive patients randomized to angiotensin-converting enzyme inhibitor or calcium channel blocker vs diuretic: the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). *JAMA*. 2002;288:2981-2997.
- Appel LJ. The verdict from ALLHAT: thiazide diuretics are the preferred initial therapy for hypertension. *JAMA*. 2002;288:3039-3042.
- Wing LM, Reid CM, Ryan P, et al. A comparison of outcomes with angiotensin-converting enzyme inhibitors and diuretics for hypertension in the elderly. *N Engl J Med*. 2003;348:583-592.
- National Cholesterol Education Program. *10-Year CVD Risk Calculator*. Bethesda, Md: National Heart, Lung, and Blood Institute, National Institutes of Health; 2003.
- Pickering TG. Lifestyle modification and blood pressure control: is the glass half full or half empty? *JAMA*. 2003;289:2131-2132.
- Berger J, Mohr J. *A Fortunate Man: The Story of a Country Doctor*. London, England: Penguin Press; 1967.
- Frohlich ED. Treating hypertension: what are we to believe? *N Engl J Med*. 2003;348:639-641.
- Phillips LS, Branch WT, Cook CB, et al. Clinical inertia. *Ann Intern Med*. 2001;135:825-834.
- Berlowitz DR, Ash AS, Hickey EC, Glickman M, Friedman R, Kader B. Hypertension management in patients with diabetes: the need for more aggressive therapy. *Diabetes Care*. 2003;26:355-359.
- CDC Diabetes Cost-effectiveness Group. Cost-effectiveness of intensive glycaemic control, intensified hypertension control, and serum cholesterol level reduction for type 2 diabetes. *JAMA*. 2002;287:2542-2551.
- Gaede P, Vedel P, Larsen N, Jensen GV, Parving HH, Pedersen O. Multifactorial intervention and cardiovascular disease in patients with type 2 diabetes. *N Engl J Med*. 2003;348:383-393.
- Staessen JA, Gasowski J, Wang JG, et al. Risks of untreated and treated isolated systolic hypertension in the elderly: meta-analysis of outcome trials. *Lancet*. 2000;355:865-872.