

editorial

Update on Systolic Hypertension in the Elderly

Hypertension is a highly prevalent and powerful promoter of cardiovascular disease. For many years most of the studies regarding the importance of blood pressure as a risk factor for the development of cardiovascular disease and complications have been addressed to the study of systolic and diastolic blood pressure in individuals younger than 65 years of age. In the last 10 years a considerable amount of medical information concerning the effect of hypertension in patients ≥ 65 years of age has been obtained.

As early as 1964 the United Health Statistics produced by the National Center for Health Statistics presented the mean blood pressure by age and sex in the United States for 1960-1962 (1). The systolic blood pressure rose with age in the range of 19-79 years while the diastolic blood pressure rose until 45 to 54 years for men and age 55 to 64 for women, after which it declined. Additional information from the Third National Health and Nutrition Examination Survey in the US (NHANES III) in the years 1988-91 demonstrated that systolic blood rises linearly from ages 30 to 84 and that increase in diastolic blood pressure peaks in the sixth decade (age 50-59) and declines after 60 years of age (2). Additional information of this age effect was reported from Framingham (3). This is characteristic of all populations studied regardless of race, ethnicity or gender (2).

The early rise in systolic blood pressure and late fall in diastolic blood pressure is attributed to 3 phases. At an earlier age (below 50 years) the rise in both systolic and diastolic blood pressure is due to an increase in peripheral vascular resistance. The constancy of diastolic blood pressure during the fifties together with an increase in systolic pressure points to a combined effect of increased peripheral vascular resistance and large artery stiffness. The decrease in diastolic blood pressure after 60 years of age points to predominance of the large artery stiffness (aortic rigidity) which also causes a rise in systolic pressure. These findings after 60 years of age are accompanied by an increase in pulse pressure (4). Today, systolic hypertension is present with a systolic blood pressure of >140 mm Hg and a diastolic blood pressure of <90 mm Hg.

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Multiple studies conducted in different institutions and countries correlating systolic hypertension in the elderly with cardiovascular outcomes have demonstrated that it increases cardiovascular mortality, coronary artery disease, myocardial infarction, congestive heart failure and stroke. For this reason the practicing physicians and cardiologists must be aware of the importance and advances concerning the management of the presence of systolic hypertension in older patients.

A metanalysis of outcome trials of 15, 693 patients >65 years of age and above followed up for 3.8 years included the Systolic Hypertension in Elderly Program (SHEP) (5), Systolic Hypertension in Europe Trial (Syst-Eur) (6), Systolic Hypertension in China Trial (Syst-China) (7), European Working Party on High Blood Pressure in the Elderly (EWPHE) (8), the trial on Hypertension in Elderly Patients in Primary Care (HEP) (9), the Swedish Trial on Old Patients with Hypertension (STOP) (10), and the Medical Research Council Trials in mild hypertension (MRC) (11), and in older adults (MRC 2) (12), showed a beneficial effect of the treatment of systolic hypertension on cardiovascular outcomes. It revealed a decrease in total mortality of 13%, cardiovascular mortality in 18%, occurrence of fatal and non fatal events in 26%, stroke in 30% and coronary events in 23% (13). Patients were treated with conventional therapy (i.e., thiazide diuretic, beta blocker, calcium channel blocker) or placebo. More recent trials have evaluated the effects of different anti-hypertensive regimes (i.e., angiotensin receptor blockers, calcium channel blockers alone or in combination) in older persons all demonstrating the beneficial effects with no overall differences in total mortality (14-18).

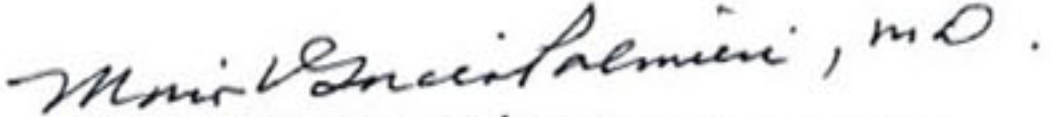
Metanalysis have shown reduction in stroke in patients older than 80 years and a greater benefit in reduction of cardiovascular events in patients older than 70 years (13-19).

The SHELL Study on systolic hypertensives in the elderly documented similar benefits in treating hypertension in three old age groups (i.e.) 60 to 69 years, 70 to 79 years and e" 80 years of age (20).

The treatment recommendations for older individuals with hypertension, including those that have isolated systolic hypertension submitted by the JNC7 Report requires to follow the same principles outlined for the general care of hypertension (21). In many individuals a lower initial drug doses may be indicated to avoid symptoms; however, standard doses and multiple drugs are needed in the majority of older individuals to reach appropriate blood pressure targets. Today is recognized the importance of combination treatment. In the ASCOT (Anglo-Scandinavian Cardiac Outcomes Trial) trial, about 90% of patients had to be on combination therapy to achieve blood pressure control targets (21).

Besides the proper pharmacologic therapy, established by evidence-based medicine, basic principles to be followed when dealing with elderly hypertensives include to maintain normal body weight, consume diet rich in fruits, vegetables and low in saturated fat, reduce salt intake to less than 6 gm of sodium chloride, walk 30-60 minutes per day preferably daily, limit alcohol consumption to 2 drinks a day for men and one drink for females (22).

During the management of hypertension in older persons physicians should be aware and take measures to control possible negative effects of antihypertensive drugs on the patients' quality of life. Maintenance of quality of life conveys a sensation of symptomatic well-being as well as a concurrent emotional, physical, social and life satisfaction (23).


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