

Hypertension treatment associated with long-term improvement in life expectancy

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Patients with systolic hypertension who were treated with the diuretic chlorthalidone for 4.5 years as part of a clinical trial had a significantly lower rate of death and a gain in life expectancy free from cardiovascular death about 20 years later compared to patients who received placebo, according to a study in the December 21 issue of *JAMA*.

"Antihypertensive drug therapy has been shown to decrease nonfatal and fatal cardiovascular events in controlled clinical trials and meta-analyses. However, long-term data on gain in life expectancy are not available," according to background information in the article.

John B. Kostis, M.D., of the UMDNJ-Robert Wood Johnson Medical School, New Brunswick, N.J., and colleagues conducted a study to examine the effect of blood pressure (BP) lowering on long-term outcomes such as life expectancy. The researchers obtained long-term mortality data for participants in the Systolic Hypertension in the Elderly Program (SHEP) trial, which was a randomized, placebo-controlled, clinical trial designed to assess the effect of antihypertensive drug treatment (chlorthalidone) in reducing the risk of stroke in patients with isolated systolic [hypertension](#). Recruitment for SHEP was between March 1985 and January 1988. After the end of a 4.5-year randomized phase of the SHEP trial, all participants were advised to receive active therapy. The time interval between the beginning of recruitment and the ascertainment of death (December 2006) was approximately 22 years (21 years 10 months). Of the 4,736 participants enrolled in the SHEP

trial, 2,365 (49.9 percent) were randomized to active treatment therapy and 2,371 (50.1 percent) were randomized to placebo. The average age of participants was 72 years, 57 percent were women, and 14 percent were black.

At the end of follow-up, 2,851 of the 4,736 randomized patients (60.2 percent) had died, with 1,416 deaths (59.9 percent) in the active treatment group and 1,435 deaths (60.5 percent) in the placebo group. The researchers found that both life expectancy and time to the 70th percentile survival at the end of follow-up were longer for the SHEP participants who were randomized to the active group compared with those randomized to the placebo group. Life expectancy gain at 22 years was 158 days for cardiovascular death and 105 days for death from all causes. The gain in life expectancy free from cardiovascular death corresponds with 1 day (0.89 days) gained per month of treatment. For all-cause mortality, the gain in life expectancy from 1 month of antihypertensive drug treatment was estimated at a half day (0.59 days).

The authors also found that the active treatment group was associated with higher survival free from cardiovascular death compared with the placebo group (669 deaths [28.3 percent] vs. 735 deaths [31 percent], respectively).

"Reporting that each month of antihypertensive therapy was associated with 1 day prolongation of [life expectancy](#) free from cardiovascular death is a strong message that may result in increased patient adherence to drug therapy and decrease the degree of therapeutic inertia by health care providers," the authors write.

More information: *JAMA*. 2011;306[23]:2588-2593.

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