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RE: Aged Garlic Extract Proven a Useful Adjunct Therapy to Conventional Medications in Uncontrolled Hypertension


Garlic (*Allium sativum*) supplements have been associated with a clinically significant blood pressure lowering effect in patients with untreated hypertension (systolic blood pressure [SBP] ≥ 140 mmHg or diastolic blood pressure [DBP] ≥ 90 mmHg) similar to that achieved by first line treatment with antihypertensive medication. The antihypertensive properties of garlic have been linked to stimulation of intracellular nitric oxide (NO) and hydrogen sulfide (H2S) production, as well as blockage of angiotensin II production, which promote vasodilation and reduction in BP. Current evidence suggests aged garlic extract (AGE) to be a safe and more reliable treatment option than raw or cooked garlic due to its higher tolerability, superior antihypertensive properties, and because its active constituent S-allylcysteine (SAC) is more easily standardized than the more volatile allicin in garlic powder.

This double-blind, parallel, randomized, and placebo-controlled clinical trial was conducted in Adelaide, South Australia, between March and September 2009 to investigate the effect, tolerability, and acceptability of AGE as an adjunct treatment to existing antihypertensive medication in patients with treated, uncontrolled hypertension. Fifty adult patients (mean age ± standard deviation [SD]: 66 ± 9 years) treated with conventional antihypertensive medications were randomly allocated to the treatment or placebo group for 12 weeks. Patients in the treatment group were assigned 4 capsules daily of Kyolic® (Garlic High Potency Everyday Formula112, Wakunaga/Wagner®; Vitaco Health [NZ] Ltd; Auckland, New Zealand) containing 960 mg of AGE, equivalent to 2.4 mg SAC. Placebo capsules were matched to the active capsules in number, size, color, and odor. Comparison of baseline characteristics revealed no significant difference between placebo and treatment groups in most parameters and borderline significance in the mean number of BP medication classes prescribed.

Primary outcome measures were SBP and DBP at 4, 8, and 12 weeks compared with baseline. Tolerability of the trial medication was monitored by questionnaire at the 4-
weekly appointments, while acceptability and willingness to continue the treatment long term were explored by an exit questionnaire using 5-point Likert-scales and open ended questions. Statistical significance was set at $P < 0.05$. Differences between groups at baseline in continuous variables were assessed by Student's t-test, while categorical variables were assessed by chi-square test, and absolute CVD (cardiovascular disease) risk by Fisher's Exact test.

A significant treatment effect over 12 weeks was apparent between garlic and control groups in patients with uncontrolled hypertension at baseline (mean difference in SBP ± SD: $-10.2 \pm 4.3$; $P = 0.0361$), while no significant differences were found in the subgroup of patients with controlled hypertension. Tolerability of trial capsules was generally high, with 24% of the garlic group reporting minor adverse effects including belching, reflux, and taste sensations ($P = 0.25$). Most of the participants found the treatment easy (93%) and acceptable (92%). Ninety-two percent (92%) of participants in the garlic group were willing to continue taking garlic supplements compared to two-thirds (66%) in the control group.

The authors conclude that AGE’s effectiveness in lowering SBP in patients with uncontrolled, treated hypertension is significantly superior to placebo and similar to common antihypertensive medication. Further research is needed to determine the effectiveness of lower dosages of AGE that would have the benefit of improved tolerability and blinding, as well as reduced costs of treatment. Future larger trials are needed to investigate dose-response relationships and examine effect of AGE in association with different conventional BP medication classes.

—Silvia Giovanelli Ris

References


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