

## 9. Cardiovascular Diseases

### Reference

Lee CR, Lee SH, Rhee JW, et al. The effect of Korean, Chinese and American ginseng on blood pressure of hypertensive patients. *Daehan-Hanui-Hakhoeji (Journal of Korean Oriental Medical Society)* 2005; 26(3): 228–38 (in Korean with English abstract).

### 1. Objectives

To evaluate the effect of ginseng on the blood pressure in hypertensive patients.

### 2. Design

Double-blinded randomized controlled trial (DB-RCT).

### 3. Setting

One Oriental hospital (Kyunghee University Medical Center), Republic of Korea.

### 4. Participants

Subjects with prehypertension and stage 1 hypertension diagnosed using 24-hour ambulatory blood pressure monitoring (n=123).

### 5. Intervention

Arm 1: Korean ginseng treatment (n=22).

Arm 2: Chinese ginseng treatment (n=25).

Arm 3: American ginseng treatment (n=24).

Arm 4: Korean red ginseng treatment (n=25).

Ginseng was administered in capsules, and the treatment was for 4 weeks, 3 times a day, 4 capsules per dose.

Twenty seven subjects dropped out during the study.

### 6. Main outcome measures

Ambulatory blood pressure measured over a 24-hour period.

Symptoms related to the hypertension (headache, nuchal pain, and hot flush) assessed on a visual analogue scale.

### 7. Main results

- 1) Treatment significantly decreased systolic blood pressure in Arm 2 ( $P<0.05$ ) and diastolic blood pressure in Arm 1 ( $P<0.05$ ), but there were no between-group differences in pre- to post-treatment change in blood pressure.
- 2) Blood pressure variability and average real variability in diastolic blood pressure decreased significantly in Arm 2.
- 3) The above symptoms related to hypertension decreased significantly in all subjects ( $P$  for headache or hot flush, headache, and hot flush:  $<0.001$ ,  $<0.001$ , 0.043, respectively), especially in Arm 1.

### 8. Conclusions

All the ginsengs significantly decrease blood pressure and hypertension-related symptoms, but no ginseng is more effective than the others.

### 9. Safety assessment in the article

There were no abnormal laboratory findings (liver and renal function tests) and no adverse effects of treatment.

### 10. Abstractor's comments

Ginseng is thought to increase metabolic rate, but symptoms such as headache, nuchal pain, and hot flush were significantly decreased in this study. Treatment decreased blood pressure regardless of the kind of ginseng, and there were no significant between-group differences. The hypertension was not 'cured' in the short term, so that additional analysis and further large-scale clinical trials will be needed.

### 11. Abstractor

Go HY, 18 July 2010.