

**EFFECT OF CALCIUM SUPPLEMENTATION ON BLOOD PRESSURE RESPONSE TO DIETARY SODIUM LEVEL IN NORMOTENSIVE YOUNG KOREAN WOMEN WITH FAMILY HISTORY OF HYPERTENSION.** Lee J.W.<sup>\*</sup>, Lee E.Y., Park Y.S.<sup>1)</sup> Department of Home Economics Education, Chungnam National University, Taejon 305-764, <sup>1)</sup>Department of Food Science and Nutrition, Soonchunhyang University, Asan 337-745, Korea

<Purpose>Excessive Na and insufficient Ca intakes have been suspected as major dietary factors related with the high incidence of hypertension in Korea. The effects of Ca supplementation on blood pressure(BP) at both low and high Na intakes were studied in 12 normotensive healthy college women with family history of hypertension. (Methods>All the subjects, randomly divided into 2 groups, ate low Na diet(1816mg/day) prepared in our laboratory during the first 2 weeks and ordinary high Na diet (4064mg/day) of their own home for the next 2 weeks. Throughout the experimental period one group received daily 1g Ca supplement and the other took placebo. BP was measured by Korotkoff method and 3 day dietary intake was surveyed by 24-hour recall and self-record. <Results and findings>Average Ca and energy intakes at the initial of and during the trial ranged 450-600mg and 1738-1815kcal, respectively. Lowering dietary Na both with and without Ca supplement decreased systolic/diastolic BP by 9.2/4.4 mmHg and 9.4/8.4 mmHg, respectively, compared with the initial BP. Elevating dietary Na without Ca supplement increased systolic/diastolic BP again near to the initial. However, with simultaneous Ca supplement, high Na could not elevate systolic/diastolic BP. Ca and Ca/Mg ratio in serum and urine exerted no alterations during the trial. Serum Na and Na/K ratio were lower during low Na diet than those during high Na diet, but not significant except serum Na/K ratio at low Na diet with Ca supplement. Urinary Na and Na/K ratio were decreased during low Na diet. In conclusion, Ca supplementation can attenuate BP elevation induced by high Na intake, but this BP lowering effect was not shown at low Na intake. Low Na intake was also confirmed as the most effective diet treatment for lowering blood pressure.