COMPARATIVE EPIDEMIOLOGICAL STUDIES ON THE GENESIS OF HYPERTENSION IN MOUNTAIN PEOPLE HABITUALLY TAKING 'TIBETAN TEA' IN NEPAL

Terukazu Kawasaki, Kazue Itoh*, Tetsuro Ogaki, Yutaka Yoshimizu§, Pradeep K. Ghimire†, Pashupati Regmi† and Gopal P. Acharya†

Institute of Health Science, Kyushu University,
*Nakamura Gakuen College,
§Department of Health and Physical Education, Kurume University,
†Institute of Medicine, Tribhuvan University

Summary

The mountain villagers habitually taking 'Tibetan tea', which is made from rock salt, butter and tea, seem to consume a larger amount of salt than the hilly (Kotyang) villagers. We investigated the mountain villagers living in Helambu District at or above 2,500 meters above sea level. A total of 173 men and 178 women, aged from 20 to 85, participated in this study.

To compare this with the previous Kotyang's investigation, the similar methods were applied. The results are summarized as follows:

(1) The body height of the mountain villagers was taller and the weight heavier than those of the hilly villagers. The body mass index and the percentage body fat(%Fat) were significantly greater in the former than in the latter.

(2) Maximal oxygen uptake was similar to the hilly villagers after the adjustment for age.

(3) Fat energy ratio was 22% and animal fat ratio was approximately 45%, half of which being taken from 'Tibetan tea'.

(4) Average daily salt intake was about 13-15g/day, lower than expected.

(5) The incidences of borderline hypertension and hypertension were 15.0% and 31.8% in men, and 12.9% and 33.7% in women, respectively, and significantly increased with age.

The body composition, the incidence of hypertension and nutritient intake were all quite different from those of the hilly villagers. The mountain people consumed a larger amount of salt than the hilly villagers, and the correlation between the salt intake and blood pressure was significantly and positively detected by multiple regression analysis. The nutrient intakes such as fat, fiber and potassuim were also significantly correlated with blood pressure positively and negatively. These results suggest that the blood pressure may be influenced by physical activity, fat-free mass and nutrient intakes in addition to the amount of salt intake and that extremely low %Fat, low animal fat intake and/or physical activity could serve to mute the influence of relatively high salt intakes of the hilly villagers.