

# Hypertension of the victims of the Great East Japan Earthquake

## - Significance of home blood-pressure monitoring -

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One and a half years have passed after the Great East Japan Earthquake and tsunami, however, the impact of this disaster still has big influence on health condition of people who survived. Immediately after the disaster occurred, we started medical interview, measurement of blood-pressure and temperature, biochemical examination of peripheral blood of 1,435 local residents over age of 40 living in shelters at 5 areas (Miyako, Kamaishi, Yamada, Otsuchi and Ofunato) in Iwate prefecture, then regularly investigated the actual condition of health hazard caused by this disaster.

The result of investigation shows that the blood-pressure of residents in all areas changed significantly and the systolic blood-pressure of 60% of residents rose to above 1 degree high blood-pressure (140~159 mmHg) just after the disaster and this tendency has continued even after 3 months. While, 74% of residents contracted hypertension taking antihypertensive medication before the earthquake continued over 140mmHg systolic blood-pressure despite they kept taking antihypertensive drugs for 3 months from the disaster. This situation is apparently different from the blood-pressure survey of the Great Hanshin-Awaji earthquake; the blood-pressure elevation after the disaster was transient and it has mostly become stable after 4-5 weeks. Moreover, the problem of hypertension has persisted in some area such as Yamada and Otsuchi even 12 months after the disaster and we further found that the incidence of cerebral blood vessel disease has increased in some area.

For this reason, we have decided to investigate for 3 years to find the improvements of their living environment related to hypertension and the relevancy between hypertension and onset of cerebral blood vessel disease by monitoring home blood-pressure of local residents having high blood-pressure with using wireless communication home blood-pressure equipment. We monitor 120 people (average age: 67, male:female = 52:68) in Otsuchi and Rikuzen-Takada area, who have accepted home blood-pressure measurement using wireless communication home blood-pressure equipment. We distribute them at no charge the wireless communication home blood-pressure equipment produced by Qualcomm and monitor their daily blood-pressures sent to the server after measurement at each home. Simultaneously, we investigate their medical history of hypertension, diabetes, and dyslipidemia, dose of preventive medicine for these diseases, BMI and their living environment mainly housing and regularly visit them to track onset of cerebral blood vessel disease while giving medical treatment if required. Now, 18 months have passed after the disaster, the number of cerebral blood vessel disease patients is gradually increasing among people who live in the temporary housing and it is getting clear that those cases the living environment has not improved and continues high blood-pressure have higher incidence. It is also very significant to understand how the hypertension, the biggest risk factor in onset of cerebral blood vessel disease, affects the crisis at the time of disaster like earthquake for the elucidation of pathophysiology of onset of cerebral stroke caused by hypertension as well as health care at the time of disaster.

