Follow-up survey of all participants at the first and second juvenile diabetes summer camp in Japan in 1963 and 1964

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ABSTRACT

This report is the first to document the status of all 10 participants in the first (1963) and second (1964) summer camp in Japan as of December 31, 2008,. The 8 participants except deceased 2 ones continue to function as adults in society without hemodialysis.

Child-onset type 1 diabetes is well known to have very low incidence in Japan[1], with slightly over 100 cases reported between 1955 and 1964[2]. The first summer camp for children with diabetes in Japan was held in Tokyo in 1963. This camp was the only one in Japan until 1968. Ten children attended either the first or second one (1964). This report is the first to document the status of all 10 participants as of December 31, 2008, who had consulted the Diabetes Center throuth the Department of Pediatrics of TWMU. All of them had ketoacidosis at onset and insulin treatment was started immediately.

Age at onset was 3-10 years, and age at the time of the participation was 6-13 years. As 2 participants had died (one in a traffic accident at about 27 years old, not related with hypoglycemia; and the other found dead in bed at 52 years old after having a heavy smoking habit for 30 years), this report discusses the remaining 8 participants (male:female = 1:7).

Age range at the time of this study was 52-58 years, with diabetes duration of 46-52 years. From 1983 when HbA1c testing became available to 2008, mean HbA1c range was 6.8-9.1% (normal range, 4.3-5.8%), whereas it was from 6.1% to 8.4% in the past 1 year. All of them had a smoking of 10 pieces per day with at least 10 years.

No Achilles' tendon reflex sign was seen in any subjects. Two patients showed no retinopathy (no history of photocoagulation), 3 had simple retinopathy (at time of survey) with a history of photocoagulation, and the other 3 had proliferative retinopathy (1 patient was blind in 1 eye). Three patients had no microalbuminuria, 3 had microalbuminuria, and 1 had overt nephropathy (proteinuria >1 g/day), but none were on hemodialysis.

None of 6 patients in whom ankle brachial index was determined showed abnormalities and 1 in 6 patients for whom intimal medial thickness was determined by carotid ultrasonography showed slight abnormality. Four of 6 patients (66.7%) for whom pulse wave velocity was determined displayed elevated values.

Other complications are as follows: chronic rheumatoid arthritis, n=1; mixed connective tissue disease, n=1; chronic thyroiditis with development of acute heart failure at 54 years old, with no limitation to activities of daily living, n=1;

stroke at 52 years old, but no functional disability resulted, n=1; and giving birth to a baby girl at 41 years old, with experience of vitreous hemorrhages in both eyes in pregnancy, but no decrease in visual acuity, n=1. In addition, all 8 patients have experienced severe hypoglycemia since about 50 years old.

Micro- and macro-vascular diseases might be expected in these participants due to chronic exposure to hyperglycemia, but no vascular complications have occurred to the extent of adversely impacting quality of life in activities of daily living. All subjects continue to function as adults in society. This suggests that the vasculature itself in these individuals may be less susceptible to damage due to chronic hyperglycemia under an integrated management system under a multidisciplinary team[3].

Word count: 499

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