

Epidemiology of diabetes mellitus in old age in Japan

Tadasumi Nakano*, Hideki Ito

Tokyo Metropolitan Health and Medical Treatment Corporation, Tama-Hokubu Medical Center, Tokyo, Japan

Accepted 29 January 2007

Available online 17 July 2007

Abstract

Epidemiological studies on diabetes mellitus revealed that the number of patients with diabetes mellitus is gradually increasing in Japan along with development of car society and westernization of food intake. Since prevalence of diabetes mellitus increases with aging, proportion of individuals with diabetes mellitus aged over 60 has exceeded two-third of estimated total number of patients (7.40 million in 2002) in Japan where aging of society is rapidly progressing. Type 2 diabetes mellitus is common in diabetes mellitus in old age, and there are rarely elderly patients with type 1 diabetes mellitus.

Prevalence of both diabetic microangiopathy and atherosclerotic vascular diseases is higher in the elderly with diabetes mellitus than in the middle-aged with diabetes mellitus. Furthermore, atherosclerotic vascular diseases (ischemic heart disease, cerebro-vascular disease and peripheral vascular disease) are more prevalent in the elderly with diabetes mellitus than in those without diabetes mellitus.

Many studies demonstrated that functional declines, i.e. decreases in activities of daily living, physical activity and cognitive function, deteriorated quality of life in the elderly, and functional declines are more prominent in the elderly with diabetes mellitus than in those without diabetes mellitus.

In order to clarify how the elderly patients with diabetes mellitus should be treated to maintain their quality of life, a nationwide randomized controlled intervention study using 1173 Japanese elderly patients with diabetes mellitus is now performing.

In summary, number of elderly patients with diabetes mellitus is overwhelmingly increasing in Japan as well as in westernized countries. It is necessary for us to treat the elderly with diabetes mellitus to maintain their function and quality of life.

© 2007 Published by Elsevier Ireland Ltd.

Keywords: Elderly; Diabetes mellitus; Diabetic complication; Causes of death; Disability; Randomized controlled study

1. Introduction

Epidemiology of diabetes mellitus gives a good suggestion for the resolution of problems related to prevention and treatment of diabetes mellitus in old age. As known, frequency of peoples with disabilities has been very high in the elderly with diabetes mellitus.

We present the following three topics in this article, prevalence of diabetes mellitus in the elderly in Japan, epidemiologic results of diabetic complications and cause of death in the elderly with diabetes mellitus, and

emerging problems related to diabetes mellitus and ongoing trial of randomized controlled intervention study in the elderly with diabetes mellitus.

2. Prevalence of diabetes mellitus in the elderly in Japan

2.1. Number of patients with diabetes mellitus and prevalence of diabetes mellitus in the adult population (aged 20 years or more) by year and region in the world [1]

The number of patients with diabetes mellitus in the developed countries has been expected to increase

* Corresponding author.

E-mail address: tadasumi_nakano@tamahoku-hp.jp (T. Nakano).

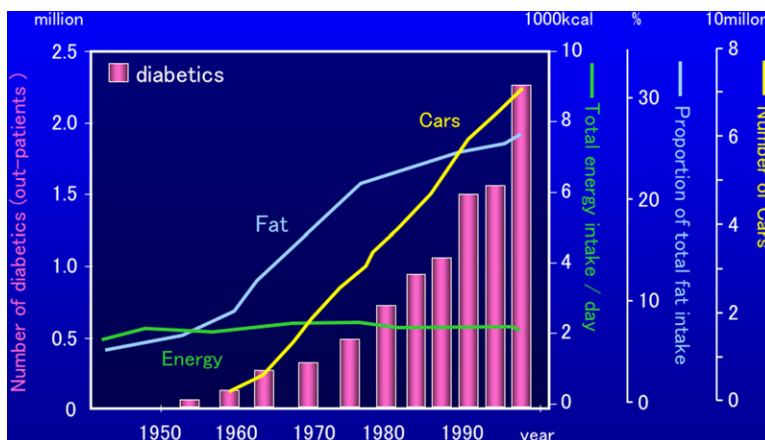


Fig. 1. Relationship between change in the number of patients with diabetes mellitus (estimated) and the transition of life style of Japanese people.

gradually (51 million in 1995 to 72 million in 2025; 42% increase). However, in developing countries, the number of patient with diabetes mellitus has been expected to increase more rapidly (84 million in 1995 to 228 million in 2025; 170% increase).

Furthermore, the prevalence of diabetes mellitus in both developed and developing countries has been estimated to increase rapidly in the near future (4.0% in 1995 to 5.4% in 2025; 35% increase). However, the prevalence of diabetes mellitus in developed countries is about two times higher than that of developing countries (6.0 and 3.3% in 1995, and 7.6 and 4.9% in 2025, in developed countries and developing countries, respectively). What factors have caused this comparative increase in the prevalence of diabetes mellitus in developed countries?

2.2. Number of patients with diabetes mellitus by age-group, year, and region in the world [1]

In developed countries the number of patients with diabetes mellitus has increased with advancing age and has been expected to accelerate incrementally by the year 2025, particularly in the elderly.

While, in developing countries, there has been more patients with diabetes mellitus in the middle age and this pattern will be exaggerated in 2025.

In short, the number of elderly with diabetes mellitus has been expected to increase to a greater extent in developed country than in developing country.

2.3. Relationship between change in the number of patients with diabetes mellitus (estimated) and the transition of life style of Japanese people

The number of patients with diabetes mellitus has been increasing over time. The number of cars and the

proportion of total fat intake was also certainly increasing without any increase in total energy intake [2].

These data suggested that the number of patients with diabetes mellitus was gradually increasing in Japan along with the development of a car-oriented society and westernization of food intake (Fig. 1).

2.4. Prevalence of diabetes mellitus in Japan

According to estimated prevalence of those who were suspected as diabetes mellitus in Japan on the basis of the National Survey of Actual Situation of Diabetes mellitus by the Japan Ministry of Health, Labor and Welfare in 2002 [3], total estimated number of patients who were suspected as diabetes mellitus in Japan was about 7.4 million (0.07, 0.15, 0.64, 1.79, 2.26 and 2.51 million in 20-, 30-, 40-, 50-, 60- and 70- or more- age-group, respectively). Since the prevalence of diabetes mellitus increased with age, the proportion of individuals over 60 with diabetes mellitus has exceeded two-thirds of the total number of patients with diabetes mellitus (Fig. 2).

2.5. Prevalence of obesity ($BMI \geq 25$) by age in Japan

Along with the increase in the number of patients with diabetes mellitus, we have to consider the prevalence of obesity in the general population. In Japan, people whose BMI has been 25 or more are regarded as obesity [3].

In males, the prevalence of obesity started to increase in the 30s, stayed constant through the 60s, thereafter decreased. Furthermore, a tendency of increase of obesity in every decade except in twenty age-group was observed during these 20 years (from 1983 to 2003).

Download English Version:

<https://daneshyari.com/en/article/2798635>

Download Persian Version:

<https://daneshyari.com/article/2798635>

[Daneshyari.com](https://daneshyari.com)