RECENT TRENDS OF DIABETES MELLITUS IN EAST ASIA

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PREFACE

China and Japan are situated next to each other geographically, and their languages and cultures have a similar origin. Most of the culture of the world, including that of China, which has been adopted in Japan, was acquired through China; therefore, the relationship between these two countries is very close. It is indeed favorable that both cultural and economic exchanges have been started since the establishment of diplomatic relations in 1972, despite the unfortunate events of the past.

The first China-Japan symposium on Diabetes Mellitus was planned and held on 5th and 6th May, 1987 in Beijing, China and, as you know, fruitful results were obtained. The second Japan-China symposium on Diabetes Mellitus was held on 13th and 14th October, 1989 in Fukuoka, Japan. Fukuoka is the largest city and the so-called capital of Kyushu. Kyushu island has been regarded as the most important international exchange area in Japan, especially to China. Therefore, I believe that the symposium in Fukuoka, from the historical and geographical points of view, was very significant. Moreover, the symposium has proven that there is no border in science. In this symposium many problems of Diabetes have been discussed by researchers and clinicians from each country. The symposium has proven to be fruitful and is going to be held in either country every two years.

The results of this symposium will contribute to the research on diabetes in the world and we hope for further developments between the two countries, not only in research in Diabetes Mellitus, but also in active exchange through this symposium.

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PRESENT STATUS OF DIABETES THERAPY IN JAPAN

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The systematization of diabetic therapy in Japan begun since the year 1972, when the Japan Diabetes Society was founded. Since then diabetic patients in Japan has increased in number, due to amelioration of economic condition.

The establishment of diabetic therapy in Japan was carried out both by the Japanese traditional thinking and by the therapeutic methods of western countries.

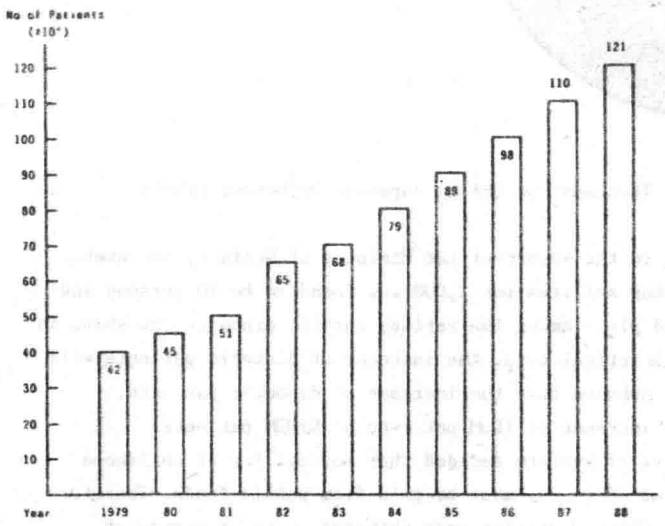

Fig. 1. Number of Diabetic Patients Estimated by the Consumption of Both Oral Hypoglycemic Agents and Insulin

This Fig. 1 shows the annual change in number of diabetic patients, which was estimated by the total dosages of insulin and antihyperglycemic drugs in one year. From this figure, the number of patients who received the antidiabetic drugs was found to be three times higher in 1988 compared with that in 1979.

In Japan 65 percent of the patients received the antidiabetic drugs and the remainder received diet therapy, as shown in Fig. 2. Therefore, from this ratio of therapy, the number of diabetic patients were estimated as 1.86 millions. On

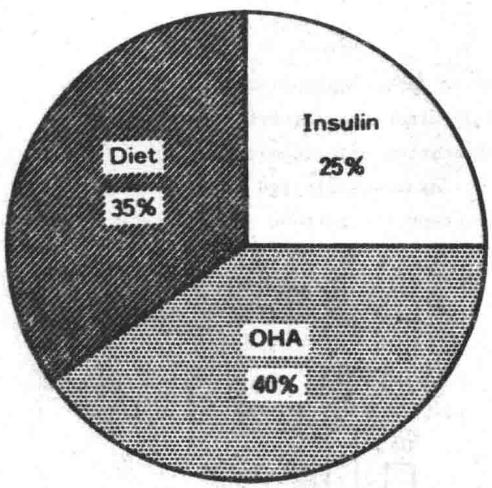

Fig. 2. Percentage of the Treatment by OHA in Japanese Diabetics (1986)

the other hand, according to the report of the Ministry of Welfare, the number of outpatients with diabetes mellitus per 1,000 was found to be 10 persons and this number was the second place among the various chronic diseases, as shown in the Fig. 3. From these statistical data, the increase of diabetic patients will state the fact. But it is unknown that the increase of diabetic patients, whether it was due to the increase of IDDM patients or NIDDM patients.

Since 1976, The Ministry of Welfare decided that medical fee of childhood diabetics, under the age of 18 years, must be paid from public funds. Therefore the name lists of all childhood diabetics were gathered in the Ministry of Welfare. The Table-1 shows the number of patients which was divided into in- and out-patients. Estimated from this data, it seems that, this is increasing. but this data is not clear whether the number contains only IDDM patients or both IDDM and NIDDM. Therefore we carried out the incidence and prevalence of IDDM children in Okinawa for 5 years. From our exact data, it can be concluded that the prevalence of IDDM in children was not increased from 1984 to 1988 as shown in Table-2[1]. The same result in Osaka district was reported by Okamoto et al[2].

From the above mentioned result, it is presumed that the increase of diabetic patients in Japan is due to the increase of NIDDM patients. The exact incidence and prevalence of childhood IDDM in Japan will be clarified in 1991, as the epidemiological study of childhood diabetes in Japan has been carried out by the committee of childhood diabetes in Japan Diabetes Society.

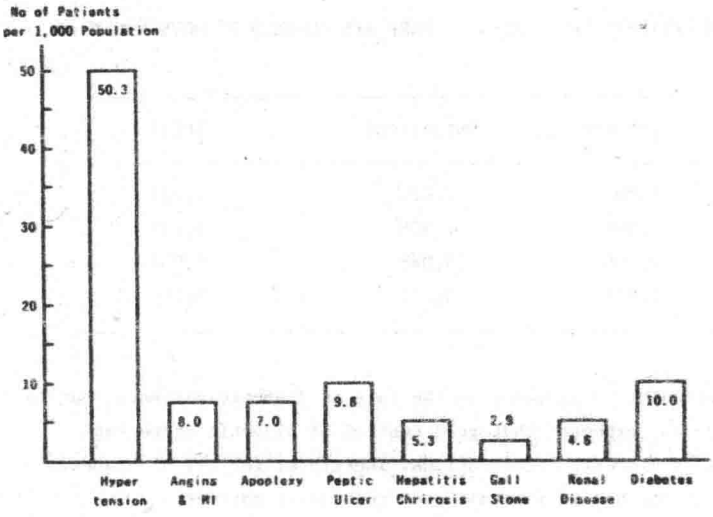

Fig. 3. Estimated Number of Chronic Diseases in Outpatient in Japan (1987)

The cause of the increase of NIDDM patients in Japan will be due to the progress of socioeconomical situation and the rapid increase of old aged population. The ratio of old aged population over 65 years is calculated at 11.6% of all population in Japan. This tendency will continue by 2020, and this ratio will reach at about 25% in 2020.

Present status of angiopathy in diabetes mellitus

Malignant tumor, heart diseases and cerebrovascular diseases have been regarded three major causes of death in Japan since 1986. This tendency was seen as the major cause of death in diabetic patients, and moreover, diabetic nephropathy was pointed out as the characteristic cause of death in Japan. And in future, ischemic heart disease will be the first rank of cause of death.

It is widely recognized that microangiopathy will develop both by the duration and control of diabetes. In our out-patients with the duration of

diabetes over 15 years, the complication of retinopathy amounted at 87%, and in 20% of these patients, proliferative retinopathy was observed[3]. In Okinawa prefecture, the ratio of blindness due to diabetic retinopathy was observed at about 10% in all acquired blindness[4]. On the other hand, about 20% of the patients with dialysis therapy was due to diabetic nephropathy.

In Japan, the high ratio of blindness and of the patients with dialysis is the most important problem from the socioeconomical point of view. The increase

TABLE 1

NUMBER OF CHILD IDDM PATIENTS WHOSE MEDICAL FARE ARE COVERED BY GOVERNMENT

Year	Inpatient	Outpatient	Total
1984	1,796	2,625	4,421
1985	1,904	2,908	4,812
1986	2,006	3,048	5,054
1987	2,025	3,135	5,160

of diabetic microangiopathy is presumed as the fate of diabetic patients, but on the other hand it is also expected that good control of diabetic state can protect the progress of diabetic complications. Therefore, the aim of diabetic therapy has bring to focus how to maintain good control of patients.

Present status of therapy in Japan

There are two problems to be noted in out-patients clinic. In the case of first diagnosis, diabetic patients have to receive both routine examination of diabetes and the special examination for early diagnosis of diabetic complications. Therefore the patients should be referred to the diabetic specialists from the general practitioners.

Pointing to the second important matter, the throughout education of patients has to be carried out by the trinity cooperation of doctors, nurses and dieticians. It is widely recognized that the result of education influences the prognosis of the disease, because the self control by the patients will result the half success of long term control in the patients. In Japan, the Diabetic Association (laymen section) was established in 1961. In the diabetic education program in the out-door clinic, the guide book for diabetes therapy and exchange table for food, which were edited by the Japan Diabetes Society, have been available.

As the characteristics of diet therapy in Japan, the ratio of fat in the food composition is estimated as under 30 percent both in healthy person and diabetic