

In a country town in New England on its peaceful, elm - lined Main street, there once stood three houses, side by side, as commodious and attractive as any in the village. In these three houses lived in succession four women and three men - heads of families - and of this number, all but one has subsequently succumbed to diabetes Although six of the seven persons dwelling in these adjoining houses died from a single complaint, no one spoke of an epidemic. Contrast the activities of the local and state boards of health if these deaths had occurred from scarlet fever, typhoid fever or tuberculosis. Consider the measure which would have been adopted to discover the source of the outbreak and to prevent a recurrence. Because the disease was diabetes, and because the deaths occurred over a considerable interval of time, the fatalities passed unnoticed.

Elliott P. Joslin.

INTRODUCTION

Diabetes mellitus is one of the most common endocrine diseases. The disease is characterised by an inappropriate elevation of blood glucose levels, and associated with alterations in lipid and protein metabolism probably resulting from a relative or absolute lack of insulin or defect in the insulin action or both. It represents a heterogeneous group of disorders, some of which can be characterised in terms of specific aetiology and / or pathogenesis (14) . In many cases, however, such specific etio-pathogenic characterisation is not possible.

The disease is universal in occurrence, but its prevalence varies considerably among different geographical regions and social groups (66, 67, 68) . The prevalence of diabetes mellitus from around the world forces one to recognise the disease as truly global, affecting an estimated 15 - 50 million people in affluent societies and 20 - 50 million in developing countries, where prevalence is rising (1, 66, 75, 113, 115, 116, 126, 147) .

There is increasing recognition of the emergence of diabetes as an important health problem in developing countries, such as India, presumably as a result of (i)

changes in the health status and demographic structure, (ii) changes in life styles, and (iii) changes in the environment (including air, water, habitat, occupation etc.) following industrialisation and urbanisation (60, 93, 113, 114, 115, 116, 147).

The risk factors are variable. At present, in India around 28 million people are diabetic (population - rural / urban = 70 / 30), prevalence rural 2.07 percent, urban 5.72 percent (55). The prevalence has changed considerably, in fact, the prevalence in urban population may be as high as 8.2 percent (1, 93, 113, 114, 115, 116, 147).

It is a noteworthy trend that the prevalence of diabetes is on a rapid increase in the developing countries like India (66, 68), which may be attributable to social change (1). The number of individuals who will develop diabetes over the next few decades has been predicted to be two to five times of the current number, depending upon the predicted mean life-span (38, 67, 68).

The search for disease- genetic markers association has a long history in human genetics. These studies examine the frequency of polymorphic traits, in individuals with and without a given disease. As is characteristic of most complex diseases,

diabetes has no simple mode of inheritance ; it aggregates in families but does not segregate in a simple Mendelian fashion, although there is evidence of a strong familial component (41, 76, 133) . Attempts have been made to achieve deeper insight into the mechanisms involved in the inheritance of diabetes through association studies (30, 31, 44, 48, 86, 88, 91, 101, 104, 105, 129, 137, 138, 142, 156) with genetic markers.

The complications that occur commonly in diabetes include retinopathy, nephropathy and neuropathy. The nature and extent of these complications vary considerably among the diabetic types (IDDM and NIDDM) and also among different countries (2, 19, 21, 61, 96, 108, 121, 141, 155) . There is considerable evidence from animal models of diabetes to demonstrate a causal relation between hyperglycaemia and complications (27, 42) .

Cure from diabetes is not known ; treatment aims at the maintenance of normoglycaemic control by using insulin or oral hypoglycaemic agents or both. Physical activity / exercise helps in maintaining a good glycaemic control (154) . Diabetes care and control through specific education are gaining ground and have become a part of management globally (34, 35, 36, 146) .

The disease is one of the few common metabolic diseases, which kept its aetiological mystery almost intact despite extensive studies for a long time. In a developing country like India, diabetes mellitus is assuming a serious magnitude today. The economic betterment, increase in life span, changes in life style, changes in health structure and demographic pattern of the population added to environmental effects, increases the disease burden of populations (1, 113, 114, 115, 116, 147). However, paucity of data are noteworthy in the Indian subcontinent, more so in West Bengal.

In absence of country wide national programme to tackle the diabetes problem, it is left to the health care providers, to offer optimal management to their patients. Amongst the health care providers, it is often forgotten that the family physician who plays a crucial role in the battle against diabetes and its ravages, as they are the ones who manage the vast majority of people with diabetes ; unlike some of the western countries where secondary, and even tertiary care, is easily available. In India, family physicians and clinics (Government / Private) form the first, and often only, line of defence against diabetes.

The present study of epidemiology and some clinico-genetical aspects of diabetes mellitus, aims to specify the needs, monitor the common long term complications and to select proper management for those suffering from this grievous disease. Furthermore, to formulate required guideline for general practitioners including specialist of various discipline of medical science for first hand diagnosis and management of diabetes mellitus with available resources of infrastructure facility and its prevention.