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OVERVIEW ON THE INDIAN DIABETIC SYNDROME AND EPIDEMIOLOGY WITH SPECIAL REFERENCE TO PREVENTION OF TYPE-II DIABETES AMONG INDIANS

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ABSTRACT

The abundant evidence in the literature to confirm that type-II diabetes occurs among Indians over a decade or earlier. It is also well recognized that there is a progressive decline in the insulin-secreting ability of the islet cell in the older people decades of life. The age-specific prevalence studies revealed that in causations diabetes emerge with increasing frequency in the old age with known decline in b cell reserves, whereas people of India get diabetes relatively early in their life. In this article, history of the Indian diabetic syndrome, epidemiology with special reference to prevention of type-II diabetes among Indians has been highlighted.

Keywords: Diabetic, syndrome, Epidemiology, Prevention

INTRODUCTION TO THE INDIAN DIABETIC SYNDROME

The history of diabetes among Indian people is their rather prolonged phases of relapsing & remitting hyperglycaemia. Often noticeably elevated blood sugar levels reaching beyond 40 mg % with overt osmotic symptoms like polyuria & polydipsia as well as polyphagia, symptoms of sensory neuropathy linking peripheral lower extremities, blurred vision & muscular cramps are not uncommon in this period. During this stage, particularly in younger age people should follow strict diet regulation within an increased physical activity to reduce the sugar level, with a tendency to relapse back to diabetic condition on dietary indiscretion or absent physical activity [1].

Alternatively, a temporary course of small doses of appropriately selected oral hypoglycaemic drugs coupled with lifestyle modifications may regularize blood sugar. Euglycemic condition so achieved can be sustained with diet, exercise & weight control precautions, without any medication for many years. These facts are true among relatively younger diabetic patients, who may be able to maintain a state of asymptomatic euglycemia with their lifestyle measures alone for as a decade or more.

Indeed, long clinical experience repeatedly underscores the truth that individual with diabetes who are disciplined to continue euglycemia with effective lifestyle measures stand the best chance of avoiding premature coronary artery disease. It has become apparent from several clinical trials, achieving euglycemia by means of oral hypoglycaemic agents do not prevent large vessel disease [2].

EPIDEMIOLOGY

The International Diabetes Federation (IDF) estimated at least 285 million people worldwide are suffering from diabetes disease (about 6.4% of adults), with 46% of all those affected in the 40-59 age group; it is however predicted that it may reach up to 435 million by 2025 (IDF, 2010). Asia is one of the regions that have a high prevalence of diabetes mellitus [3].

Status of Diabetes Mellitus in India leads the world with the largest number of diabetic patients earning the dubious distinction of being termed the "diabetes capital of the world". As per the report of the Diabetes Atlas 2006 published by the International Diabetes Federation, the numbers of people with diabetes in India at present around 40.9 million and it is expected to rise to 69.9 million by 2025 unless imperative preventive steps are taken. According to Diabetes Atlas published by the International Diabetes Federation (IDF), there were an estimated 40 million persons with diabetes in India in 2007 and this number is predicted to rise to almost 70 million people by 2025.

PREVENTION OF TYPE-II DIABETES AMONG INDIANS

The pre-diabetic phase of an Indian diabetic is perhaps characterized by episodes of reactive hypoglycaemia with relative hyperinsulinemia and mis- matched insulin section. On the basis of clinical experience, it can be concluded that Indians may have genetically or perhaps an epigenetically determined reduction of the functional lifespan of cells. Such a truncation may also be caused by the environmentally & culturally determined life-long overstimulation of the b cell apparatus. Such over-

stimulation based relatively fast b cell malfunction also can have either genetic or epigenetic basis, in the light of the scientific evidence in the literature [4].

CONCLUSION

The countries with the largest number of diabetic people will be India, China and USA by 2030. The real burden of the disease is however due to its associated complications which lead to increased morbidity and mortality. Of the estimated 30 million diabetic patients in India, 95 percent have type-II diabetes. According to Vijay Viswanathan, Joint Director, DRC, there are four types of molecules for treating type-II diabetes. However, in about 40 percent of patients with type 2 diabetes, the existing oral tablets don't control adequately and need insulin injections [5].

REFERENCES

1) Cox, D. J., Taylor, A. G., Nowacek, G., Holley-Wilcox, P., Pohl, S.L., Guthrow, E. (1984). The relationship between psychological stress and insulin-dependent diabetic blood glucose control: preliminary investigations. Health Psychology. *3* (1). pp. 63-75.

2) Gemeay, E. M., Moawed, S. A., Mansour, E. A., Ebrahiem, N. E., Moussa, I. M.,& Nadrah, W. O. (2015). The association between diabetes and depression. *Saudi Medical Journal*. *36* (10). pp.1210-5.

3) Badescu, S.V., Tataru, C., Kobylinska, L., Georgescu, E.L., Zahiu, D.M., Zagrean, A.M., Zagrean, L. (2016). The association between diabetes and depression. *Journal of Medicine and Life*. *9*(2). pp.120-125.

4) Habtewold, T.D., Radie, Y.T. & Sharew, N.T. (2015). Prevalence of Depression amongType 2 Diabetic Outpatients in Black Lion General Specialized Hospital, Addis Ababa, Ethiopia. *Depression Research and Treatment*. Published online 2015February 19. doi:10.1155/2015/184902.

5) Katon W., Von Korff, M., Ciechanowski, P., Russo, J., Lin, E., Simon, G., et al. (2004). Behavioral and clinical factors associated with depression among individuals with diabetes. *Diabetes Care*. *2*, pp.914-20.