



Letters to the Editor

Prevalence of diabetic retinopathy among type 2 diabetes mellitus patients

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Dear Editor,

Background

Diabetic retinopathy (DR) is the leading cause of visual impairment in the western world, particularly among people of working age group (1, 2). The rising prevalence of diabetes in India warrants well-conducted epidemiological studies on diabetes-related complications in this population and to assess the health services burden due to diabetes. The study was conducted in a small population in a medical college hospital in Chennai, a city in south India, to explore the prevalence of DR and the various risk factors associated with it. The secondary objectives of the study were to determine current levels of awareness regarding DR.

Method

The protocol of the study was approved by the institutional ethics committee. A written informed consent was obtained from each subject. The study was done on 203 patients attending the diabetic out patient [OP] department at Dr. Ambedkar institute of diabetology, Kilpauk medical college hospital, in Chennai. The study was carried out as a part of the monthly screening camp conducted by Sankara Nethralaya, Chennai, at the institute of diabetes for the patients of Kilpauk medical college hospital. 203 known cases of Type 2 Diabetes Mellitus [DM] having the disease for more than five years, coming to the department regularly for treatment, were selected for the study. A detailed history was taken from each of them with the help of a questionnaire. The patients who had diabetes for more than five years were only included. The patients who had mature cataract, in

whom funduscopy was not possible, were excluded. The patients who were willing and satisfied the inclusion criteria were selected randomly. The patients were then subjected to physical examination which consisted of measurement of height and weight, waist-hip ratio, blood pressure and pulse. Also retrospective data was taken from the patients' records about the last three fasting sugar levels. This was followed by clinical examination of eye. The visual acuity and intraocular pressure were determined. This was followed by funduscopy. Initially direct funduscopy was done which was followed by indirect funduscopy. Fundus photography was not performed because of high costs. DR was assessed and subsequently classified accordingly. Statistical analysis was done by binary logistic regression for risk factors associated with DR and Chi-Square test for independence was used.

Results

67% of the sample population was aware of the disease. 48.2% were first time visitors. 24.6% of the study population underwent an annual screening. In the study population of 203, 28 patients had evidence of some form of retinopathy and the prevalence rate of DR is thus 13.8%. Of the 13.8% with DR, 3.9% (8) had mild NPDR, 5.9% (12) had moderate NPDR, 2.5% (5) had severe NPDR, 0.5% (1) had PDR and 1% (2) had CSME. Moderate NPDR had the highest prevalence rate. The study population consisted of five age groups. The age group of 56-65 years had the highest percentage of DR. Those who were diabetic for 6-10 years formed the largest group comprising 57.1% of study population and out of which 7.3% DR. 14% males and 13.6% females had DR. This was not statistically significant. There is no significant relationship between OHA, hypertension, treatment with insulin, family history of diabetes, alcoholism and DR. Binary regression analysis was done to know which of the risk factors were associated with DR. Those with both IHD and hypertension had an odds ratio of 2.93 and smokers had an odds ratio of 3.077.

Conclusion

67% patients had awareness about DR. This is very encouraging as most of them are from the lower strata of the society. Also many of them undergo annual screening at the camp. The prevalence rate



of DR is 13.8% .Mild NPDR had the maximum incidence with 5.9%. The prevalence is greater in the 5th - 6th decades of life with 5.9% of them having DR. The prevalence increases with the duration of diabetes. Men were at a slightly higher risk (14% males' v/s 13.6% females) though not statistically significant. Though not statistically significant smokers and patients with both IHD and hypertension had odds ratio showing increased risk. There was no increased risk among hypertensives, IHD patients, alcoholics and no significant relationship with treatment history. These may be due to the smaller size of the study population when compared to other studies which had higher sample size, urban area, diet, genetics etc. This study highlights the need for larger studies to determine the disease burden in India.

Sincerely,

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