SHORT COMMUNICATION

PRACTICE PATTERNS OF DIABETIC RETINOPATHY REFERRAL AMONG DOCTORS IN A TERTIARY HOSPITAL

Imtiaz Ahmed Khan, Mohammed Sadiqulla
Department of Ophthalmology, ESIC Medical College and Post graduate Institute of Medical Sciences and Research, Bangalore, India

Correspondence to: Imtiaz Ahmed Khan (dr.imtiazahmedkhan@gmail.com)

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ABSTRACT

Background: There were 31.7 million diabetics in India in year 2000 with a projection to reach 79.4 million by year 2030. We must identify and treat high-risk persons before severe loss of vision occurs. We doctors of all specialities have to strive together to create awareness of the importance of routine eye evaluation for all diabetics as this blindness is largely irreversible once set in. Visual impairment as a result of Diabetic Retinopathy (DR) has a significant impact on patients' quality of life. In communities in which intensive retinopathy screening programmes have been implemented, rates of vision loss have decreased. There is a need to increase the awareness among doctors of all specialities on the importance of retinal examination by ophthalmologists even in well controlled diabetics.

Aims & Objective: A survey to assess the practice patterns among doctors about diabetic retinopathy referral, its complications, treatment modalities and the knowledge about timing of referral to ophthalmologists.

Material and Methods: Questionnaires consisting of 16 questions pertaining to general awareness, clinical manifestations, complications and treatment was given to doctors in two sections A and B. Answers were analysed and tabulated.

Results: 36 doctors of various specialities participated in the survey. 19.4% of doctors felt there was no need to refer all diabetics routinely for fundus examination. 80.6% (29 of 36) of doctors were regularly referring all diabetics to ophthalmologist, where as 19% did not. 86.1% of the participants felt there was no need to worry about retinopathy if blood sugar levels were controlled. Amongst the participants 75% were well aware of DR, its presentation, complications and 88.9% about its treatment.

Conclusion: Diabetic retinopathy still is not well understood among general doctors and non-ophthalmologists. It is therefore advisable to educate consultants about the severity of the problem and need for early referral to prevent complications. General Practitioners can be educated about the timing to seek expert opinion for treatment.

Key-Words: Diabetic Retinopathy (DR); Awareness; Doctors; Referral

Introduction

In our country it is common to see a diabetic in advanced stages of retinopathy because of irregular follow-up examination which adds to blindness associated with diabetic retinopathy. An estimated 2-5% of all diabetics have proliferative diabetic retinopathy.[1] If not treated, this could cause blindness in more than 50%.[2] Currently diabetics, the general population and doctors not concerned with ophthalmology are not totally aware of the ocular complications of diabetes and the need of regular yearly eye examination. There is a direct correlation between the frequency and severity of Diabetic Retinopathy (DR) and the duration of DM.[3]

We must identify and treat high-risk persons before severe loss of vision occurs. We doctors of all specialities have to strive together to create awareness of the importance of routine eye evaluation for all diabetics as this blindness is largely irreversible once set in. The need of the hour is for all doctors is to make the patient aware of the ocular complications of diabetes, at least for those attending any sort of health care clinic. We therefore did a survey to assess the practice patterns among doctors about diabetic retinopathy referral, its complications and treatment modalities.

Materials and Methods

This survey was done in February 2013 on 36 doctors attending a CME programme on retina at a Medical college and teaching hospital in Bangalore. Written permission was obtained from the participants to analyse and publish the unaltered responses of questionnaire during the survey. All ophthalmologists were excluded from the survey.

All participants were given a typed questionnaire consisting of two sections A and B with 8 questions in each section. Section A had questions pertaining to diabetic retinopathy, treatment and complications, and section B about awareness on need for referral and timing of referral to the ophthalmologist. Each correct answer was allotted one mark each in both sections. People who scored 5 and above were regarded as having good knowledge about the section. The data were recorded and analysed.

Results

All of the participants answered all of the 16 questions of both sections. The study group included doctors of various specialities and medical officers. 27 of the 36 (75%) in the survey correctly answered questions under section A and 32 of 36 (88.9%) of participants correctly answered questions of section B and 63.9% answered both correctly. 80.6% (29 of 36) of doctors were regularly referring all diabetics to ophthalmologist, where as 19% did not. 86.1% of the participants felt there was no need to worry about retinopathy if blood sugar levels were controlled while 14 % felt otherwise.

88.9% of the doctors believed that patients with diabetes will come back for follow up where as 10.9% did not feel the same. 9 of the 36 participants (25%) opined both uncontrolled and chronic diabetics need not be referred to ophthalmologist for fundus examination. 20 of 36 participants (55.6%) felt uncontrolled diabetics be referred for fundoscopy whereas 16 of 36 (44.4%) opined only long standing diabetics be referred to ophthalmologist. About 61.1% (22 of 36) thought retinal damage is frequently seen in uncontrolled diabetes in pregnancy was to be monitored every month whereas 38.9% (14 of 36) thought they need not be followed up monthly.

Discussion

Visual impairment as a result of DR has a significant impact on patients' quality of life[4], and can compromise their ability to manage successfully their disease, which can in turn have a negative impact on the incidence of other diabetic complications. There were 31.7 million diabetics in India in year 2000 with a projection to reach 79.4 million by year 2030. Developing strategies for screening of population for early detection of DR is engaging attention of several groups in India.[5] The present review outlines the magnitude of the problem in our country the strategies necessary to manage the potentially blinding complications of DM at the level of doctors of various specialities.

The retinal changes in patients with diabetes result from five fundamental processes like the formation of retinal capillary micro aneurysms, the development of excessive vascular permeability, vascular occlusion, the proliferation of new blood vessels and accompanying fibrous tissue on the surface of the retina and optic disk, and the contraction of these fibrovascular proliferations and the vitreous haemorrhage.[6]

Studies have shown an increase in the prevalence of DR in older age groups with long-standing disease. Few studies have shown as many as 100% of type I diabetic patients have been observed to develop some degree of retinopathy after 20–30 years[7,8], peaking at about 10–15 years after diagnosis.

Hyperglycaemia induces leucocyte-endothelial interaction very early in the diabetes, as a result, endothelial dysfunction and subsequent apoptosis occur and endothelial division and proliferation, becomes exhausted with time, leading to the appearance of acellular capillary tubes, the pathological hallmark of disease. These tubes do not support blood flow and retinal ischaemia supervenes. There is pre-capillary arteriolar thrombosis due to the loss of the anti-thrombogenic endothelial lining.[9]

Diabetic retinopathy is a common and specific microvascular complication of diabetes, and remains the leading cause of preventable blindness in working-aged people. It is identified in a third of people with diabetes and associated with increased risk of life-threatening systemic vascular complications, including stroke, coronary heart disease, and heart failure. Optimum control of blood glucose, blood pressure, and possibly blood lipids remains the foundation for reduction of risk of retinopathy development and progression. Timely laser therapy is effective for preservation of sight in proliferative retinopathy and macular oedema, but its ability to reverse visual loss is poor.[10] If there is edema in the macula or the central fovea, where it threatens central vision, one must first identify the leaking microvascular lesions by injecting sodium fluorescein angiography intravenously and photographing retinal vessels by fundus camera.

Treatment consists primarily of fine laser cauterization, targeting the specific microvessels that are leaking, which may be few and focal if discovered in the early stages.
In a multicenter study[11], such laser treatment reduced oedema and, in 50% of cases, prevented significant loss of central vision.

The Need for Retinopathy Screening

Even though laser and surgical treatment can reduce severe vision loss by up to 94%, diabetic retinopathy remains the leading cause of blindness in the developed world.[12] It is the major cause of new blindness, the leading cause of blindness among working-age people (ages 25 to 74), and a major cause of prolonged disability.[13] The American Diabetes Association, the American Academy of Ophthalmology and the Centers for

Disease Control and Prevention recommend that all people with diabetes undergo a retinal examination with dilated pupils once a year to detect the first onset of retinopathy, and more frequently once lesions are detected. [13]

In communities in which intensive retinopathy screening programs have been implemented, rates of vision loss have decreased.[14,15] The problem of diabetic retinopathy calls for programs to promote physician communication, public awareness and education, and patient awareness.

Conclusion

Only by teamwork among health care professionals can blindness from diabetic retinopathy be significantly reduced. We suggest that the primary care physician in patients with diabetes should optimize glycemic control, aggressively manage other risk factors for retinopathy, e.g. hypertension, hyperlipidemia, anaemia, obstructive sleep apnea, and smoking. Make sure all patients with diabetes receive an annual retinal examination with pupil dilation or retinal photography and if the HbA1c levels are high or there is presence of moderate NPDR or more an examination every 6 months. To improve patient compliance, physicians and general practitioners need to educate their diabetic patients about the importance of getting an annual eye examination their possible complications and methods available to treat the conditions.

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