

Case Report

Magnitude and Determinants of Diabetic Retinopathy Among Diabetic Patients Attending Biet-Mekae Community Hospital

Aldiouma Guindo^{1*}, Yeya dit Sadio Sarro¹

^{1,2}Department of Medicine, Centre de Recherche et de Lutte contre la Drépanocytose (CRLD), 03 BP 186 Bamako, Mali

*Correspondence: Aldiouma Guindo, Department of Medicine, Centre de Recherche et de Lutte contre la Drépanocytose (CRLD), 03 BP 186 Bamako, Mali, E-mail: guindoal@hotmail.com, DOI: 10.1042/TDOM.3.1.0005

Abstract

Diabetic retinopathy is a progressive microvascular complication of diabetes mellitus and remains a leading cause of visual impairment and blindness among adults worldwide. It develops as a result of chronic hyperglycemia, which causes damage to retinal blood vessels, leading to increased vascular permeability, ischemia, and, in advanced stages, neovascularization.

Keyword: iabetes mellitus, Diabetic retinopathy, Proliferative DR, Non-proliferative DR, HgbA1c

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Introduction

The rising global burden of diabetes has led to an increase in the number of individuals at risk of diabetic retinopathy, particularly in low- and middle-income countries where routine screening services may be limited. Early detection is essential, as the condition is often asymptomatic in its initial stages.

Identifying the prevalence and associated risk factors of diabetic retinopathy is crucial for designing effective screening and preventive strategies.

Methods

A hospital-based cross-sectional study was conducted among diabetic patients attending a community hospital. Data were collected using structured interviews, clinical examinations, and relevant laboratory investigations.

Information regarding demographic characteristics, duration of diabetes, treatment history, blood pressure status, lipid levels, and glycemic control was obtained. Ophthalmologic examination was performed to diagnose and classify diabetic retinopathy.

Statistical analysis was carried out to determine the prevalence of diabetic retinopathy and to identify factors independently associated with its development using regression models.

Results

The study found that a considerable proportion of diabetic patients were affected by diabetic retinopathy. The condition was more frequently observed among patients with long-standing diabetes and those with poor glycemic control.

Additional factors associated with increased risk included hypertension, dyslipidemia, older age, and low levels of physical activity. Patients with uncontrolled blood glucose levels showed a significantly higher likelihood of developing retinal complications compared to those with stable glycemic control.

Discussion

The findings indicate that diabetic retinopathy remains a significant public health concern among individuals with diabetes. The strong association between disease duration and retinopathy highlights the cumulative effect of prolonged hyperglycemia on retinal microvasculature.

Poor glycemic control emerged as a key modifiable risk factor, reinforcing the importance of maintaining optimal blood glucose levels to prevent complications. The role of hypertension and lipid abnormalities further suggests that diabetic retinopathy is influenced by multiple interrelated metabolic factors.

Lifestyle factors such as physical inactivity also contribute to disease progression, emphasizing the need for comprehensive management strategies.

Conclusion

Diabetic retinopathy is a common complication among diabetic patients and is strongly linked to both modifiable and non-modifiable risk factors. Early screening, strict glycemic control, blood pressure management, lipid regulation, and lifestyle modification are essential to reduce the risk of vision loss.

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