Diabetic Retinopathy: A Leading cause of vision loss in diabetics.

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Introduction

Diabetic retinopathy is a serious eye condition that affects people living with diabetes. It is one of the leading causes of blindness in adults worldwide and is a growing public health concern as diabetes becomes increasingly prevalent. Despite its potential to cause irreversible vision loss, diabetic retinopathy is both preventable and manageable with early detection, proper treatment, and tight control of blood sugar levels [1]. Diabetic retinopathy is a complication of diabetes that damages the small blood vessels in the retina—the light-sensitive tissue at the back of the eye. High blood sugar levels can weaken and damage these vessels over time, leading to leakage, bleeding, and impaired blood flow. As the disease progresses, it can result in the growth of abnormal blood vessels, retinal detachment, and eventually blindness if left untreated [2, 3].

Small bulges (micro aneurysms) form in the retina's blood vessels. This is the earliest stage and may not cause symptoms. As the disease progresses, some blood vessels become blocked, affecting retinal nourishment. More blood vessels are blocked, leading to areas of the retina being deprived of oxygen (ischemia).The most advanced stage, where abnormal new blood vessels begin to grow on the retina and optic nerve. These fragile vessels can bleed into the vitreous, cause scar tissue, and lead to retinal detachment [4, 5].

Diabetic retinopathy (DR) is a microvascular complication of diabetes mellitus and the leading cause of preventable blindness in working-age adults worldwide. It results from chronic hyperglycaemia, which damages the small blood vessels of the retina, the light-sensitive tissue at the back of the eye that is essential for vision. Despite its serious implications, diabetic retinopathy is often underdiagnosed in its early stages—when timely intervention can preserve sight [6, 7].

DME is a common complication of diabetic retinopathy and can occur at any stage. It happens when fluid leaks into the macula—the part of the retina responsible for sharp central vision—causing swelling and vision distortion. DME is a leading cause of vision loss in people with diabetic retinopathy [8].

Although diabetic retinopathy cannot always be cured, its progression can be slowed or halted with effective treatment ,Seals leaking vessels and prevents abnormal growth. Anti-VEGF drugs like aflibercept, bevacizumab, or ranibizumab reduce swelling and vessel growth. Help reduce inflammation in cases of macular edema. A surgical procedure to remove blood and scar tissue from the vitreous in advanced cases [9].

Keep blood glucose, blood pressure, and cholesterol levels within recommended ranges. Adopt a healthy diet and regular exercise routine. Quit smoking. Schedule comprehensive dilated eye exams at least once a year. Monitor for any changes in vision and report them promptly [10].

Conclusion

Diabetic retinopathy is a preventable and manageable complication of diabetes that can have severe consequences if ignored. With the right combination of regular eye care, good diabetes management, and timely treatment, many people can maintain their vision and lead full, active lives. Awareness, early detection, and proactive care are the keys to protecting eyesight in the face of diabetes. Diabetic retinopathy is a major cause of vision impairment, yet it is largely **preventable and treatable**. With the rising global burden of diabetes, awareness and early detection of DR are more important than ever. Through lifestyle modifications, regular screening, and timely intervention, millions of patients can preserve their sight and maintain their quality of life. **Eye health must become a core part of diabetes management.**

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