

Magnitude of diabetes and diabetic eye diseases in India

Increasing incidence of diabetes mellitus poses a major health problem in the world. There are about 50 million people with diabetes in India. This figure is estimated to rise to 87 million by 2030 based on demographic projections, i.e., the growth of the older population where diabetes is more prevalent. Consequences of diabetes include Diabetic Retinopathy (DR) which is a major cause of avoidable blindness worldwide. Various studies conducted in India find that 12-18% of the diabetic population develops DR.

The contributing factors are

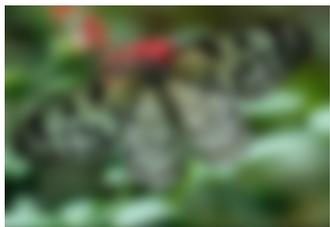
- Heredity
- Inappropriate diet high in fat and carbohydrates
- Sedentary life-styles
- Obesity

Diabetes may affect both the young (type I) and the old (type II). The latter type is far more common.

Regardless of the type of diabetes, many diabetics develop an ocular complication called diabetic retinopathy: a change in the retinal blood vessels that leads to loss of vision.



Normal Vision



Blurred image seen when the eyes are affected

Diabetic Retinopathy: A silent presence

- The most common eye complication in diabetes is diabetic retinopathy; the other complications are cataract and glaucoma.
- Early detection and timely treatment of diabetic eye disease significantly reduces risk of vision loss.
- Diabetic retinopathy produces visual symptoms only when it is very advanced. Since only an ophthalmologist can detect early signs of diabetic retinopathy, all diabetics should have their eyes examined at least once a year.

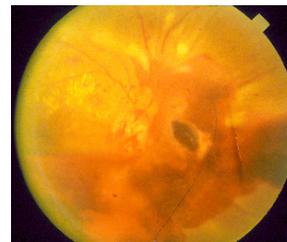
How does diabetes affect the eye?

Diabetes produces weakening of the blood vessels in the body. The tiny delicate retinal blood vessels are particularly susceptible. This deterioration of retinal blood vessels, accompanied by structural changes in the retina is termed diabetic retinopathy which leads to loss of vision.

Initially the disease is symptomless, i.e., patients will have no complaints and they will have perfect vision. But at the same time bleeding or swelling of retina will be taking place. It is treatable only at this stage and this can be identified only on examination by the ophthalmologists. That is why it is important to have the retina examined regularly even if your vision is normal.



Macular Edema
This causes swelling and exudation in the macula



PDR
New blood vessels rupture and bleed into the vitreous

There are two main causes of vision loss in diabetic retinopathy:

Diabetic Macular Edema: Weakened blood vessels leak and accumulate fluid in the retina causing swelling and exudation in the macula of retina resulting in moderate vision loss.

PDR (Proliferative Diabetic Retinopathy): When new abnormal blood vessels grow or proliferate, bleeding into vitreous may occur with sudden severe vision loss.

Eye examination in Diabetic Retinopathy

Every diabetic is at risk for developing diabetic retinopathy. Sometimes this can happen even if the blood sugar is kept under good control. There are no symptoms at the initial stages. Periodic eye examination with dilated pupils is the only way to detect diabetic retinopathy in early stage and prevent further deterioration of vision.

Diagnosis

Diagnostic tools such as a slit lamp, ultra sound sonography and procedures like fluorescein angiography are used in addition to an ophthalmoscope, to assess the level of diabetic retinopathy.

Fluorescein Angiography

This is a magnified photography of the retina using an injectable dye. It helps to stage diabetic retinopathy, record changes in the retinal blood vessels, and to decide on the need and mode of treatment and evaluate the treatment.

Treatment

Lasers are widely used in treating diabetic retinopathy. It is an intense and highly energetic beam of light that can stop or slow down the progression of diabetic retinopathy and improve or stabilise vision.

The laser experience

Laser treatment is usually performed as an out-patient procedure. The patient is given topical anaesthesia to prevent any discomfort and is then positioned before a slit lamp. The ophthalmologist guides the laser beam precisely on the areas to be treated, with the aid of the slit lamp and a special contact lens. Absorption by the diseased tissue either reduces the retinal thickening or stops bleeding. Additional treatment may be required depending on the patient's condition.

Side Effects: Some patients may experience side effects after laser treatment. These are usually temporary. Possible side effects include watering eyes, mild headache, double vision, glare or blurred vision. In case of sudden pain or vision loss, the ophthalmologist must be contacted immediately.

Vitrectomy

In some patients, there may be bleeding into the vitreous or the vitreous may pull on the retina reducing vision severely. These are signs of advanced stages of Diabetic Retinopathy. In such instances a surgical procedure called vitrectomy (replacing the vitreous by a clear artificial solution) is performed.

REMEMBER

Diabetic retinopathy is often symptomless until the last stage. Once symptoms show up, it is often too late to prevent loss of vision. Hence all diabetics must visit an ophthalmologist once a year to monitor the retina and watch for diabetic retinopathy. Once it is diagnosed, they may need frequent visits to check the progression of the disease with appropriate treatment.


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Diabetes
*can cause damage to the
retina and lead to*
Blindness



*Periodic Checkup
by an ophthalmologist is
the only means to*
Preserve Vision