

Diabetic retinopathy can lead to blindness

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Diabetes is a fairly common disease that interferes with the body's ability to use and store sugar. Diabetes can start in childhood but usually begins later in life. Diabetes is a multi-system disease which affects the eyes and kidneys commonly.

What is diabetic retinopathy?

Diabetes can cause many health problems especially when it is severe and not in control. One of the serious conditions caused by Diabetes is called Diabetic Retinopathy, is one of the foremost causes of blindness. Diabetic Retinopathy is a disease affecting the Retina of the eye. Retina is the delicate, light sensitive lining of the back of the eye.

Diabetic Retinopathy can weaken and cause changes in the small retinal blood vessels. These blood vessels may then begin to leak or swell or develop brush like branches. This deterioration of the retinal blood vessels causes hindrance in the supply of the oxygen and nutrition needed by the retina to remain healthy. Early stages of this condition may cause symptoms like blurred vision. As the disease progresses, one may notice cloudiness of vision, blind spots, floaters or even sudden loss of vision. **But usually Diabetic Retinopathy does not produce visual symptoms strong enough to get noticed.**

Who gets Diabetic Retinopathy?

With the increase in the duration of the diabetes, the risk of developing diabetic retinopathy increases. It is observed that about 80% of the people suffering from diabetes for more than fifteen years do have some damage present in the blood vessels of the retina. Severe and uncontrolled diabetes, fluctuating blood sugar levels, high blood pressure (hypertension), high blood cholesterol and diabetic kidney are all conditions which predispose a diabetic to develop changes in the retina.

Pregnancy and high blood pressure may aggravate Diabetic Retinopathy.

Diabetic Retinopathy occurs at a young age in Juvenile (childhood) diabetics.

What are the stages of diabetic retinopathy?

There are two main stages of Diabetic Retinopathy.

1) **Background Retinopathy.** In this stage, retinal blood vessels start leaking causing the retina to swell. It does not cause major symptoms. In some cases, the leaking fluid collects in the central part of the retina. This condition is called Diabetic Maculopathy. This can lead to difficulty in reading, distortion in vision and other activities involving close concentration.

2) **Proliferative Retinopathy** This is the most serious stage or form of Diabetic Retinopathy. In this condition, new branch like blood vessels start growing on the surface of the retina. These abnormal blood vessels can lead to various complications, which

could further lead to a detached retina or glaucoma. Proliferative Retinopathy affects up to 20% of all diabetics and can lead to very severe loss of sight resulting in blindness.

What is the procedure for detection of Diabetic Retinopathy?

Regular eye check-up for Diabetic Retinopathy is a must for all diabetic patients . Normally an Ophthalmoscope is used for the purpose of examining the inner parts of the eye.

Fundus Fluorescein Angiography or FFA, which is a specialized technique, is also used to get finer details of the retinal blood vessels. In FFA, a fluorescent dye is injected through a vein in the arm. As this dye travels through the bloodstream to reach the retinal blood vessels, photographs are taken in quick succession. These photographs capture the details of the dye leaking from the abnormal blood vessels.

What is the importance of early detection and treatment in Diabetic Retinopathy?

Most of the visual loss from Diabetic Retinopathy can be prevented, provided it is diagnosed early. But once the damage has occurred, the effects are usually irreversible. Early warning symptoms threatening and damaging the eyesight are rare in Diabetic Retinopathy. Thus, it is extremely important for every diabetic patient to undergo regular check up of the eye in order to detect the presence and extent of Diabetic Retinopathy.

What is the treatment for Diabetic Retinopathy?

1) Laser treatment or Laser Photocoagulation is the most common line of action in most sight threatening diabetic problem. It is very important to realize that laser treatment aims to save the existing sight level and not to make it better. Laser is a beam of high intensity light. Laser photocoagulation is used to seal the micro aneurysms that are leaking fluid into the retina in the retina. This is called the Focal or Grid laser photocoagulation and is done in a single sitting. If new blood vessels are growing then more extensive laser treatment has to be carried out which is called Pan Retinal Photocoagulation (PRP). PRP is carried out over two or three sittings spread over a few weeks. In most cases, laser treatment causes the new blood vessels to regress and the swelling to subside. Laser treatment usually takes three to four months to be fully effective.

2) Vitrectomy: Sometimes the new blood vessels bleed into the gel like centre (vitreous) of the eye. This condition called Vitreous haemorrhage can lead to sudden loss of vision. If the vitreous haemorrhage is persistent, then a procedure called Vitrectomy is recommended. This is a microsurgical procedure, which is undertaken to remove the blood and scar tissue from the centre of the eye. A large majority of the patients notice improvement in their eyesight after Vitrectomy.
