

Diabetic Retinopathy

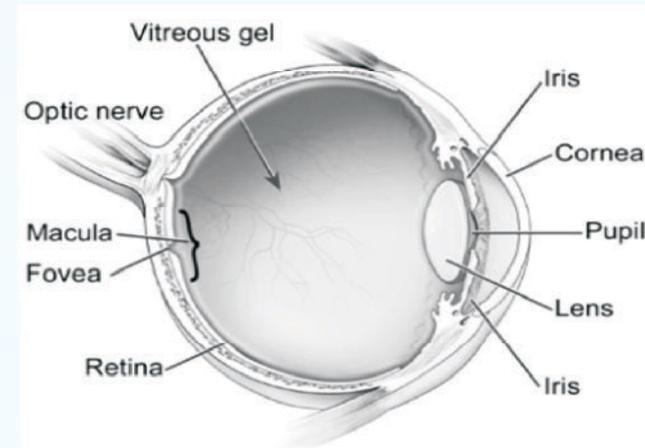
Diabetic Retinopathy is the commonest cause of blindness in the population of working age in the developed nations and is of increasing importance in the developing nations like India, Which has the largest number of diabetic patients in the world.

HOW TO SEE

Light enters the eye through the pupil. The light passes the clear tissue of the lens and the vitreous (the clear gel that fills the eye). The light then strikes the retina, Where special cells send signals to the brain. The brain turns these signals into visual images-What you see.

THE HEALTHY RETINA

A healthy retina includes :
 The macula, the central area of the retina where sharp central vision takes place.
 The fovea, the most sensitive part of the macula.

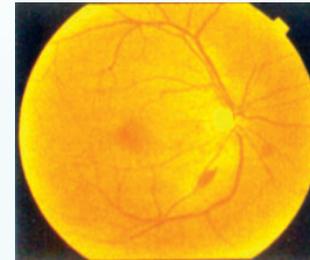


The periphery, Which surrounds the macula, provides peripheral (side) vision-What we see outside our sharp central vision. Capillaries that nourish the retina with blood.

WHAT IS DIABETIC RETINOPATHY?

As a general statement, the prevalence of Diabetic Retinopathy (DR) of any severity in the diabetic population as a whole is approximately 30%. In diabetes, the blood vessels of the retina become leaky and therefore the blood spots are seen on the

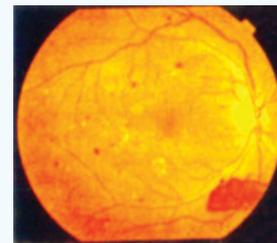
retinal surface. This stage of retinopathy is called **non proliferative stage**. This is the early stage of diabetic retinopathy and needs no treatment.



Non Proliferative Stage

However, adequate control of blood sugar levels and regular evaluation is mandatory. But if it progresses, then laser treatment is needed to prevent further deterioration.

In case the retinopathy progresses even further,



Proliferative Stage

abnormal retinal blood vessels start proliferating on the retinal surface. This is called as **proliferative stage of retinopathy** and needs prompt treatment. The abnormal blood vessels leak fluid and blood, leading to severe bleeding inside the eye, called vitreous hemorrhage. This can The abnormal blood vessels can also pull the retina and cause another serious blinding condition called as retinal detachment.

Therefore it is important to recognize the presense of diabetic reionopathy at the earliest, so that prompt and timely treatment can prevent blindness.

DIABETIC MACULOPATHY

In some patients, the leakage from the retinal capillaries or obstruction of the capillaries affects the central retina called as macula and it leads to swelling of macular area causing reduction of vision.

WHO CAN GET DIABETIC RETINOPATHY ?

- Longer duration of diabetes
- Poor control of blood sugar levels
- Pregnant women



- Patients having hypertension
- Patients with kidney disorder
- Smoking
- Obesity
- Increased cholesterol levels



DIAGNOSTIC PROCEDURE

1. Fluorescein Angiography :

In case the retinopathy is severe, the ophthalmologist may decide to this diagnostic test, in which a dye is injected in the arm vein and retinal photographs are taken at regular intervals. This gives an idea of amount of leakage and the location of the abnormal retinal blood vessels. During the procedure, you may briefly fee! some nausea. After the procedure, your skin, eyes and urine may appear yellow fora few hours.

2. 3D Oct (Optical coherence tomography :)

It is rapid non-invasive latest diagnostic tool used for the accurate diagnosis of retinal disorders that mainly involve the center of the retina called macula. The retina can be scanned at microscopic level and information can by obtained within minutes. Since the machine also has non mydriatic camera facility, it may be possible to even do the retina scans within minutes without even dilation of pupils.

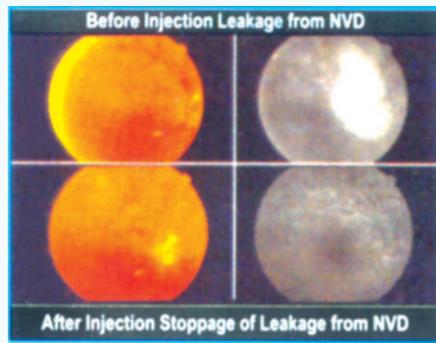
WHAT'S THE NEXT STEP?

Your ophthalmologist will work with you to design a treatment plan that's best for you. You may need more than one type of treatment.

- ❖ **Laser photocoagulation** : To control the leaking capillaries and prevent the growth of new capillaries.
- ❖ **Anti VEGF injection** : To stop the leakage from the abnormal blood vessels & to reduce swelling in macular area.
- ❖ **Triamcinolone injection** : To reduce the swelling in the macular area.
- ❖ **Vitrectomy** : To remove a cloudy vitreous and scartissue.

LASER PHOTOCOAGULATION

This is an OPD procedure in which a laser beam (commonly 532nm wavelength) is used to stop the growth of abnormal vessels and the leakage from the blood vessels. The aim of the treatment is to prevent further loss of vision and to preserve the existing vision. The laser treatment is not aimed at improving the vision. The laser treatment is often completed in 3 to 5 sessions depending on the severity of the retinopathy.



Bring dark sunglasses to wear on the way home. Arrange for someone to drive you home after the procedure. This treatment doesn't cure diabetic retinopathy. But it may slow or halt the progress of the disease. Regular follow-up is a must.

ANTI VEGF TREATMENT

This is a new modality of treatment. In patients who fail to show adequate response in spite of the laser treatment or those patients who already have very severe retinopathy, an injection of the Anti VEGF drug is given inside the eye, to arrest the growth of the abnormal blood vessels. The procedure is done in the operating room and an eye pad is given for 3-4 hours. You will be required to stay in the hospital for at least half an hour after the injection. In macular edema 3 injections are required monthly apart.

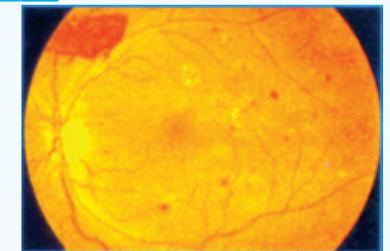
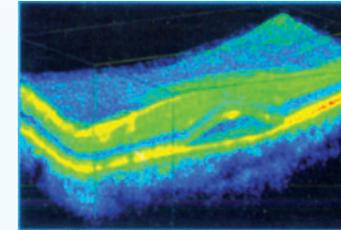
Preparing for Vitrectomy :

Before your surgery, tell your doctor about medications, herbal remedies, or supplements you use. These may include aspirin, ibuprofen, blood thinners, etc.

VITREO RETINAL SURGERY :

In patients with non-resolving vitreous hemorrhage or retinal detachment a complex surgery is performed. In this surgery the blood or debris is removed and an attempt is made to re-attach the retina. The laser is then performed. If needed, the surgeon can choose to put silicone oil or gas inside the eye, to provide tamponade to the retinal surface. The surgery may last for several hours. Some patients need another operation, if the retina does not get attached with the first surgery. Now Microincision vitrectomy surgery (stitchless surgery) is available. Patient has to maintain a particular position after operation as advised.

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