Since the dye is injected, history of any allergy in the past is important. Though it is extremely rare, some patients while undergoing angiogram may have nausea or vomiting or some kind of pain in the hand, but these are very simple side effects without any long-term adverse effects. The serious reactions like death or anaphylaxis are extremely rare. Patient would have yellow colored discoloration of urine for about a day or so because the dye is excreted by kidney in the urine.

# OPTICAL COHERENCE TOMOGRAPHY (OCT)

OCT is a new diagnostic tool that can perform tomography (evaluate retinal layers) or cross sectional imaging of retina. Retina is easily accessible to the external light hence OCT is especially suited for retinal disorder. This is the first imaging technique that provides information regarding the retinal layers. Tomography allows measurement of structures with resolution of 10 micron. It is a non invasive technique.

OCT is most commonly used to diagnose macular disorders like Age related macular degeneration, Macular edema, Macular hole, Central serous retinopathy, Proliferative diabetic retinopathy, Macular pucker, Vitreo retinal traction, Optic nerve changes in glaucoma. Serial OCT can help in evaluating the response to treatment.

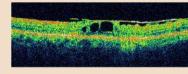


(TOPCON FUNDUS CAMERA TRC 50 DXIA)

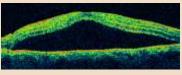


(ZEISS STRATUS OCT)

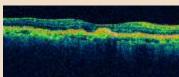
### **OCT TEST SHOWS**



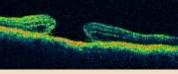
**Macular Pucker** 



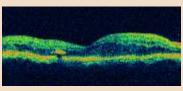
Central Serous Retinopathy



Age related Macular degeneration



**Macular Hole** 



Cystoid Macular Edema

## Eye & Retina Centre & Rajvi Nursing Home ISO 9001 : 2000 Certified

## **Dr. Vatsal S. Parikh** M.S., D.O.M.S., F.C.P.S. FELLOW SANKARA NETHRALAYA, (CHENNAI)

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Timing: Mon. to Fri. 3.30 to 8.30 p.m. Sat. 9 a.m. to 1 p.m.

Donate Eyes, Restore Sight



## FUNDUS FLUORESCEIN ANGIOGRAPHY AND OCT





Specialist in Diseases of Vitreous & Retina Lasers & Ultra Sonography & Microsurgery of Eye Seeing is believing. This applies to investigations like fluoresceine angiography, as it allows us to see details of retina which is not visible with naked eyes. This procedure requires high quality of camera with excellent computerized digital system and fluoresceine dye. We at **Drushti Eye and Retina Centre** are fortunate to have one like it.

**Fundus-** Retina or the back part of the eye. Fluorescense is a property of substance to alter the wavelength of the reflected light on exciting. Angiography means recording of the angios or the blood vessels. It is basically recording and visualization of the blood vessels of the retina using fluorescein dye.

#### **Procedure:**

In FFA, the chemical dye is injected in the vein of the hand and this dye circulates all over the body and in every blood vessel. Since retina is the only place in the body where blood vessels can be seen, it is used to visualize the retinal vasculature that is blood vessels of the retina. A special machine called the fundus camera, which has got special lens filters, is used to take photographs of the retina. We can also attach digital camera system or a printer. When blue light falls on retina which has Fluorescein dye the reflected light is of green colour & not blue. This property of dye is used to study the normal or abnormal anatomy of retina. This dye and the reflected light are greenish in color. The fundus camera records this. This dye would go wherever the blood vessels are present in retina and we would get the picture of that.

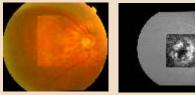
If blood vasculature of the retina is normal, then we would get the normal pattern of the retina. If there were blockage then the dye would not go beyond it and would stop at that particular point. If there is leakage, the dye would also leak out along with

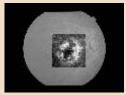
the blood in the retina and we would be able to pick up the leakage. If there are certain other defects in the retina then depending on the various features seen, whether we get leakages or staining or blocked fluorescence or window defects whether the dye seen in early phase, late phase or in very late phase or delayed phase and is initially less and increasing etc, we can get very good idea of patients disease.

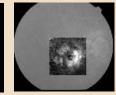
#### **ICG Angiography**

This test is done with indocyanine green dye and special camera. It helps to study the choroidal circulation and is useful for studying patients with wet type of Age related macular degeneration and choroidits patients.

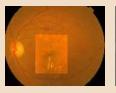
#### AGE RELATED MACULAR DEGENERATION



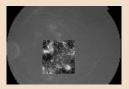




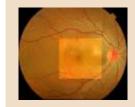
#### **CLINICALLY SIGNIFICANT MACULAR EDEMA**

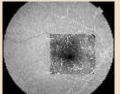


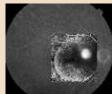




#### **CENTRAL SEROUS RETINOPATHY**

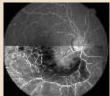


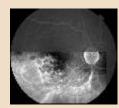




#### **BRANCH RETINAL VEIN OCCLUSION**







FFA is most commonly used in diabetic retinopathy, ARMD, Choroiditis, Chorioretinitis, Central Serous Retinopathy, Branch Retinal Vein Occlusion, Central Retinal Vein Occlusion, Retinal Tumors, Macular Edema, Clinically Significant Macular Edema and Cystoid Macular Edema. Also when we are not sure whether there are new vessels or not or there are certain lesions in retina, which are not easily picked up by the naked eye then FFA helps us to pickup those lesions very easily. It also becomes a permanent record and we can use these photographs to compare the patient's progression, regression and the treatment response. Repeat FFA can be compared to see the changes over a period of time.