PATIENT INFORMATION SERIES

SIMPLY speaking

Special Treatment Procedures

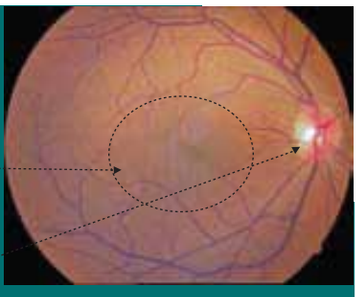
Intra Vitreal Injection for Retinal Diseases

Diseases of the Retina

Many retinal diseases are characterized by abnormalities in the blood vessels of the retina. Among them are: complications of diabetes (diabetic macular edema, proliferative diabetic retinopathy); obstruction to blood flow leading to lack of oxygen (central vein occlusion); leakage of the vessel walls (macular edema in diabetes, central serous choroidopathy); and invasion of abnormal blood vessels into the macula (choroidal neovascularization) in age-related macular degeneration. Previously, only laser treatment (see Retinal Photocoagulation) and surgery could be done for these conditions. In some conditions, nothing could be done effectively. When the lesion affects the macula, laser treatment is difficult if not risky because the destructive effect of laser energy kills all the cells in its path, even those we are trying to preserve.

The Retina and Macula

Within the eye, at the very back, is the **retina** , a thin transparent membrane composed of well-arranged photoreceptor cells and their connections to each other and the optic nerve. In the center of the retina is an area is called the **macula** and in it are more compactly arranged photoreceptors responsible for finer aspects of our vision such as reading, recognizing faces, seeing color, and appreciating details.



Part of the blood supply of the retina can be seen radiating from the center of the **optic nerve**. The other source of nutrients is the vascular layer beneath the retina, called the choroid. Between the choroid and the retina are the Bruch's membrane and the retinal pigment epithelium. Breaks in this membrane can cause unwanted vessels to grow into the retina.

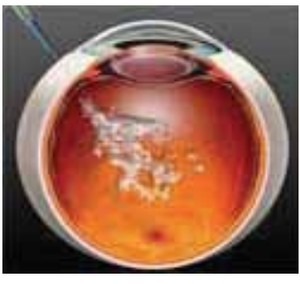
Age-related Macular Degeneration

Age-Related Macular Degeneration (AMD) is one of the leading causes of visual impairment in patients more than 50 years of age. AMD is characterized by progressive destruction and scarring of the macula, the most sensitive part of the retina (see inset). The disease usually affects both eyes but one eye is usually more advanced than the other. Its development is caused by a variety of factors that are poorly understood. Genetic predisposition is a factor. Excessive exposure to sunlight (ultraviolet rays) has been hypothesized to be a causative factor too. What is known is that in 10% of AMD cases, abnormal blood vessels grow into the macula (neovascularization) where they tend to leak and bleed, eventually leading to death of the photoreceptors and scarring. It is in these cases with neovascularization that account for the most severe visual loss among patients with AMD.

What has been established is that neovascularization is stimulated by a chemical produced within the eye called Vascular Endothelial Growth Factor (VEGF, for short). Several years of investigation and research have lead to the release and approval of a drug that counters the effects of VEGF.

Anti-VEGF Drugs

There are drugs that stop the action of the VEGF. These are derived from a drug that prevents the formation of new blood vessels in malignant tumors, Bevacizumab (Avastin). The first one that became commercially available for ocular use was Macugen (Pegaptanib). Lucentis (Ranibizumab) followed next.Very minute amounts of either drug is injected into the eye to stop and kill the abnormal blood vessels and the ensuing problems associated with them. The injection is done using a fine needle after the eye is anesthetized. The medicine is directed in the middle space of the eye between the lens and the retina, a cavity called the vitreous and occupied by a gel with the same name. The procedure is quick but in order to prevent the introduction of bacteria into the eye and subsequent infection, the injection is done in the operating room. Both drugs are costly and proper application is ensured by entrusting it to our Retina Specialists. Usually several doses are needed for maximum effectivity, 4 to 6 weeks apart. While the main indication for Macugen and Lucentis is for the treatment of Age-Related Macular Degeneration with Choroidal Neovascularization (Wet-type AMD), other indications are being introduced including some stages of diabetic retinopathy and retinal vein occlusion.For more information, ask our staff. If you know someone who has been advised this injection, ask our Retina consultants for a second opinion.



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G/F Belson House, 271 EDSA (near Connecticut St.), Mandaluyong City
Call for an appointment: Tel: 7217135 / 7216412
For more information about our facilities: http://www.galileoeyecenter.com

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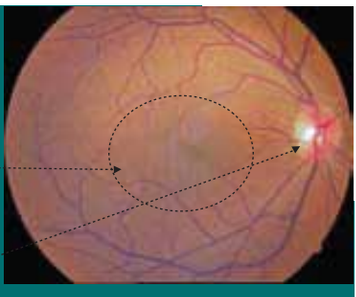

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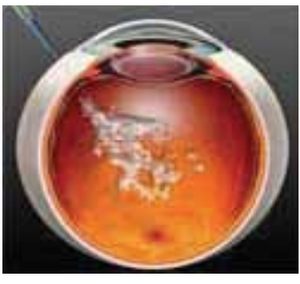

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