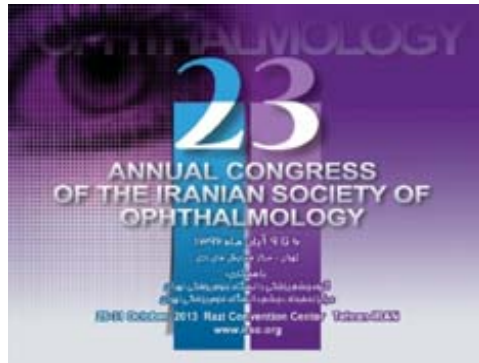


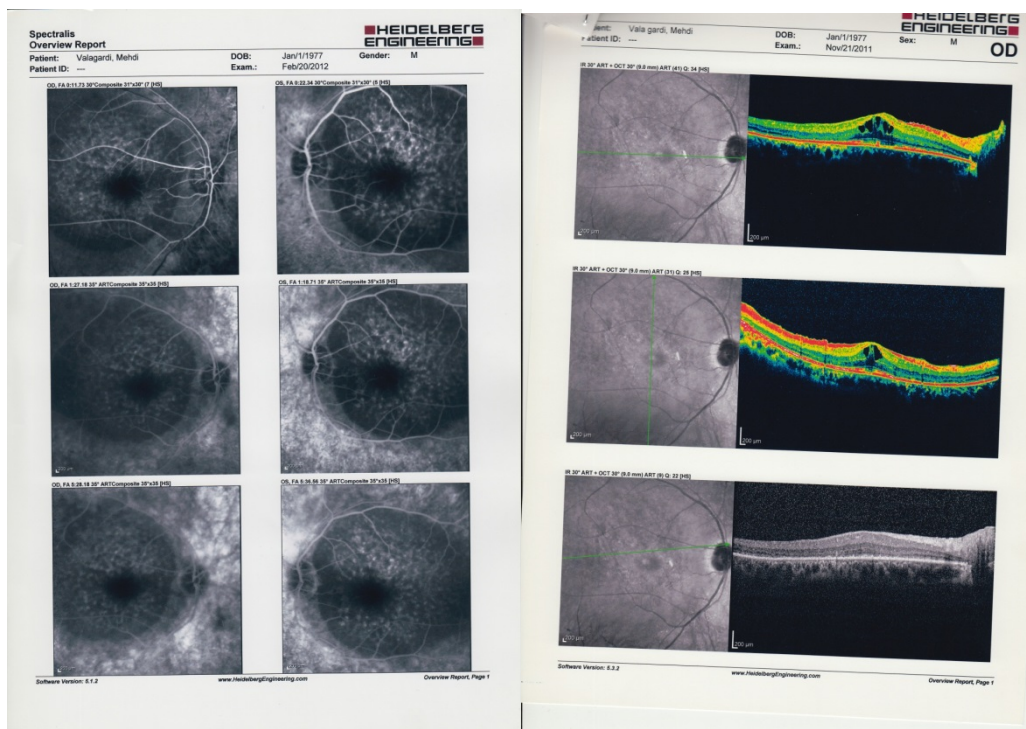


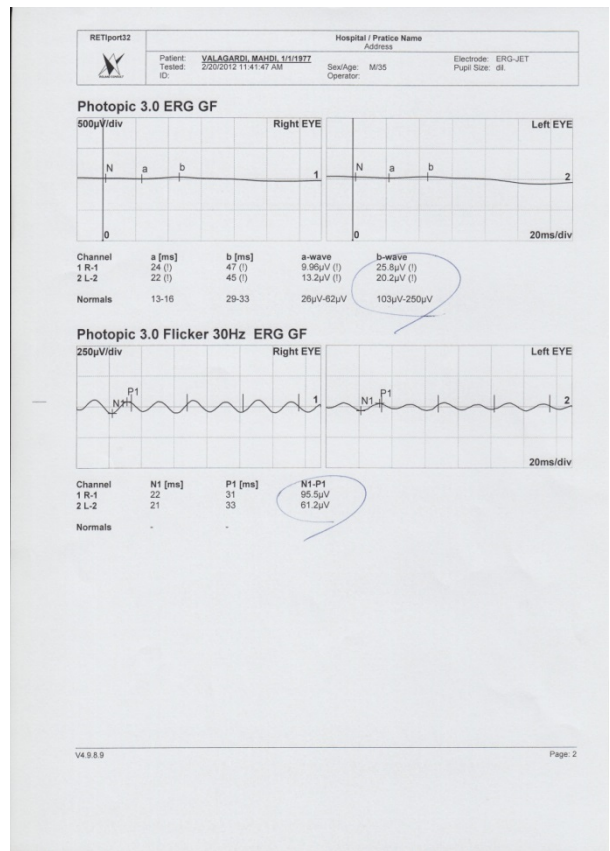
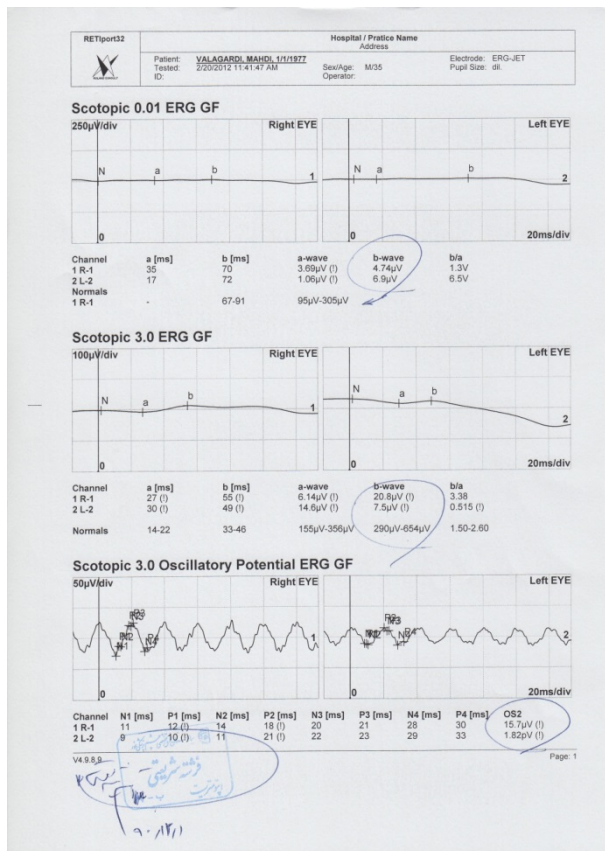
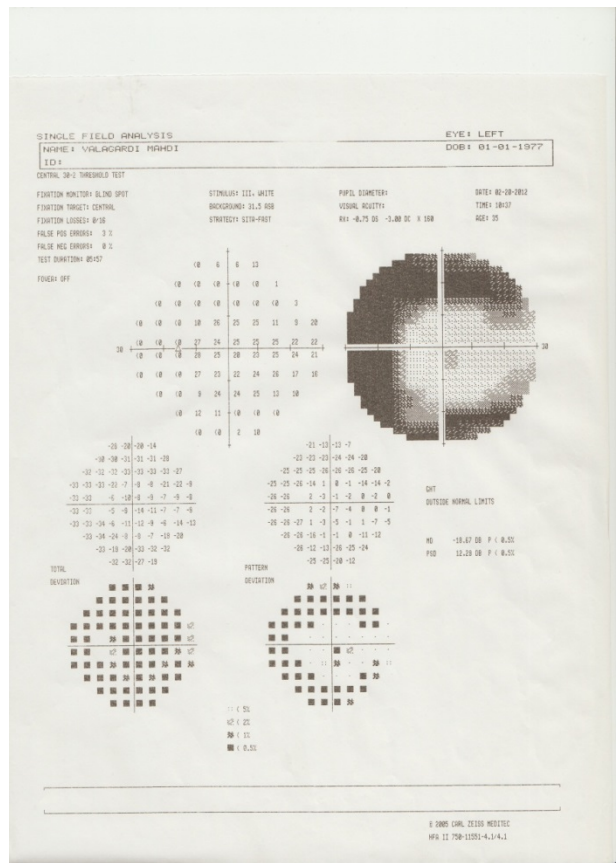
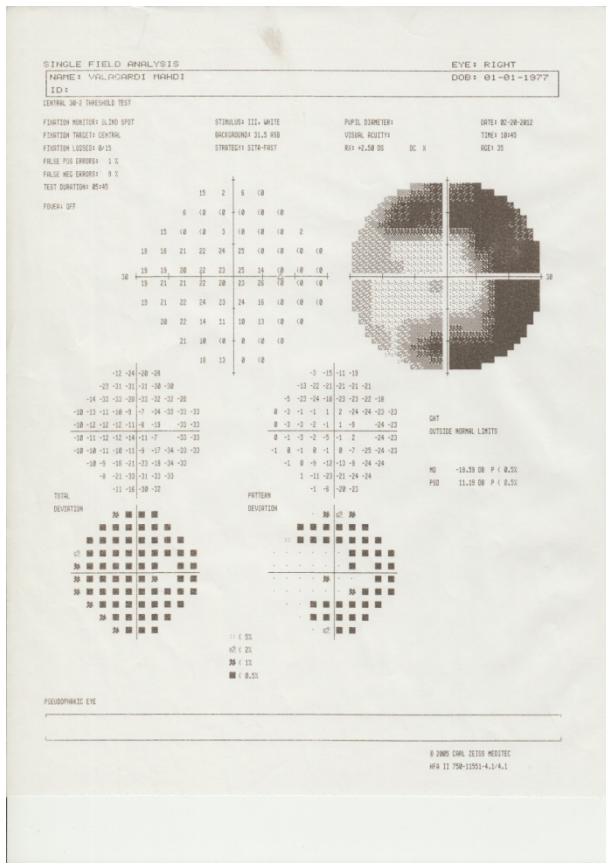
# خبرنامه انجمن فوق تخصصی و ستره ورتین

شهریور ماه ۱۳۹۲ - سال اول - شماره اول



- A 12 year old boy presented with chief complaint of loss of bilateral vision since 6 years ago. His BCVA CF 5m OU
- What is your differential diagnoses?





۱ - aflibercept مورد قبول FDA برای درمان CRVO قرار گرفت . بدنبال دو مطالعه فاز ۳ که در دوازدهمین کنگره یورتینا که در شهر میلان برگزار شد این دارو قبال جهانی پیدا کرد.

September 25, 2012 — Patients with central retinal vein occlusion (CRVO) who received aflibercept achieved significant improvement in visual acuity, compared with those receiving sham treatment in 2 phase 3 clinical trials.

Researchers presented the trial results at the 12th European Society of Retina Specialists (EURETINA) Congress in Milan, Italy.

Last week, on the basis of these 2 trials, the US Food and Drug Administration [approved the drug](#) for use in patients with CRVO.

David M. Brown, MD, from Retina Consultants of Houston and the Methodist Hospital in Texas, presented results from the COPERNICUS trial, which enrolled 187 patients with CRVO.

Frank M. Holz, MD, from the Department of Ophthalmology at the University of Bonn in Germany, and chair of the session, presented results from the GALILEO trial, which enrolled 172 patients with macular edema due to CRVO.

12th EURETINA Congress. Presented September 9, 2012.

۲- در مطالعه ای که در شماره ژانویه مجله افتالمولوژی گزارش گردید محققین گروه CATT گزارش کردند که ژنهایی که تعیین کننده ریسک ابتلا به AMD هستند پیش بینی کننده پاسخ درمانی نیستند.

Four genetic risk alleles strongly associated with the development of neovascular age-related macular degeneration (AMD) cannot be used to predict how patients will respond to drug therapy, according to a new analysis of data from a landmark federal study comparing ranibizumab and bevacizumab.

Researchers from the Comparison of AMD Treatments Trials (CATT) Research Group reported their results in an article [published online](#) January 21 in *Ophthalmology*.

The investigators genotyped 834 (73%) patients in the study, all of whom had neovascular AMD, for 4 known AMD-associated, high-risk single nucleotide polymorphisms (*CFH*, *ARMS2*, *HTRA1*, and *C3*).

"These [genes] most consistently have been shown to have the strongest association with the development and progression of macular degeneration. So we thought they might, at the beginning, be the heavy hitters, so to speak, in terms of the response to therapy based on a

person's genetic background," said lead author Stephanie A. Hagstrom, PhD, a medical geneticist and associate professor of ophthalmology at the Cleveland Clinic in Ohio, in an interview with *Medscape Medical News*.

*Ophthalmology*. Published online January 21, 2013

۳- یک گروه بزرگ چند مرکزی از دانشمندان که بر روی کشف ژن های دخیل در ابتلا به AMD فعالیت می‌کنند اخیراً هفت لوکوس جدید از ژنهایی که در ابتلا به AMD دخیل هستند را کشف کردند که بدین ترتیب ژنهای دخیل در AMD به ۱۹ عدد رسید. این خبر در سوم مارس در مجله *Nature Genetics* گزارش شد.

An international research collaborative has identified 7 new genetic loci associated with an increased risk of developing age-related macular degeneration (AMD), bringing the total number of known AMD-susceptibility loci in the human genome to 19.

The AMD Gene Consortium reports the results in an article [published online](#) March 3 in *Nature Genetics*. Scientists from 18 research groups in 14 countries formed the consortium in the spring of 2010 with the goal of speeding up the search for AMD susceptibility genes.

The report on their first collaborative effort describes a series of interrelated analyses that identified the 7 new AMD-associated loci, confirmed 12 other previously identified loci, and suggested where researchers should look next for genetic clues to AMD.

Lead authors of the study include Gonçalo R. Abecasis, DPhil, University of Michigan, Ann Arbor; Lindsay A. Farrer, PhD, Boston University, Massachusetts; Iris Heid, PhD, University of Regensburg, Germany; and Jonathan L. Haines, PhD, Vanderbilt University, Nashville, Tennessee.

*Nat Genet*. Published online March 3, 2013.

۴- در گزارشی که از گروه AREDS اعلام گردید که مکملهای آنتی اکسیدان و امگا ۳ ریسک ایجاد AMD پیشرفته را کاهش نمی‌دهند. این خبر در ۵ می ۲۰۱۳ در مجله *JAMA* گزارش شد.

SEATTLE, Washington — Antioxidant and omega-3 supplements do not reduce the risk for advanced macular degeneration, according to results from the highly anticipated Age-Related Eye Disease Study (AREDS2).

Although the primary results are disappointing, important clinical messages emerged during its presentation here at the Association for Research in Vision and Ophthalmology 2013 Annual Meeting. The results were [published online](#) May 5 in the *JAMA: The Journal of the American Medical Association* to coincide with their presentation.

The new data point to ways to change the nutritional formulation from the initial AREDS trial to reduce potential risks without sacrificing benefit for people at high risk for advanced age-

related macular degeneration (*Arch Ophthalmol.* [2001;119:1417-1436](#)).

"AREDS resulted in a formulation of vitamin C, beta carotene, zinc, and vitamin E that reduced the risk of progression of advanced disease by 25%" at 5 years, Emily Chew, MD, from the National Eye Institute in Bethesda, Maryland, told *Medscape Medical News*. "We wanted to see if we could tweak it a bit by adding components to it."

*JAMA*. Published online May 5, 2013. [Abstract](#)

۵- در گزارشی از دکتر اشتینرت و دکتر کوپرمن خلاصه ای از مقالات رتین ارایه شده در کنگره ARVO ۲۰۱۳ توضیح داده شد.

## First Up, AREDS2

The biggest news, however, was the AREDS2 trial,<sup>[1]</sup> which looked at the addition of lutein and zeaxanthin to the AREDS formulation, as well as reducing the amount of zinc and removing beta-carotene. There had been some concerns in the original AREDS trial that the dose of zinc was toxic, and that beta-carotene might not be necessary. The original AREDS study<sup>[2]</sup> was a dietary intake survey, and people who ate a lot of fish and had high levels of omega-3 fatty acids in their diets, as well as those who had high intakes of dark leafy green vegetables, which are high in lutein and zeaxanthin, appeared to derive benefit.

## The Word in AMD Therapy: Noninferiority

CATT was followed by a British study, IVAN, the first-year data of which were presented last year.<sup>[3]</sup> Now they have presented their second-year data<sup>[4]</sup> that corroborated the initial findings of CATT, showing that bevacizumab was noninferior to ranibizumab. That is not the same as saying that it is identical to or as good as bevacizumab, and there were parameters that favored ranibizumab over bevacizumab in the original CATT, and similarly in the IVAN trial -- particularly with respect to safety. The safety concerns associated with bevacizumab continued, and were corroborated by IVAN. The efficacy seems to be a little bit less than that of ranibizumab, but not statistically significantly, so it is noninferior.

## Eylea and Fovista: Burning Issues

Aflibercept is now going to be studied in comparison with ranibizumab and bevacizumab in patients with diabetic macular edema. A large network was set up some years ago, called the Diabetic Retinopathy Clinical Research Network, supported by the National Eye Institute. A trial is just under way and beginning to recruit patients, so we won't have data for some time. Eventually, we should have significant data comparing these 3 different anti-VEGF agents for one of the biggest problems that we take care of in retina -- diabetic macular edema. The 2 biggest diseases that we take care of are AMD and diabetic macular edema. The third is retinal vein occlusions, the treatment of which has already shown success with anti-VEGF therapy.

## Imaging Technology Reaches New Heights

There are 2 different directions in imaging. Ursula Schmidt-Erfurth from Medical University Vienna (Vienna is one of the epicenters of development of new imaging technology) conducted a study<sup>[9]</sup> that wasn't quite an advanced imaging technology, but used imaging findings and associated symptoms. For example, vitreomacular traction is something that we have been concerned about. On OCT, when vitreous gel adheres to the retinal surface, it can create a slight traction. The question is whether that promotes progression of disease. We believe that is the case. We know that it is associated with macular hole formation and true vitreomacular traction. A new drug that was just approved and is being launched worldwide -- called ocriplasmin (Jetrea™) -- is an enzyme that can dissolve vitreomacular adhesion in certain cases.

## Whole-Eye and Intraoperative OCT

There is a huge amount of interest in this fascinating imaging technology that is revolutionizing the care of retina in the operating room setting in a very clever fashion. Amazingly, this OCT has been miniaturized to a 22- to 23-gauge probe size that can be placed in the eye, allowing you to visualize features of the vitreous interacting with the retina and details of the retinal surface and epiretinal membrane.

۶- محققین فرانسوی گزارش کردند که میزان ویرولانسی باکتری مهمترین پیش بینی کننده پیش آگهی بینایی در بیماران مبتلا به اندوفتالمیت حاد بعد از جراحی کاتاراکت می باشد.

NEW YORK (Reuters Health) Aug 01 - Bacterial virulence level is the main predictor of visual prognosis in patients who develop acute bacterial endophthalmitis after cataract surgery, researchers from France report.

Although postoperative endophthalmitis occurs in less than 0.1% of cataract procedures, the consequences can include anatomical or functional loss of the eye, the team writes in *JAMA Ophthalmology* online July 25. Identifying baseline prognostic factors may help find patients who need aggressive therapy as early as possible.

*JAMA Ophthalmol* 2013.

۷- در خبری که اخیراً در مجله JAMA گزارش شد اعلام شد که عروق شبکیه حتی در افراد سالم بدون هیچگونه سابقه ای از بیماری های شبکیه در ارتفاعات نشت می کنند.

Retinal vessels may leak at high altitudes, even in healthy adults with no previous history of retinal problems, according to a new [study published](#) in the June 5 issue of *JAMA*.

Gabriel Willmann, MD, from the Center for Ophthalmology, University of Tübingen, Germany, and colleagues used fluorescein angiography with a confocal scanning laser to evaluate 14 unacclimatized volunteers at baseline (341 m), after ascent to 4559 m within 24 hours, and more than 14 days after return. Four ophthalmologists blinded to the timing of the photographs graded them for presence and location of leakage.

The researchers found that none of the volunteers demonstrated retinal abnormalities at

baseline; however, at high altitude, 50% of participants had marked bilateral peripheral retinal vessel leakage. No leakage was noted in the central retina; all changes reversed after descent.

*JAMA*. 2013;309:2210-2212.

۸- مصرف آسپیرین برای حداقل ۱۰ سال می‌تواند منجر به افزایش ریسک ابتلا به AMD شود. این خبر بر اساس مطالعه ایست که در مجله *JAMA* ۱۹ سپتامبر ۲۰۱۲ چاپ گردید.

Using aspirin for at least 10 years was associated with a small but statistical increase in the development of late age-related macular degeneration (AMD), according to results from a new [study published](#) in the December 19 issue of *JAMA*.

Participants (N = 4926) between 43 and 86 years of age were enrolled in the Beaver Dam Eye Study, a longitudinal population-based study of AMD in Wisconsin. The majority of participants were white (99%), and 56% were women. During examinations, which were performed every 5 years during a 20-year period (from 1988-1990 through 2008-2010), participants were asked whether they had routinely used aspirin at least twice weekly for more than 3 months. The mean duration of follow-up was 14.8 years.

The researchers found that neovascular AMD specifically was significantly associated with regular aspirin use 10 years before retinal examination (HR, 2.20; 95% CI, 1.20 - 4.15;  $P = .01$ ) but that there was no association with the incidence of pure geographic atrophy (HR, 0.66; 95% CI, 0.25 - 1.95;  $P = .45$ ).

*JAMA*. 2012;308:2469-2478. [Abstract](#)

۹- نتایج ۲ ساله یک مطالعه کارآزمایی بالینی که تاثیر اواستین و لوستتیس را در بیماران با AMD نوع نیوواسکولار بررسی میکرد نشان داد این داروها بر روی این عارضه اثرات مشابه دارند.

The 2-year results from a randomized controlled trial comparing the efficacy of bevacizumab (*Avastin*, Genentech/Roche) and ranibizumab (*Lucentis*, Genentech/Novartis) in patients with neovascular age-related macular degeneration are definitive, according to the researchers involved.

"In my view the drugs are interchangeable," Usha Chakravarthy, PhD, from the Institute of Clinical Science at the Queen's University of Belfast, United Kingdom, told *Medscape Medical News*. Dr. Chakravarthy is lead author of the Inhibition of VEGF in Age-related choroidal Neovascularization (IVAN) 2-year results, [published online](#) July 19 in the *Lancet*.

"On the question of effectiveness over the 2-year period when the drugs are given every month, there is no doubt in my mind that the 2 drugs have similar efficacy," Dr. Chakravarthy added. "We looked at best corrected acuity, which all other trials have used, and in addition we examined near acuity, reading speed, and contrast sensitivity. Even these more global measures of macular function were no different between drugs."



۱۰ - در گزارشی اثرات کوتاه مدت لوستتیس در درمان بیماری ROP نشان داد که اثرات مفیدی در حفظ بینایی دارد.

#### Abstract

**Purpose** To evaluate ocular outcome in premature infants treated with intravitreal ranibizumab injections for retinopathy of prematurity (ROP) over a period of 3 years.

**Methods** An interventional case series. Premature infants with high-risk prethreshold or threshold ROP with plus disease received an off label monotherapy with intravitreal injections of ranibizumab. The primary outcome was treatment success defined as regression of neovascularisation (NV) and absence of recurrence. The secondary outcomes were ocular and systemic adverse events and visual acuity.

**Results** Six eyes were included in the study and treated with intravitreal injections of ranibizumab. All showed complete resolution of NV after a single injection. The anti-angiogenic intravitreal injections allowed for continued normal vessel growth into the peripheral retina, without any signs of disease recurrence or progression during the follow up period. No ocular or systemic adverse effects were observed.

**Conclusions** Three years of follow up in a small series suggest that intravitreal ranibizumab injections for ROP result in apparently preserved ocular outcome. Further large scale studies are needed to address the long-term safety and efficacy.

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