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The new treatments for Age Related Macular Degeneration: The role of antiangiogenic agents and evolution and their safety in the modern world

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Age related macular degeneration is a common cause of blindness, evident with many clinical distinct signs, such as sub retinal neovascular membrane (SRNM), causing metamorphosis and visual acuity loss; there are several treatment options, to reduce its devastating visual effects. The treatment of SRNM in the past, was solely relied upon laser photocoagulation of the membrane, reducing the risks of visual loss when treated without much delay. On the other hand, if the membrane treated was located in the foveal area, the outcome was bad despite treatment, because most of the times the photoreceptors and other retina cells were damaged in the macular area. Laser used to be applied in the macula, and despite the reason was to halt the process of membrane evolution, the patient lost visual acuity immediately after the foveal laser, but MPS (Macular Photocoagulation Study) studies realised that within a couple of years the contrast sensitivity got better rather if the lesion was not treated. Of course nowadays we do not laser the fovea. Other recent studies that come on the way until today show how the involvement of pharmacology and the numerous labs may contribute to the success of the treatment. Treatmens such as PDT (Photodynamic Therapy) with the use of verteporfin (visudyne), which was used together with the PDT treatment protocol for stimulating the action of the drug through this non thermal laser pathway acted shrinking the size and inhibiting the spreading and growth of the membrane; another option applied was TTT (Transpupillary Thermotherapy), with non thermal laser, played a role towards the treatment of the membrane; last but not least on the list was surgical treatment was attempted, with the use of special cannulas underneath the retina to actually remove the subretinal membranes; macular translocation, withdrawing the membrane area from the macular center, rotating good retina do override the retinal pigment epithelium, but bad results and outcomes contributed to the discontinuation of these procedures. Clinical research on pharmacology and the ARMD pathogenesis came up with the targeted cause of these lesions that is VEGF (vascular endothelial growth factor), responsible for the membrane formation and the process of angiogenesis. Development of pharmacological treatment for the membrane came to the most evolving drugs used in ophthalmology today, ranging from pegaptanib sodium (Macugen), FDA approved, to the off label bevacizumab (Avastin), largely employed. Ranibizumab (Lucentis) is largely also used for the treatment of the disease, and Aflibercept (Eyelid) was approved for several diseases, many drugs also included in protocols for diseases different from ARMD. Corticosteroids were far more developed these days for the treatment of ARMD, to mention triamcinolone acetate, Ozurdex (dexametasone implant), and Illuvien (fluocinolone acetone) these last two mentioned drugs being delivered as intravitreal implant different from the others mentioned, delivered as injections. Other drugs are in the way of development. Several studies concerning the use of intraocular anti-VEGF (anti-vascular endothelial growth factor) drugs proved to show great results and membrane shrinking to the point of complete resolution. Usually many of those studies show that after one year duration treatment, and some protocols advise monthly injections, the treatment could be performed as necessary, with larger intervals between sessions. Other drugs are still under investigation and development, but we already have had good results with the approved worldwide medication for the moment.

Speaker Biography

Hudson Nakamura is a Medical Specialist in Ophthalmology and specialized in Retina and Vitreous. Completed School of Medicine at the Federal University of Goiás – UFG and residency from the Base Hospital of the Federal District - Brasília - DF. Presently member of American Academy of Ophthalmology, Brazilian Council of Ophthalmology, Canadian Society of Ophthalmology and also the member of most prestigious society ARVO - The Association for Research in Vision and Ophthalmology United States. Currently working as a professor in department of Retina and Vitreous Course of Medical Residency in Ophthalmology at the Bank of Goias Eye Foundation. Is also working as Specialist in vitreoretinal disease Fellowship - University of Toronto Canada, Specialist in Ophthalmology - University of Toronto Canada, Specialist in vitreoretinal disease Fellowship - Brazilian Center for Eye Surgery.

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