GEN KÖK
Genom ve Kök Hücre Merkezi
Genome and Stem Cell Center

KURU TİP YBMD'DE

KÖK HÜCRE TEDAVİSİ: OLGU SUNUMU

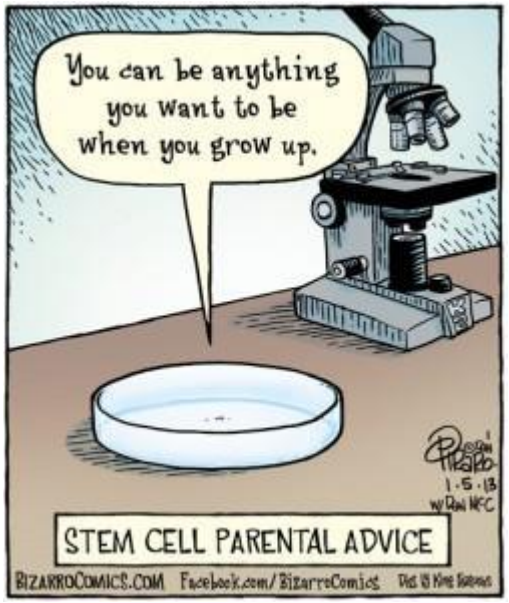
Prof.Dr. Ayşe Öner, FEBO
Erciyes Universitesi Tıp Fakültesi
Göz Hastalıkları AD KAYSERi

ERCİYES ÜNİVERSİTESİ
1978

KÖK HÜCRE NEDİR?

Kök Hücre:

* Hücrenin özelleşmemiş en temel ve saf halidir.
* Vücuttaki pek çok hücre tipine differensiye olabilir.
* Hasarlı hücre ve dokuları onarabilir.



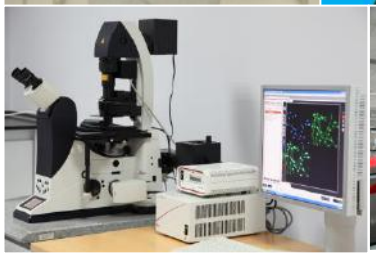
KÖK HÜCRE TEDAVİSİNİN MEKANİZMASI

* (1) Hücre Replasmanı: Sağlıklı kök hücreler dejenere hücrelerin yerini alabilir (Differensiasyon).

* (2) Nutrisyonel Destek: Sağlıklı kök hücreler salgıladıkları faktörlerle etraftaki hücrelerin yaşamlarını desteklerler.

  (bFGF, VEGF, M-CSF, GM-CSF, PlGF, TGF-β, HGF, IGF-1, IL, angiogenin)

EÜTF VE GENKÖK



FAZ II ÇALIŞMAMIZ

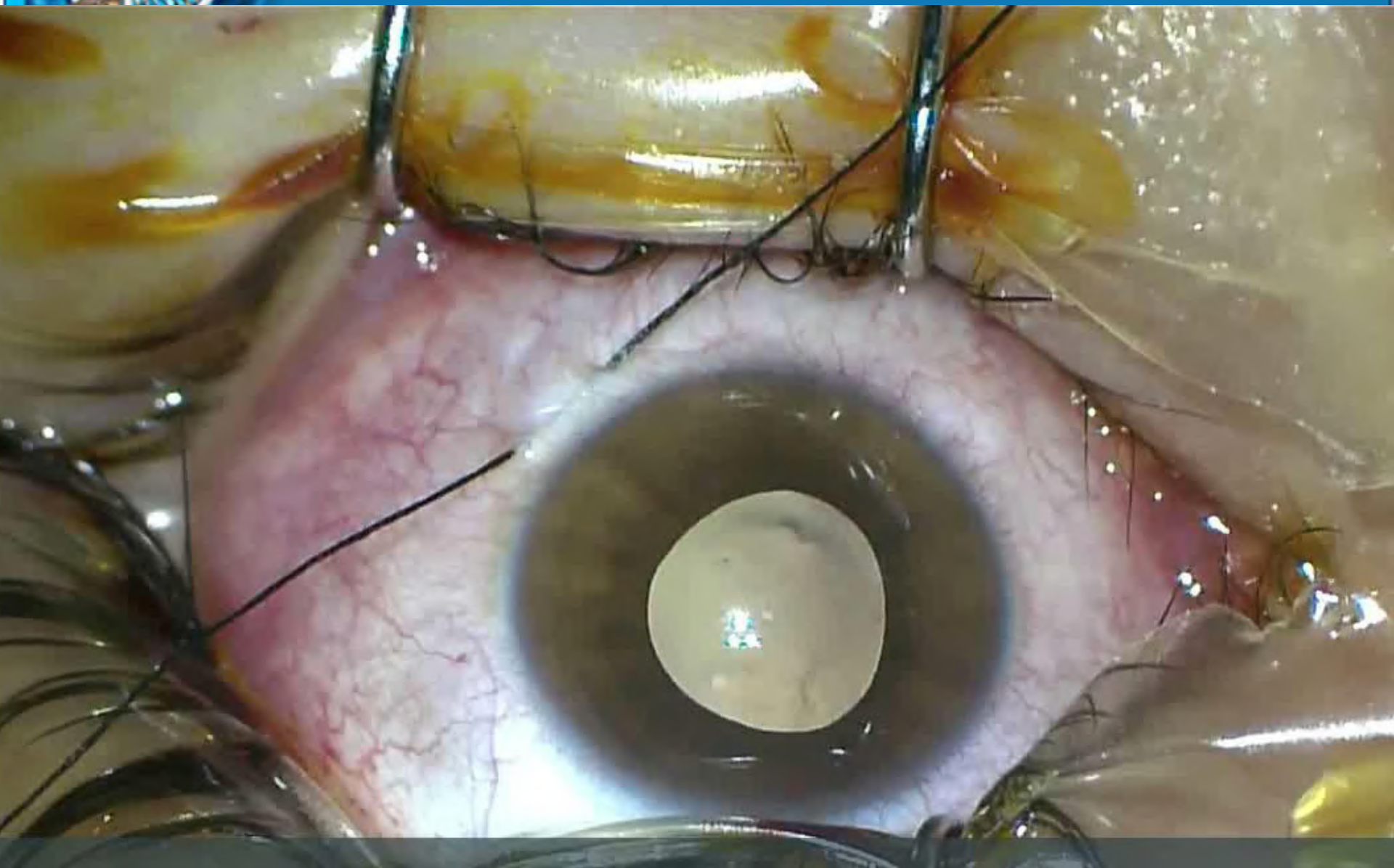
* Çalışma için kurumun etik kurulundan (No:2017/480) ayrıca T.C Sağlık Bakanlığı bünyesinde bulunan Organ Doku ve Diyaliz Hizmetleri Daire Başkanlığı'ndan (No: 56733164/203) onay alınmıştır.

* 20 olgu opere edildi. (4 YBMD OLGUSU)

* Suprakoroidal olarak adipoz dokudan derive edilmiş allojenik mezenkimal KH kullanıldı.

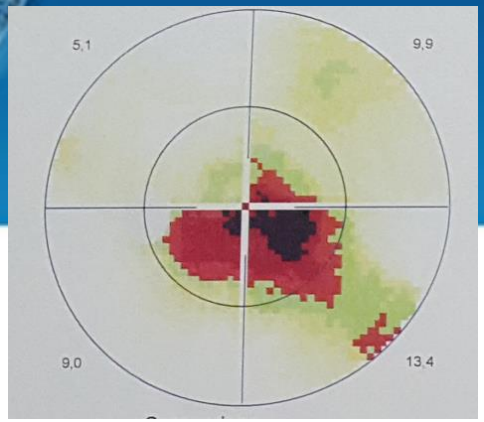
OLGU SUNUMU

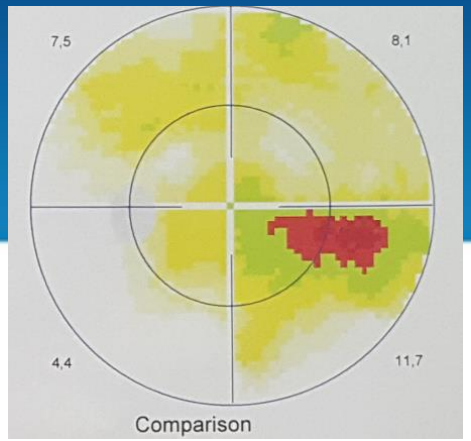
* 65 Y erkek olgu
* Her iki gözde kuru tip YBMD
* Sağ 0.1, sol 1 mps periferden
* Sol göze uygulama planlandı

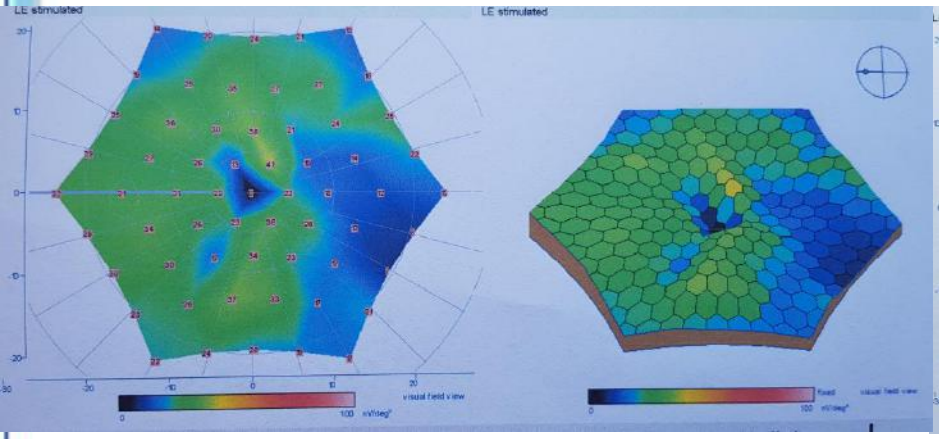


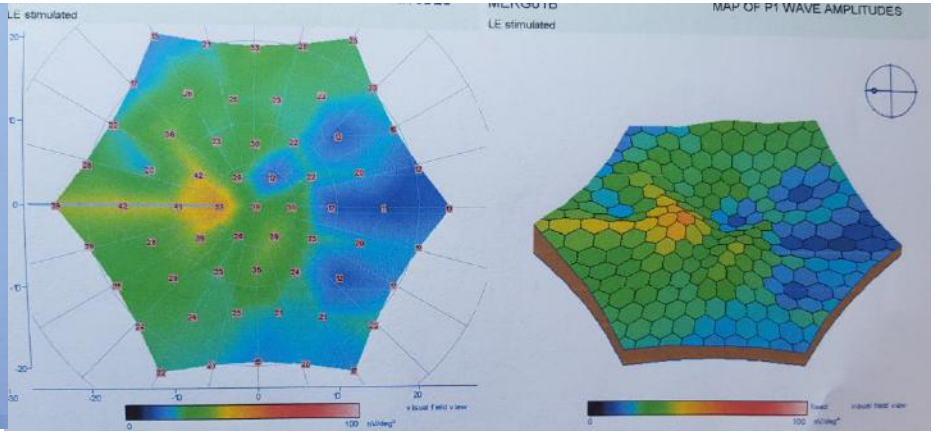
GMP (Good manufacturing practice) (İyi Klinik Uygulamalar)

ADMKH ler uluslar arası standartlarda üretildi

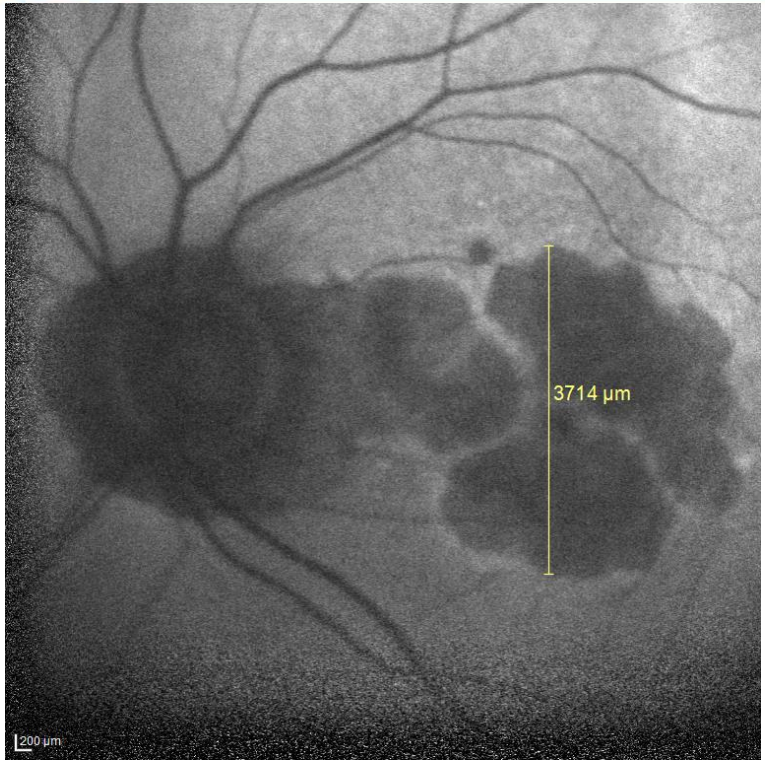


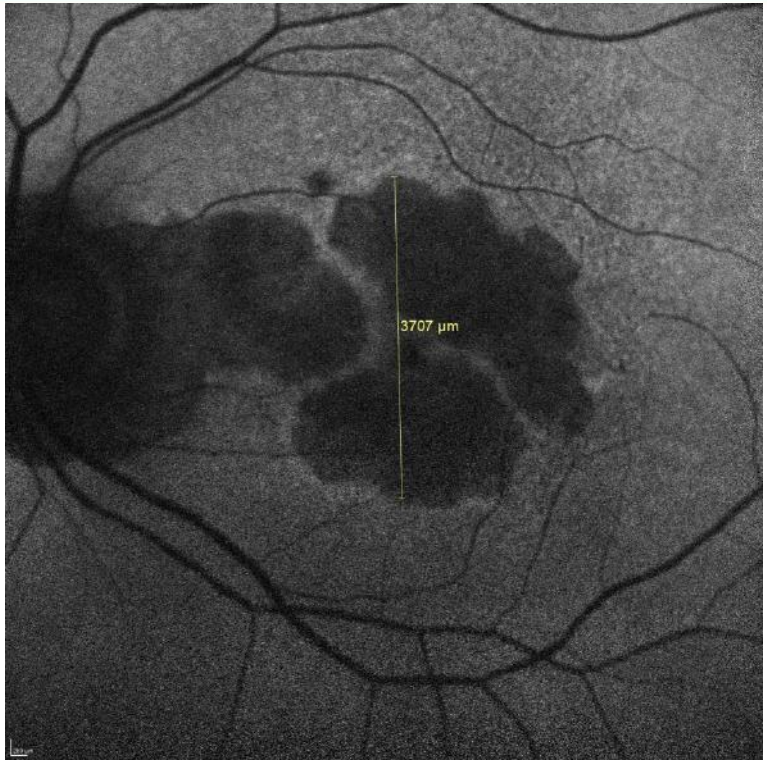


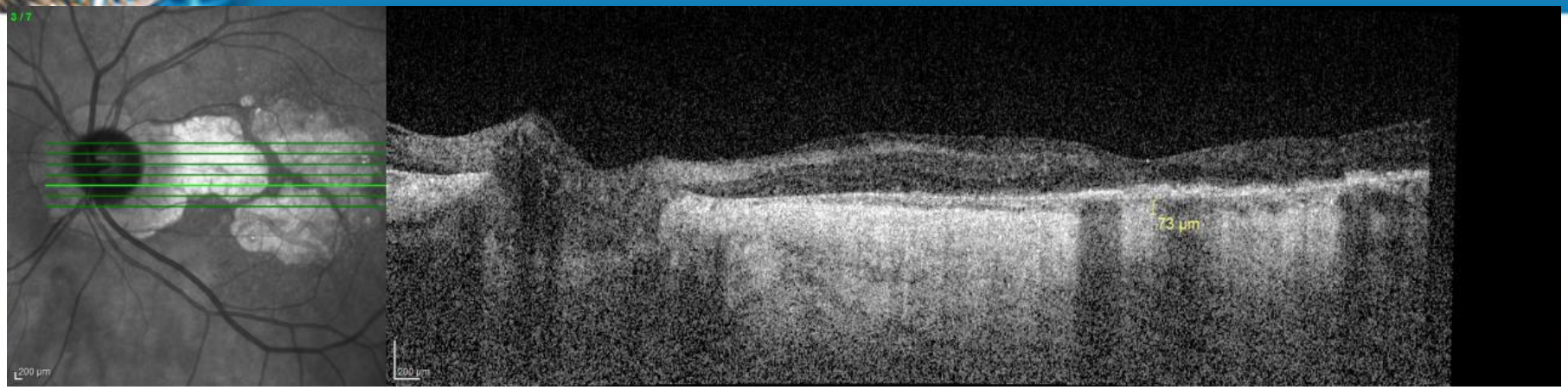


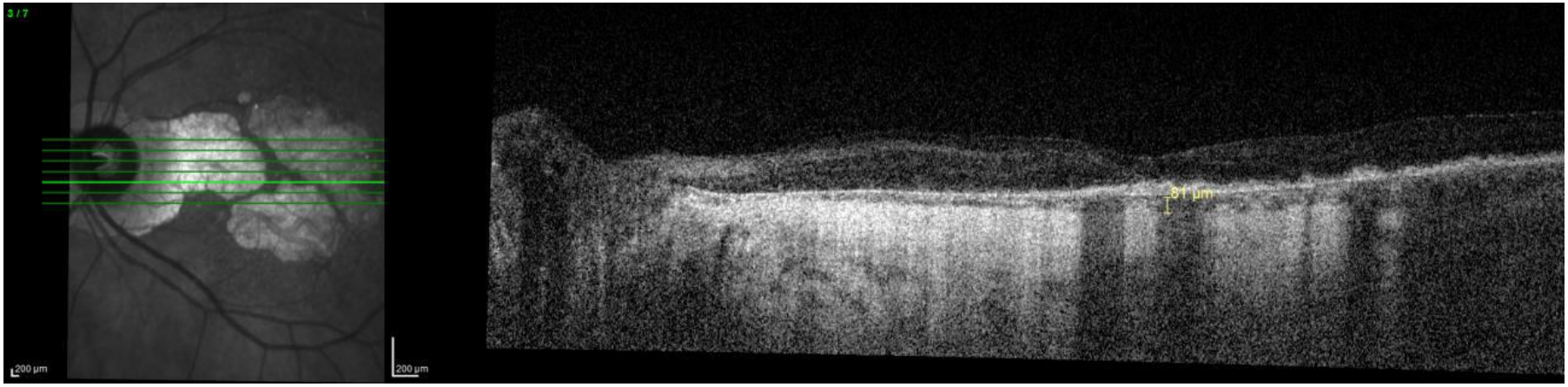


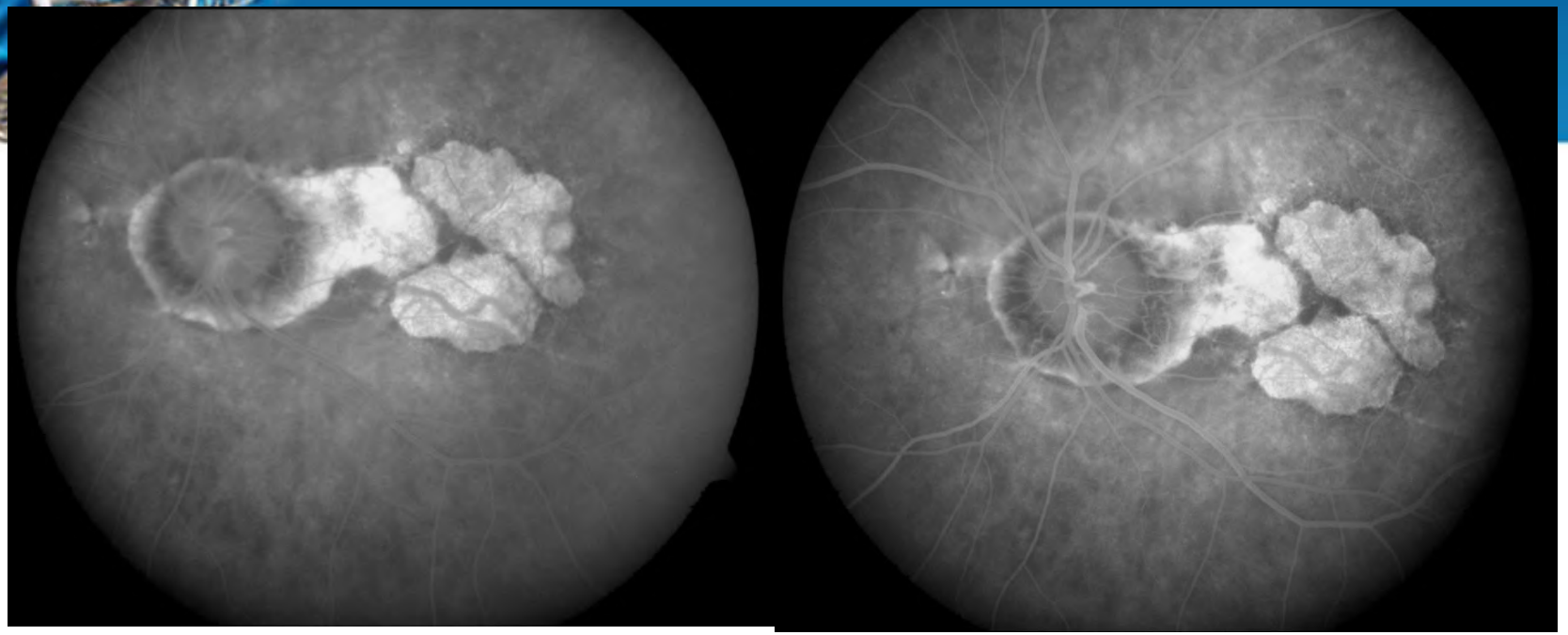
GK: 1 mps den 0.05'e yükseldi

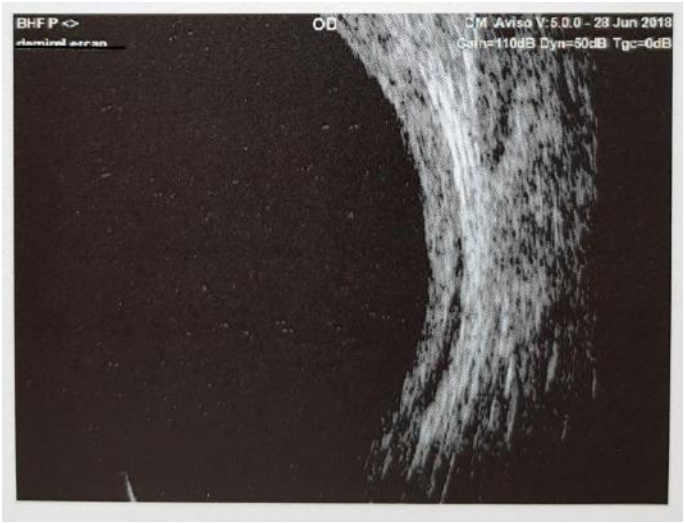

3714 µm
200 µm


3707 µm


3 / 7
200 µm
73 µm
200 µm


3 / 7
200 µm
81 µm
200 µm




BHF P <>
OD
CM Aviso V:5.0.0 - 28 Jun 2018
Gain=110dB Dyn=50dB Tgc=0dB

YBMD'DE KLİNİK ÇALIŞMALAR

EKH ÇALIŞMALARI

* Faz ½: Subretinal EKH
* 9 **Stargardt's MD** ve 9 kuru tip **YBMD** olgusu
* 22 ay takip
* Ciddi yan etki yok
* 13 (72%) olguda subretinal pigmentasyon artışı
* 10 olguda EİDGK artışı
* Görme ile ilgili hayat kalitesinde artış.

* Schwartz SD et al. Human embryonic stem cell-derived retinal pigment epithelium in patients with age-related macular degeneration and Stargardt's macular dystrophy: follow-up of two open-label phase 1/2 studies. Lancet. 2015 Feb 7;385(9967):509-16.

EKH ÇALIŞMALARI

Stem Cell Reports
Article

ISSCR

OPEN ACCESS

Treatment of Macular Degeneration Using Embryonic Stem Cell-Derived Retinal Pigment Epithelium: Preliminary Results in Asian Patients

Won Kyung Song,[1,*] Kyung-Mi Park,[2] Hyun-Ju Kim,[2] Jae Ho Lee,[3] Jinjung Choi,[4] So Young Chong,[5] Sung Han Shim,[6] Lucian V. Del Priore,[7] and Robert Lanza[8,*]
[1]Department of Ophthalmology, CHA Bundang Medical Center, CHA University, Seongnam-si, Gyeonggi-do 463-712, Republic of Korea

4 YBMD, 4 Stargardt MD olgusu, 1 yıllık takip

Ciddi okuler ve sistemik yan etki yok

1 olguda KNVM ve 3 doz Lucentis

Tüm olgularda pigmentasyon artışı

Tüm olgularda GK artışı

www.impactjournals.com/oncotarget/ Oncotarget, Vol. 7, No. 30

Research Paper: Gerotarget (Focus on Aging)

Cell surgery and growth factors in dry age-related macular degeneration: visual prognosis and morphological study

Paolo Giuseppe Limoli[1], Celeste Limoli[1], Enzo Maria Vingolo[2], Sergio Zaccaria Scalinci[3] and Marcella Nebbioso[4]

J Vis Exp. 2018 Feb 12;(132). doi: 10.3791/56469.

Regenerative Therapy by Suprachoroidal Cell Autograft in Dry Age-related Macular Degeneration: Preliminary In Vivo Report.

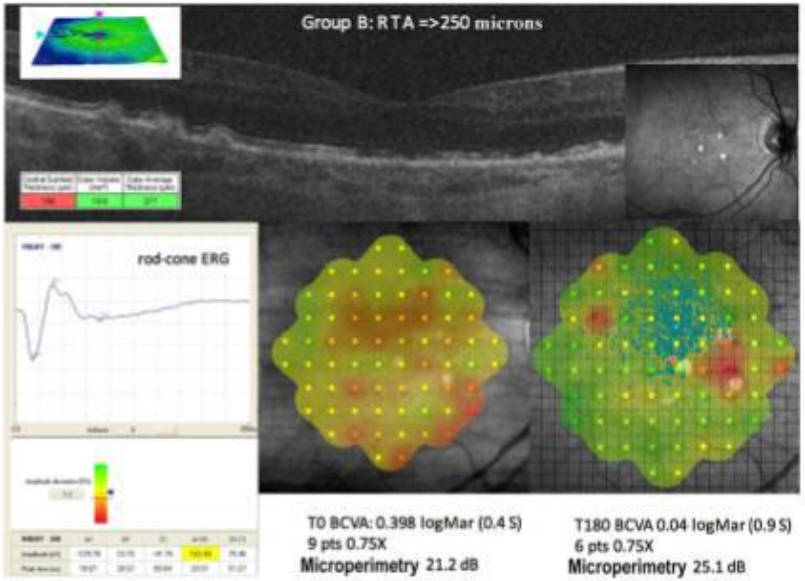
Limoli PG[1], Vingolo EM[2], Limoli C[1], Scalinci SZ[3], Nebbioso M[4].

25 OLGUNUN 36 GÖZÜ
KURU TİP YBMD
SUPRAKOROİDAL ADMKH

Table 3: Patient compliance analysis (PCA) shows that, at 6 months post surgery, 19 of 36 eyes (52.78%) recorded better vision, 14 (38.89%) no change in functional situation, and 3 (8.33%) a worsening.

PCA	Group A	Group B	Total
Number of eyes	14	22	36
Improved (%)	5 (35.71)	14 (63.64)	19 (52.78)
Unchanged (%)	7 (50)	7 (31.82)	14 (38.89)
Worse (%)	2 (14.29)	1 (4.55)	3 (8.33)

Among the 19 eyes of patients who noted an improvement at 6 months post surgery, 5 (26.3%) belong to group A and 14 (73.7%) to group B.



Mikroperimetri örneği

• Clinical Research •

Evaluating role of bone marrow-derived stem cells in dry age-related macular degeneration using multifocal electroretinogram and fundus autofluorescence imaging

Atul Kumar[1], Neha Midha[1], Sujata Mohanty[2], Annu Chohan[1], Tulika Seth[3], Varun Gogia[1], Shikha Gupta[1]

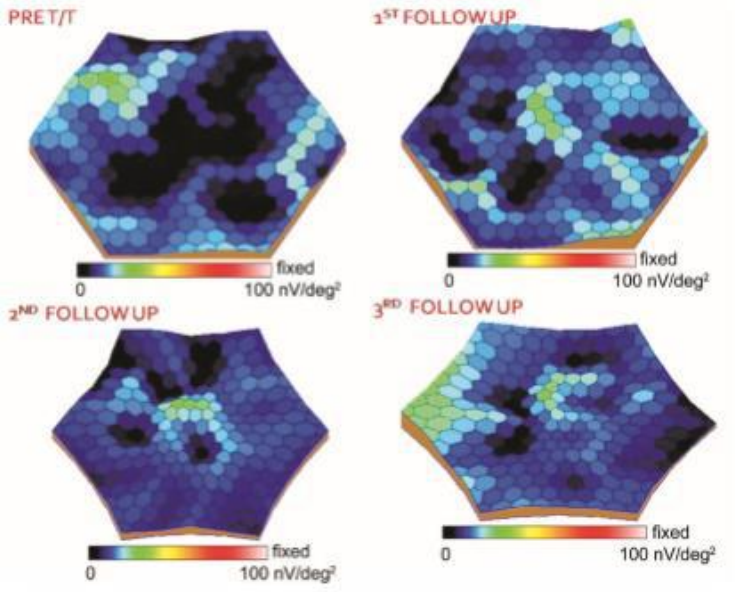
30 hasta, santral GA olan olgular, GK 0.1 den düşük olanlar

Kötü olan göze otolog Kİ- MKH

6 aylık takip, Mf ERG de iyileşme

GA boyutunda küçülme (Diğer gözde büyüme)

GK'de fark yok (Diğer gözde azalma)



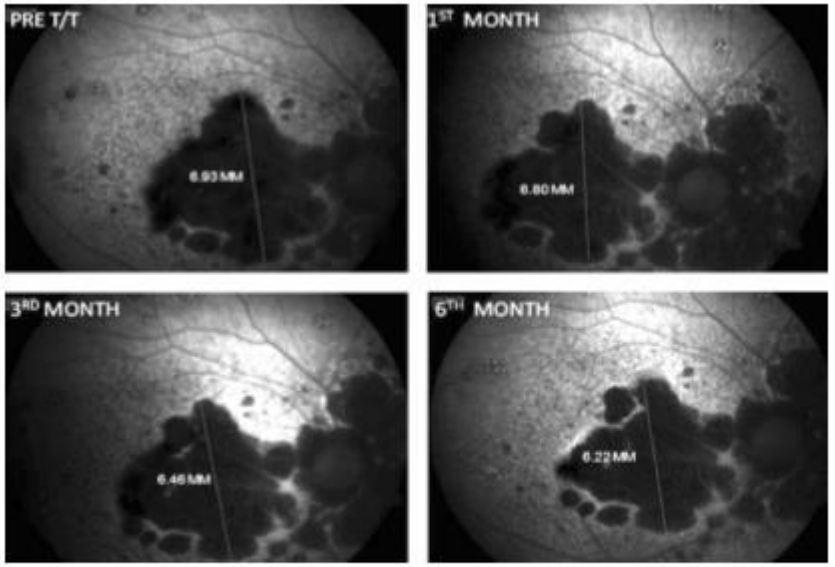


Figure 4 Representative FAF imaging of a patient prior to stem cell injection and on three subsequent follow-ups after the injection.

Mf ERG ve FAF örneği

Clinical Ophthalmology

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Open Access Full Text Article

CLINICAL TRIAL REPORT

Intravitreal use of bone marrow mononuclear fraction containing CD34+ stem cells in patients with atrophic age-related macular degeneration

This article was published in the following Dove Press journal:
Clinical Ophthalmology
19 May 2017
Number of times this article has been viewed

10 ATROFİK YBMD, GK 20/100 DEN DÜŞÜK OLGULAR

OTOLOG Kİ-MKH, İNTRAVİTREAL

GK ' DE ANLAMLI ARTIŞ (20/320 DEN 20/200'E YÜKSELMİŞ)

PERİMETRİDE İYİLEŞME

ATROFİK ALANLARDA KÜÇÜLME

KÖK HÜCRE UYGULAMALARI KURU TİP
MAKULA DEJENERASYONUNDA
FAYDALI OLABİLİR….

Oner A, Gonen ZB, Sevim DG, Sinim N, Unlu M. Suprachoroidal adipose tissue derived mesenchymal stem cell implantation in patients with dry type age-related macular degeneration and Stargardt's macular dystrophy: 6 month follow-up results of a phase 2 study. Cellular Reprogramming (Baskıda)

TEŞEKKÜRLER