

BEIKE BIOTECHNOLOGY

Patient Case Study

Open/Wide Angle Glaucoma

Female, 39 years old, February 2011

Background

Age: 39 years old

Sex: Female

Nationality: South African

Date of Admission: February 10, 2011

Date of Discharge: February 26, 2011

Treatment Center: Qingdao Chengyang Peoples Hospital, Qingdao, China

Diagnosis on Admission: Open/Wide Angle Glaucoma

Condition On Admission

Patient's main complaint was of deteriorating vision for the previous two and a half years. Upon physical examination the patient's pupils were symmetrical and round, and were sensitive to light stimuli. There were no other problems in the motor and sensory systems.

Treatment Schedule

Patient received 6 umbilical cord blood-derived stem cell (UCBSC) packets by intravenous (IV) injection, lumbar puncture (LP), and retrobulbar injection (RI) as per schedule below (please note the retrobulbar injection was given in the left eye):

Packet Number	Date	Cell Type	Delivery Method	Side Effects
1	February 14, 2011	UCBSC	IV	none reported
2	February 16, 2011	UCBSC	IV	none reported
3 and 4	February 21, 2011	UCBSC	LP + IV	none reported
5 and 6	February 23, 2011	UCBSC	RI (left) + IV	none reported

Condition On Discharge

Patient's vital signs were stable during her hospitalization and no problems were noted. After the six stem cell packets had been injected the patient reported she felt improvements bilaterally in her visual acuity and the doctors also observed improvements in visual fields and VEP on the post-treatment eye examinations.

Visual Field Results, recorded pre and post-treatment by the Shandong Eye Institute in Qingdao and by the patient's own ophthalmologist one month post-treatment:

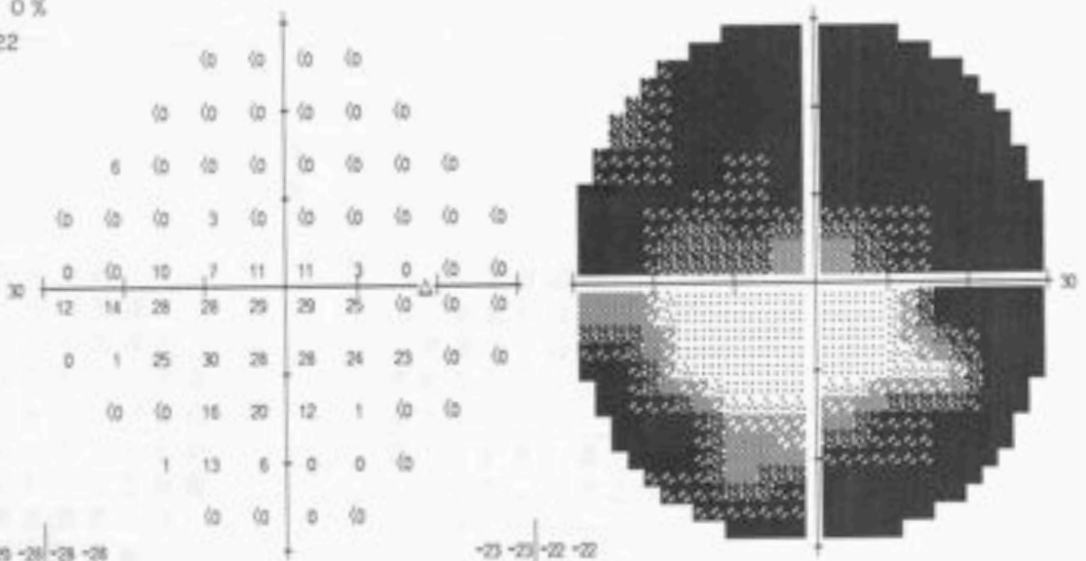
Eye	Value	February 11, 2011 Pre-Treatment Recorded by Shandong Eye Institute	February 25, 2011 End of Treatment Recorded by Shandong Eye Institute	March 22, 2011 1 Month Post-Treatment Recorded by patient's local ophthalmologist
Right Eye	MD (mean deficit)	-24.04 dB	-22.21 dB	-19.97 dB
	PSD (Pattern Standard Deviation)	12.00 dB	13.22 dB	11.78 dB
Left Eye	MD (mean deficit)	-26.50 dB	-24.55 dB	-22.66 dB
	PSD (Pattern Standard Deviation)	10.62 dB	11.44 dB	9.83 dB

*Please continue to the next page for visual field results.
 (note that the low resolution of the scanned tests might make them difficult to read.
 A higher resolution version of this PDF can be provided upon request.)*



Visual Field Results, recorded by the Shandong Eye Institute:
 Pre-Treatment, February 11, 2011, Right Eye

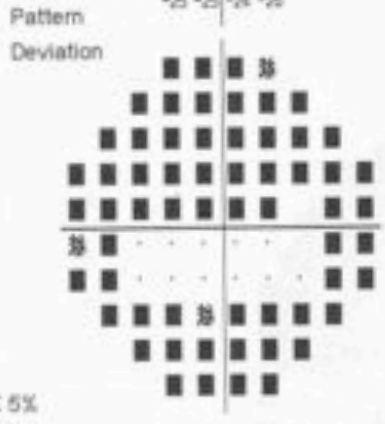
Fixation Monitor: Gaze/Blind Spot Stimulus: III, White Pupil Diameter: 6.1 mm Date: 02-11-2011
 Fixation Target: Central Background: 31.5 ASB Visual Acuity: Time: 1:15 PM
 Fixation Losses: 2/15 Strategy: SITA-Fast RX: +1.00 DS DC X Age: 39
 False POS Errors: 0 %
 False NEG Errors: 0 %
 Test Duration: 07:22
 Fovea: OFF



-29	-28	-28	-28						
-31	-31	-31	-30	-30	-30				
-23	-32	-33	-33	-32	-32	-31			
-30	-32	-34	-30	-35	-34	-34	-33	-32	-32
-29	-33	-23	-27	-23	-22	-30	-33	-32	
-17	-17	-5	-6	-4	-5	-6	-33	-32	
-28	-28	-7	-2	-5	-5	-6	-6	-33	-33
-32	-33	-16	-12	-20	-31	-33	-33		
-29	-18	-25	-31	-31	-33				
-31	-31	-30	-32						

-23	-23	-22	-22						
-25	-25	-25	-25	-24	-24				
-17	-26	-27	-27	-27	-26	-26			
-24	-26	-28	-24	-29	-28	-27	-27	-26	
-23	-27	-17	-21	-17	-18	-24	-27	-27	
-11	-11	1	0	1	1	-3	-27	-27	
-23	-23	-1	3	0	1	-3	-3	-27	-27
-26	-27	-10	-6	-14	-25	-28	-27		
-23	-12	-19	-25	-25	-27				
-25	-25	-24	-26						

GHT
 Outside normal limits
 MD -24.04 dB P < 0.5%
 PSD 12.00 dB P < 0.5%



∴ < 5%
 ∷ < 2%
 ∴ < 1%
 ■ < 0.5%

**Visual Field Results, recorded by the Shandong Eye Institute:
Pre-Treatment, February 11, 2011, Left Eye**

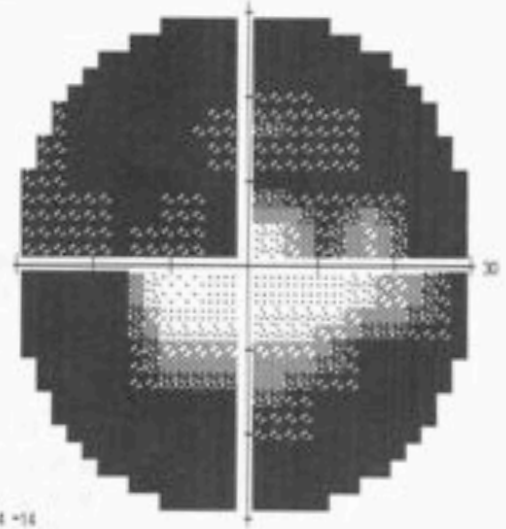
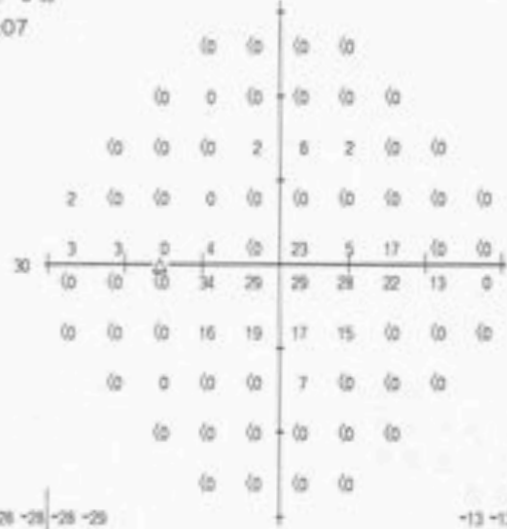
Fixation Monitor: Blind Spot
 Fixation Target: Central
 Fixation Losses: 0/15
 False POS Errors: 1 %
 False NEG Errors: 0 %
 Test Duration: 07:07

Stimulus: III, White
 Background: 31.5 ASB
 Strategy: SITA-Fast

Pupil Diameter:
 Visual Acuity:
 RX: +1.00 DS DC X

Date: 02-11-2011
 Time: 1:24 PM
 Age: 39

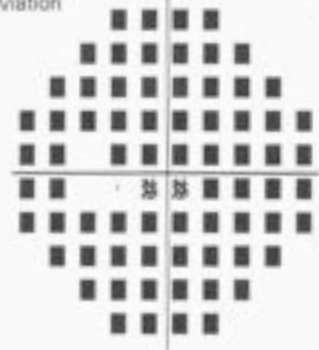
Fovea: OFF



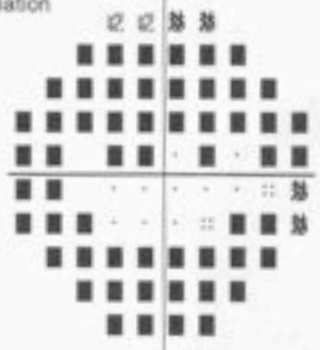
GHT
 Outside normal limits

MD -26.50 dB P < 0.5%
 PSD 10.62 dB P < 0.5%

Total Deviation



Pattern Deviation

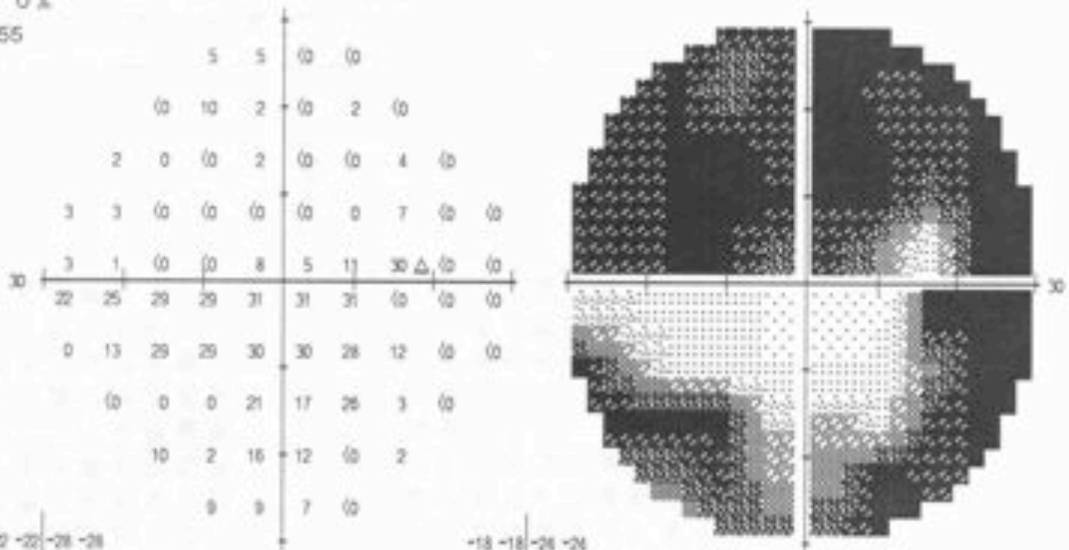


:: < 5%
 ○ < 2%
 ◻ < 1%
 ■ < 0.5%

Visual Field Results, recorded by the Shandong Eye Institute:
 Post-Treatment, February 25, 2011, Right Eye

Fixation Monitor: Gaze/Blind Spot Stimulus: III, White Pupil Diameter: 6.1 mm Date: 02-25-2011
 Fixation Target: Central Background: 31.5 ASB Visual Acuity: Time: 1:23 PM
 Fixation Losses: 1/15 Strategy: SITA-Fast RX: +0.75 DS DC X Age: 39
 False POS Errors: 1 %
 False NEG Errors: 0 %
 Test Duration: 06:55

Fovea: OFF



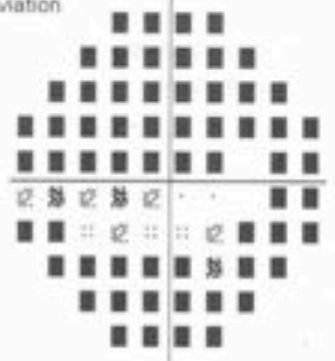
-22	-22	-28	-28						
-31	-19	-25	-30	-26	-30				
-28	-30	-33	-25	-33	-32	-25	-31		
-25	-27	-34	-34	-35	-34	-32	-24	-32	-32
-26	-30	-34	-35	-28	-22	-33	-32		
-7	-6	-4	-5	-3	-2	-2	-33	-32	
-28	-18	-3	-4	-3	-3	-4	-20	-33	-33
-32	-31	-32	-12	-15	-6	-28	-33		
-19	-28	-18	-19	-33	-29				
-20	-20	-22	-32						

-18	-18	-26	-24						
-27	-15	-23	-27	-22	-26				
-24	-27	-29	-25	-29	-28	-22	-28		
-22	-23	-30	-31	-31	-31	-28	-21	-29	-29
-23	-26	-31	-32	-22	-24	-18	-29	-29	
-3	-2	0	-1	0	1	1	-30	-29	
-25	-14	0	0	1	0	-1	-16	-30	-29
-28	-27	-28	-8	-11	-2	-25	-29		
-16	-24	-11	-15	-29	-26				
-17	-16	-19	-29						

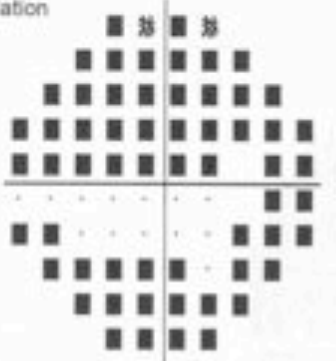
GHT
 Outside normal limits

MD -22.21 dB P < 0.5%
 PSD 13.22 dB P < 0.5%

Total Deviation



Pattern Deviation



∴ < 5%
 ∴ < 2%
 ∴ < 1%
 ■ < 0.5%

Visual Field Results, recorded by the Shandong Eye Institute:
 Post-Treatment, February 25, 2011, Left Eye

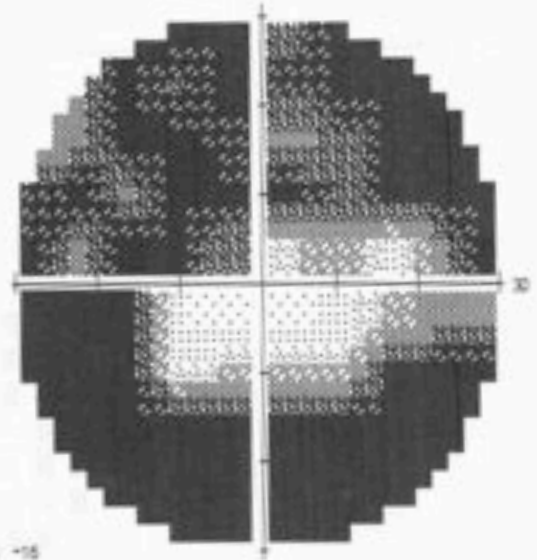
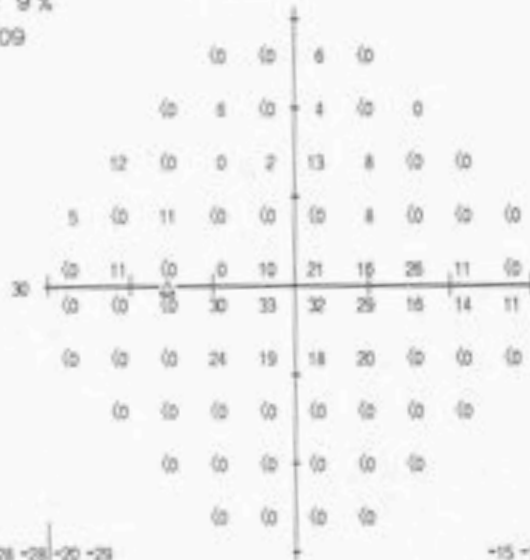
Fixation Monitor: Gaze/Blind Spot
 Fixation Target: Central
 Fixation Losses: 1/16
 False POS Errors: 3 %
 False NEG Errors: 9 %
 Test Duration: 07:09

Stimulus: III, White
 Background: 31.5 ASB
 Strategy: SITA-Fast

Pupil Diameter: 6.5 mm
 Visual Acuity:
 RX: +1.25 DS DC X

Date: 02-25-2011
 Time: 1:40 PM
 Age: 39

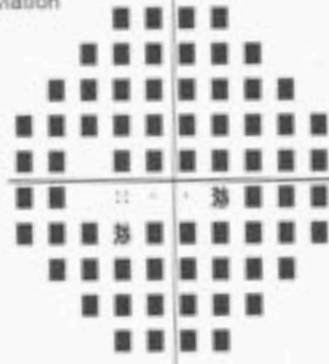
Fovea: OFF



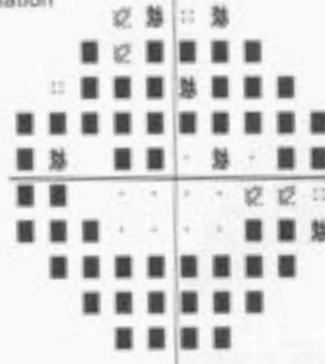
GHT
 Outside normal limits

MD -24.55 dB P < 0.5%
 PSD 11.44 dB P < 0.5%

Total
 Deviation



Pattern
 Deviation



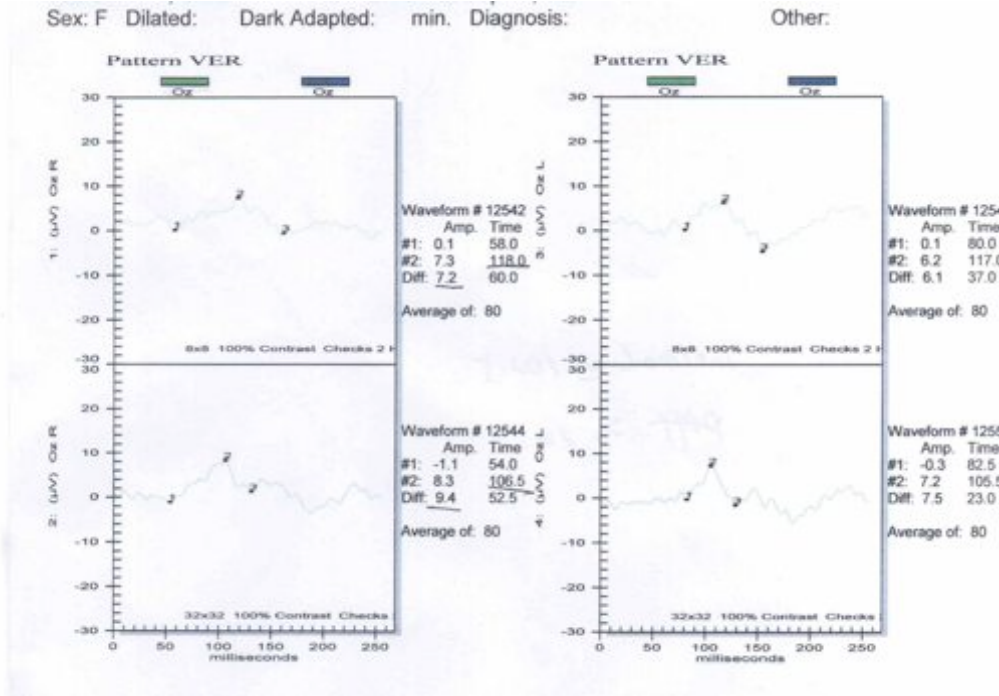
:: < 5%
 ☺ < 2%
 ☻ < 1%
 ■ < 0.5%

Summary of Visual Evoked Potential Test improvements

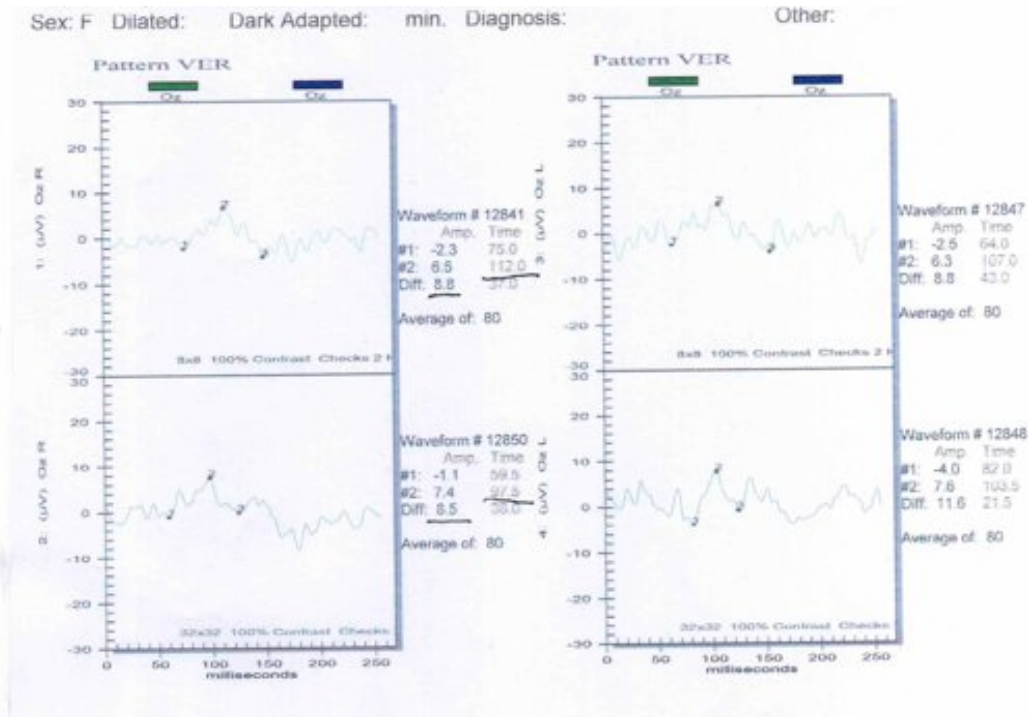
Right eye: The latency of P100 was significantly prolonged and its amplitude was moderately decreased before treatment. The latency became moderately prolonged and its amplitude became slightly decreased after treatment.

Left eye: The latency of P100 was significantly prolonged and its amplitude was moderately decreased before treatment. The latency became slightly prolonged and its amplitude became nearly normal after treatment.

Admission VEP Report, February 11, 2011, recorded by the Shandong Eye Institute:



Discharge VEP Report, February 25, 2011, recorded by the Shandong Eye Institute:



Follow Up Information

Condition 3 months after treatment: At the three month follow up point the patient was satisfied with the outcome of the treatment and felt her quality of life had significantly improved. She also felt that she had gained a small improvement in her hearing.

The below table is an excerpt taken from the patient's own assessment on the follow up form:

Symptom	Parents' Assessment of Improvement
Vision in left eye	Significant improvement
Vision in right eye	Significant improvement
Visual field	Significant improvement
Color vision	Small improvement
Night vision	Moderate improvement
Ability to see things clearly	Small improvement
Ability to focus eyes quickly	No improvement
Ability to keep eyes focused for a long time	No improvement
Ability to see things at a close distance	Small improvement
Ability to see things at a far distance	Small improvement

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