ORIGINAL RESEARCH

Improvement in Vision Parameters for Participants Treated With Alternative Therapies in a 3-day Program

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ABSTRACT

Context • Eye conditions that are considered progressive and degenerative and for which the causation is generally poorly understood or not understood within conventional medicine can respond to natural therapeutic interventions that result in arrest and/or improvement of morbidity, with enhanced functional results. Because many of the treated conditions are age related, a delay of disease progression for 5 or even 10 y can mean an additional decade of independence for seniors. The 11 included ocular conditions are ordinarily considered incurable by any method except surgery and, even with surgery, the outcomes can be variable and/or transient.

Objective • The research intended to demonstrate the effectiveness of alternative modalities—intravenous (IV) nutrition, oxidative therapy, microcurrent stimulation, and syntonic light therapy—in improving vision in chronic eye conditions, even when administered for a short period.

Design • The study was a retrospective, open-label, single-group design. All participants in the 3-d conference during the period covered were selected.

Setting • The setting was ophthalmologist Edward Kondrot's Healing the Eye and Wellness Center near Tampa, FL, USA.

Participants • The participants in this study were all patients attending 1 of 11 CAM treatment events at the author's center within 2 y. Each session lasted 3 d and the number of participants in each session ranged from 5-15 (mean = 13). The cohort numbered 152 patients who were diagnosed with ≥1 of 11 types of eye disease. Seventy-eight percent of the patients had either age-related macular degeneration (ARMD) or glaucoma, which, taken together, are the leading cause of blindness in persons >65 y.

Intervention • Each of 4 alternative modalities was provided at least once to each participant: (1) IV nutrition, (2) oxidative therapy, (3) microcurrent stimulation, and (4) syntonic light therapy. On the first day, a detailed treatment plan for each participant was developed. Each day consisted of 2 therapeutic eye programs, a stress reduction program, and a detoxification program. Also included were daily lectures and instructions on the methods and use of the equipment.

Outcome Measures • To measure outcomes, changes from baseline were documented through comparison with postprogram results. Pre- and postprogram testing included the following measures: (1) Early Treatment Diabetic Retinopathy Study (ETDRS) eye chart; (2) Lighthouse Letter Contrast Sensitivity test; (3) campimetry; (4) pursuits, saccade, and fixation tests; (5) pupillary examination; (6) external examination; (7) examination of the anterior segment; (8) intraocular-pressure test; and (9) dilated examination. Additional tests, if necessary, included (1) ocular coherence tomography, (2) infrared thermography, (3) 6-hour urine collection for heavy-metal toxicity, and (4) nocturnal oximetry.

Results • All participants remained in the study for the duration of the program. Following the administration of the protocol, significant improvement in acuity, contrast, and visual field resulted in the majority of participants. None of the interventions was toxic or painful, and all likely contributed to an improved, overall health status for participants.

Conclusions • These treatment protocols should be considered part of a treatment program for all ocular disease processes. Eye health needs to be repositioned within an assessment of general health with the understanding that, with the exception of congenital disorders or accidents, vision decline represents a general diminishment in overall health and results directly from toxicity from both external sources such as air and water, and the internal accumulation of toxic metals; poor nutrition; and other life exposures and habits. Long-term follow-up studies are now in process. (*Altern Ther Health Med.* 2015;21(6):22-35.)

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Eye conditions that are considered progressive and degenerative and for which the causation is generally poorly understood or not understood at all can respond to natural therapeutic interventions that result in arrest and/or improvement of morbidity, with enhanced functional results.[1] Because many of the treated conditions are age related, a delay of disease progression for 5 or even 10 years can mean an additional decade of independence for seniors. The conditions are (1) age-related macular degeneration (ARMD), the dry type; (2) glaucoma; (3) ARMD, the wet type; (4) macular hole, wrinkling, pucker; (5) Stargardt's disease; (6) cataracts; (7) ischemic optic nerve disease; (8) retinitis pigmentosa (RP); (9) diabetic retinopathy; (10) histoplasmosis scarring; and (11) cone dystrophy.

ARMD, Dry Type. ARMD dry is the most common cause of irreversible blindness in people older than 65 years. It is a slow, progressive disease that affects the central area of the retina called the macula. This is the location in the retina responsible for central vision and the most detail. The dry or areolar type consists of degeneration of the retinal pigment cells, resulting in drusen—a small wart-like growth—and hyper- and hypopigmented areas in the retina, with loss of rods and cones and generalized atrophy. The exact cause of ARMD is not known,[2] but the earliest changes occur in the choroid—the vascular layer of the eye—and in the pigmented retinal epithelium. These changes begin as a thickening of Bruch's membrane, which is the layer of the choroid next to the retina. These thickened areas become raised and have the appearance of warts. These changes produce loss of pigment and cell death of the functioning layers of the retina. The condition eventually leads to fluid accumulation, hemorrhage, and scar tissue.

Loss of central vision occurs, but this rarely produces total blindness because the peripheral vision is preserved. The disease commonly occurs in individuals older than 65 years, but several hereditary conditions can lead to this disorder at a much earlier age. Patients usually complain of blurred vision and difficulty with close work. They can also develop wavy lines and distortion of linear targets. They experience a loss of color sense and the development of scotomas, small areas of blindness.

Glaucoma. This disease occurs when the optic nerve of the eye begins to lose its function. The optic nerve is the transmitter of visual images from the eye to the brain. In the early stages, damage of the nerve results in loss of peripheral vision; in later stages, blindness can result. Abnormality in the circulation of the optic nerve appears to be the reason for damage to the optic nerve. Elevated intraocular pressure is believed to be the main contributing factor, although some patients with glaucoma have low or normal intraocular pressure. Other factors that make the nerve more susceptible to damage are arteriosclerosis and diabetes mellitus.

ARMD, Wet Type. The wet or exudative type of macular degeneration presents as vascular leakage with exudates and a detachment of the retina with loss of vision. A small percentage of the cases can be treated successfully with the argon laser.

Macular Hole, Wrinkling, Pucker. A macular hole is a small break in the macula, located in the center of the eye's light-sensitive retina. A macular hole can cause blurred and distorted central vision. Macular holes are related to aging and usually occur in people older than 60 years. The size of the hole and its location on the retina determine how much it will affect a person's vision. When a stage III macular hole develops, most central and detailed vision can be lost. If left untreated, a macular hole can lead to a detached retina, a sight-threatening condition.

Stargardt's Disease. This disease is an inherited form of juvenile macular degeneration that causes progressive vision loss, usually to the point of legal blindness. The progression usually starts between the ages of 6 years and 12 years, and it plateaus shortly after rapid reduction in visual acuity. Several genes are associated with the disorder. Symptoms typically develop by 20 years of age and include wavy vision, blind spots, blurriness, impaired color vision, and difficulty adapting to dim lighting.

Cataracts. Cataracts are due to clouding, hardness, and loss of elasticity that occur in the human lens. Cataracts are associated with general arteriosclerotic changes, diabetes, sun exposure, trauma, and poor nutrition. More than 50% of people older than 60 years will develop cataracts. With age, changes in the protein of the lens develop. Oxidative reactions develop, which form abnormal disulfide and other covalent linkages. This change causes the lens fibers to lose their transparency. Ionizing radiation has a very high, cataract-producing effect, and the lens is its most sensitive target within the adult eye. Its damage is dose related and cumulative. The sources of electromagnetic radiation energy most important in damage to the lens are ionizing radiation—X-rays, gamma rays and neutrons, emission of infrared or ultraviolet rays from various hot bodies, and microwaves. Copper, iron, and mercury poisoning can lead to the development of cataracts.

Ischemic Optic Nerve. The optic nerve is made up of 1 million, tiny, delicate nerve fibers that are like wires. Many blood vessels nourish the optic nerve with oxygen and nutrition. Vision actually takes place in the brain when the messages from the eye travel to the brain along the optic nerve; however, the nerve must be healthy to transmit these messages. Ischemic optic-nerve conditions occur due to damage to the optic nerve from insufficient blood supply.

Retinitis Pigmentosa. RP is an inherited, degenerative eye disease that causes severe vision impairment and often blindness. The progress of RP is not consistent. Some people exhibit symptoms from infancy; others may not notice

symptoms until later in life. A form of retinal dystrophy, RP is caused by abnormalities of the photoreceptors (rods and cones) or the retinal pigment epithelium (RPE) of the retina, leading to progressive sight loss. Affected individuals may experience defective light-to-dark and dark-to-light adaptation (ie, night blindness) as the result of the degeneration of the peripheral visual field. Sometimes, central vision is lost first, causing the person to look sidelong at objects.

Diabetic Retinopathy. Diabetic retinopathy is damage to the retina caused by complications of diabetes, which can eventually lead to blindness. It is an ocular manifestation of diabetes, a systemic disease. The condition affects up to 80% of all patients who have had diabetes for 10 years or longer.

Histoplasmosis Scarring. Scientists believe that *Histoplasma capsulatum* (ie, spores spread from the lungs to the eye) lodge in the choroid, a layer of blood vessels that provides blood and nutrients to the retina. The condition develops when fragile, abnormal blood vessels grow underneath the retina. These abnormal blood vessels form a lesion known as choroidal neovascularization. If left untreated, the lesion can turn into scar tissue and replace the normal retinal tissue in the macula. The macula is the central part of the retina that provides the sharp, central vision. When this scar tissue forms, visual messages from the retina to the brain are affected, and vision loss results.

Cone Dystrophy. Cone dystrophy is an inherited ocular disorder characterized by the loss of cone cells, the photoreceptors responsible for both central and color vision. The most common symptoms of cone dystrophy are vision loss, with the age of onset ranging from the late teens to the 60s; sensitivity to bright lights; and poor color vision. Therefore, patients see more at dusk. Visual acuity usually deteriorates gradually, but it can deteriorate rapidly. Color vision testing reveals many errors on both red-green and blue-yellow plates.

The eye diseases addressed here are often not responsive to traditional treatments, and some patients wish to avoid surgery or the side effects of medication.

METHODS

Participants

Patients applied to the program based on their interest in participating in a 3-day Healing the Eye program that was conducted at the investigator's retreat setting, The Healing the Eye Wellness Center (near Tampa, FL, USA). The Wellness Center is a fully functioning, organic ranch with a garden and farm animals. The center encourages exercise, and the facilities include a basketball court, swimming pool, hot tub, weight room, and infrared sauna, together with many miles of sandy road for jogging. On-site, hotel-like accommodations are provided together with organic meals that are prepared on site.

Each participant forwarded tests and diagnostic information prior to being accepted into the program, and those results were verified at the start of the program. The cost of the program was $3000 for the 3-day treatment program, excluding travel expenses. There are additional charges for home use of a Microcurrent machine, postprogram ($2250), and for follow-up care for 1 year.

A small number of participants were the investigator's patients; others were referred by physicians or were self-referred. At the time of the study, the 3-day programs had been conducted for more than 10 years, with the curriculum evolving to keep pace with research and the results of the investigator's studies.

The study's participants were selected to participate as paying participants in the 3-day program after meeting the following criteria: (1) they had eye disease that had not been responsive to traditional treatments or (2) they wished to avoid surgery or the side effects of medication. All participants signed detailed informed consent forms.

Participants ranged in age from 15 to 95 years; 52% were female, and 48% were male. Forty-six percent resided in California, Arizona, and Florida, with the remaining coming from 11 additional states. One participant lived in Mexico.

Procedures

The study used a 3-day intervention protocol. On the first day of the program, the center obtained the following information for creation of a detailed treatment plan for each participant to allow the person to regain vision.

Detailed Eye History. This provided information related to the underlying cause of the eye problem.

Medical History. This provided information about other physical problems that potentially had contributed to the eye disease.

List of Medications. This was a list of a participant's current medications; every medicine potentially can be toxic to the eye.

Dietary History. Nutritional education is an integral component of the program. Each participant receives a zinc taste test. This simple, 2-minute test measures the intracellular levels of zinc. Zinc is a key nutrient, not only for the eye but also for every enzymatic function in the body. A deficiency of zinc is a red flag that other nutritional deficiencies exist. Only organic food that was not genetically modified (ie, non-GMO food) was served during the 3-day program, with much of it being raw. Following the program, participants were encouraged to continue a 70/30 diet, with 70% of food to be organic and consumed raw, and the other 30% also to be organic but allowed to be cooked.

Evaluation of Life Stressors. This information allowed the center to develop a program to reduce those stressors.

Investigation of Heavy-metal Exposure. Heavy-metal toxicity contributes to all degenerative eye diseases.

Zyto Energetic Analysis. This test is used to measure fluctuations in electrical conductivity of the skin. Fluctuations in electrical conductivity were measured during treatments, such as when the microcurrent and light therapy were applied. The responses helped determine participants' physical preferences regarding the interventions being

considered and acted as guides in specification of treatment protocols.

Each day consisted of 2 therapeutic eye programs: (1) a stress reduction program and (2) a detoxification program. Also included were daily lectures and instructions on the methods and use of the equipment. The lecture schedule included the following information:

Day 1. Provided information about diet, nutrition, hydration, and creation of balance in the autonomic nervous system. A balanced autonomic nervous system has been shown to contribute to reduced symptomatology in eye disease.[3]

Day 2. Homeopathy and microcurrent therapy were initiated. Homeopathic remedies were prescribed for but not taken by participants until after the 3-day workshop. It is the author's intention to report on the effectiveness of homeopathic treatment for chronic eye conditions in a future publication.

Day 3. Provided instruction on light therapy and eye exercises.

Outcome Measures

To measure outcomes, changes from baseline were documented through comparison with postprogram results. Pre- and postprogram testing included:

Early Treatment Diabetic Retinopathy Study Eye Chart. The Early Treatment Diabetic Retinopathy Study (ETDRS) eye chart is a test that measures acuity and has been accepted and approved in studies sponsored by the National Eye Institute and the US Food and Drug Administration (FDA). Each line on the chart has 5 letters, and the chart has a total of 14 lines or 70 letters.

Lighthouse Letter Contrast Sensitivity Test. This test measures the ability to see letters of increasingly lighter contrast. Failure to perceive lighter contrast is related to toxicity and heavy-metal poisoning.

Campimetry. Campimetry is one way to test the visual field systematically. It is used for testing central fields for white, blue, green, and red and also is used in syntonics to assess subtle changes in awareness and visual fields. This test measures the ability to perceive motion.

Pursuits, Saccade, and Fixation Tests. These tests measure basic visual functions that are essential to good vision. They relate to the eye's ability to follow movement, to change focal point, and to fixate on an object of interest.

Pupillary Examination. The pupil reflects the autonomic nervous system, and subtle imbalances in this system can be detected through examination.

External Examination. This test requires a careful examination of the outer structure of the eye, including the lids, cornea, conjunctiva, and tear film. The outer layer protects the delicate inner parts of the eye, and the tear film lubricates the cornea and supplies nutrients and oxygen.

Examination of the Anterior Segment. This area is inspected for signs of inflammation and toxicity. The lens, or the part of the eye that focuses light into the eye, is inspected for signs of cataracts and toxicity.

Intraocular-pressure Test. This test is important in detection of glaucoma. Participants' pressures were monitored throughout the 3-day program.

Dilated Examination. The inside of the eye is the only place in the body where blood vessels and neurological tissue can be examined without surgery. The vasculature, retina, macula, and optic nerve were examined for disease.

Specialized Testing Available During the 3-day Program. Depending on a participant's condition and the results of the above testing, the following tests were also available during the 3-day program:

Ocular Coherence Tomography. This sophisticated test measures a cross-section of the retina under high magnification. It offers the opportunity to examine all 10 layers of the retina to locate the areas of disease precisely.

Infrared Thermography. This test measures temperature differences on the surface of the face. It is a very accurate test for detection of abnormalities of the orbits, sinuses, and teeth that might be contributing to eye problems.

While not specific to measuring vision or eye pathology, the following 2 tests are included as a way of measuring possible contributing factors to the participants' eye condition.

Six-hour Urine Collection to Test For Heavy-Metal Toxicity. This test is the gold standard to determine the levels of toxic minerals stored in tissue. At the end of the 3-day program, patients were given the test kit and were requested to complete it at home and send the samples to the lab for results. The investigator then discussed the findings during a follow-up telephone evaluation that occurred 1 month after the 3-day session. Almost all participants tested positive for heavy-metal toxicity and were advised to undergo chelation therapy after the workshop.

Nocturnal Oximetry. This test measures oxygen saturation at night. Many patients, because of obstructive airway disease (sleep apnea), have low levels of oxygen at night, which can contribute to the development of eye disease, and if not treated, can affect the success of eye treatments.

Interventions

The intervention in the 3-day program began with treatments that balanced the autonomic nervous system and neuroendocrine functions and activities to reduce stress. Emphasis was placed on developing a customized program for each participant's eye problem. This program was recalibrated for each participant during the 3 days, depending on outcomes and response to treatment from measurements taken intermittently.

The 4 alternative modalities were provided at least once to each participant: (1) intravenous (IV) nutrition, (2) oxidative therapy, (3) microcurrent stimulation, and (4) syntonic light therapy.

IV Nutrition—Myer's Cocktail. This specialized intravenous vitamin mixture was designed to provide key vitamins and minerals to support the eye and visual function.[4,5,6]

It was suggested that all patients receive this mixture, particularly if they were deficient in zinc. It also was suggested that all patients in the program receive a Myer's cocktail once per month at their home locations until nutritional levels were at an optimum level. The cocktail that the Wellness Center offers is tailored to provide nutrients known to be supportive of good vision: (1) ascorbic acid, 500 mg/mL, 12 cc; (2) pyridoxine, 100 mg/mL, 2 cc; (3) hydroxocobalamin 1000, µg/mL, 1 cc; (4) B complex 100, 1 cc; (5) calcium gluconate 10%, 1 cc; (6) dexpanthenol, 250 mg/mL, 1 cc; (7) magnesium chloride, 200 mg/mL, 1 cc; (8) multitrace-5 concentrate, 1 cc; (9) selenium, 40 µg/mL, 5 cc; (10) taurine, 50 mg/mL, 2 cc; (11) zinc, 1 mg/mL, 5 cc; (12) lidocaine 2%, 5 cc; (13) sterile water, 200 cc; and (14) folic acid, 1 mg.

Oxidative Therapy. Oxidative therapies such as ozone therapy, ultraviolet blood irradiation therapy, and intravenous hydrogen peroxide therapy can be beneficial for treating a wide range of conditions ranging from viral and fungal infections to joint pain and arthritis.[7] Oxidative therapies work by stimulating the immune system, enhancing mitochondrial processes, and facilitating healing with virtually no side effects. Some researchers believe that this therapy can be very helpful in the treatment of macular degeneration and glaucoma and other eye disorders.[8,] Typically 20 to 40 treatments are necessary, although benefits can be experienced after 1 or 2 treatments. Each patient receives a minimum of 2 oxidative IV therapies during the program. Several oxidative modalities can be done in the home and participants were trained to continue them after the 3-day session and given the equipment needed to do so. Ozone therapy is a type of oxidative therapy breakthrough treatment that is able to detoxify as it heals. It uses highly reactive oxygen gas, which stimulates regeneration and healing. It is used to treat a wide range of chronic conditions, including macular degeneration.[9] The program offered ozone therapy in several ways: (1) intravenously, called auto hemotherapy, where a small amount of blood is mixed with the ozone and then injected into the body; and (2) as eye drops, to help stimulate the healing of the eye. Hydrogen peroxide therapy was also provided to some participants in the program. This type of oxidative therapy is given directly into the blood stream through a slow IV drip and has the same beneficial results as other types of oxidative therapies

Microcurrent Stimulation Therapy. Microcurrent stimulation (MCS) therapy is a well-established therapy that improves blood flow, stimulates cellular activity, reduces scar tissue and inflammation, and helps balance the autonomic nervous system.[10] It was delivered to the eye via a specially designed glove that is used to stimulate the periorbital tissues. This device is the result of design refinement in the course of several years. The current is calibrated to respond specifically to the involved tissues and the condition being treated. The mechanism of action is believed to be 3 fold: improving blood flow, stimulating cellular activity, and reducing inflammation and scar tissue.

Patients with glaucoma have a compromised optic nerve. Elevations in pressure can cause the blood flow to the optic nerve to be reduced, resulting in damage to the nerve and loss of vision. Research evidence suggests that microcurrent has a protective effect on the optic nerve.[11] MCS can be beneficial to patients with glaucoma because it helps increase blood flow and stimulates cellular activity, and now evidence suggests a neuroprotective effect. MCS can lower the intraocular pressure, which is observed in patients after MCS treatment.[12]

MCS is very effective in treating most eye diseases, including macular degeneration, glaucoma, cataracts, inflammation, and dry eyes. The flow of current from cell to cell and within cells promotes repair and regeneration of tissues.[13,14] All patients who participated in the 3-day workshop were provided microcurrent devices, calibrated to their specific eye diseases, and were instructed to use them at home to continue vision improvement.

Syntonic Light Therapy. Syntonics, or optometric phototherapy, is the branch of ocular science dealing with the application of selected light frequencies through the eyes. It has been used clinically for more than 70 years in the field of optometry with continued success in the treatment of visual dysfunctions, including strabismus (eye turns), amblyopia (lazy eye), focusing and convergence problems, learning disorders, and the after-effects of stress and trauma.[15] In recent years, syntonics has been shown to be effective in the treatment of brain injuries and emotional disorders. A specific wavelength of light is selected for each person to help rebalance their particular imbalance. Research is ongoing, but data indicate certain frequencies of blue-green light can improve the vision in patients with macular degeneration and certain frequencies of green light can lower the pressures in patients with glaucoma.[16] Each color can have a myriad of frequencies, and the task is to identify the frequency that best resonates with the eye, stimulates retinal function, and balances the autonomic nervous system. Each participant received 2 light-therapy treatments per day.

RESULTS

Table 1 shows the number of patients affected by each of the 11 eye diseases as well as the total number of eyes affected. Some patients had disease in only 1 eye, and some patients had more than 1 disease.

Sixty-nine percent of the study's participants had improvement of at least 1 line (ie, 5 letters) in acuity, and 36% had improvement of at least 1 line in contrast (Table 2; Figures 1, 2, and 3). One line of improvement is a significant change that is noticeable to patients and improves their levels of daily functioning. Typically when a spectacle measurement improves the acuity by 1 line, a patient will be advised to get a new pair of glasses. Most ophthalmic studies agree that a 5-letter or 1-line improvement is very significant and that a mechanism that produces this visual change deserves more research.

Table 1. Ocular Conditions, Number of Patients, and Number of Eyes

Eye Disease	Number of Patients	Number of Eyes[a]
ARMD-Dry	70	140
Glaucoma	29	58
ARMD-Wet	20	40
Macular hole, macular wrinkling, pucker	9	10
Stargardt's disease	3	6
Cataracts	6	10
Ischemic optic nerve disease	4	6
Retinitis pigmentosa	4	8
Diabetic retinopathy	3	6
Histoplasmosis scarring	3	4
Cone dystrophy	1	2
Total	**152**	**290**

Abbreviation: ARMD, age-related macular degeneration.

[a]Some patients had disease in only 1 eye; some patients had >1 disease.

Table 2. Summary Results of All 152 Patients or 290 Eyes Treated

Acuity Improvement	Number of Eyes[a]	%
≥2 lines (10 letters)	43	15%
>1 line (5 letters)	158	54%
>1-4 letters	66	23%
No change	23	8%
Contrast Improvement	**Number of Eyes[a]**	**%**
>5 letters	104	36%
>1-4 letters	151	52%
No change	35	12%
Visual Field Expansion	**Number of Eyes[a]**	**%**
Marked	165	57%
Moderate	75	26%
Minimal	19	6%
No change	31	11%

[a]Some patients had disease in only 1 eye; some patients had more than 1 disease.

Figure 1. Summary results for acuity improvement.

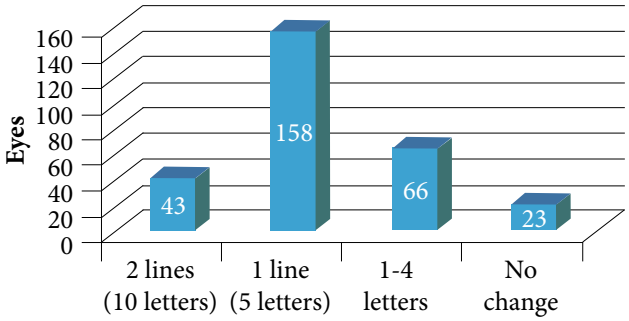


Figure 2. Summary results for contrast improvement.

Figure 3. Summary results for visual field expansion.

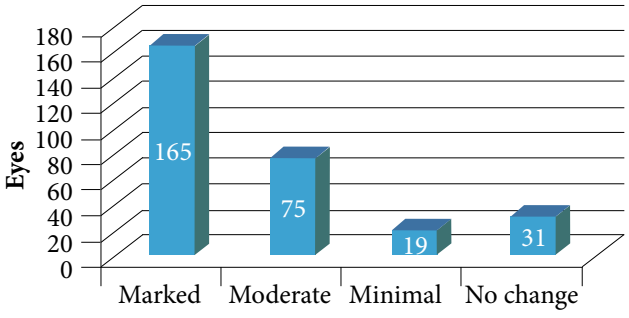


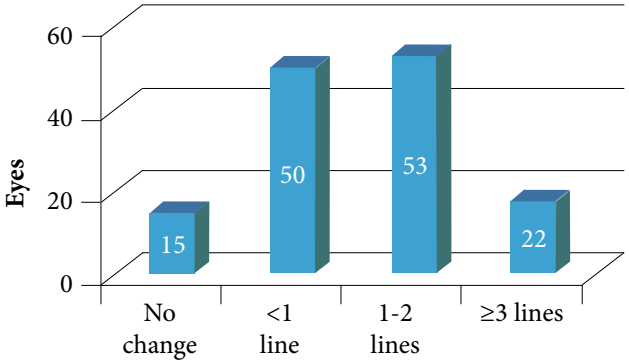
Table 3. Results: ARMD Dry[a,b]

Acuity Improvement	Number of Eyes
>2 lines	22
1-2 lines	53
<1 line	50
No change	15
Contrast Improvement	**Number of Eyes**
>6 letters	35
3-5 letters	38
1-2 letters	54
No change	13
Visual Field Expansion	**Number of Eyes**
Marked	76
Moderate	41
No change or minimal	23

Abbreviation: ARMD, age-related macular degeneration.

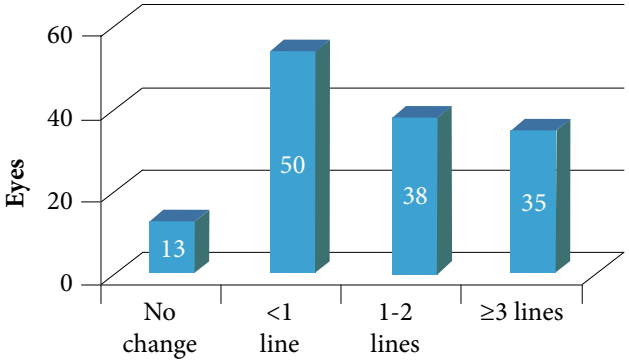
[a]n = 70 patients, 140 eyes.
[b]The average improvement of acuity was 5.5 letters and the average improvement of contrast was 3.8 letters.

Figure 4. ARMD dry: results for acuity improvement.



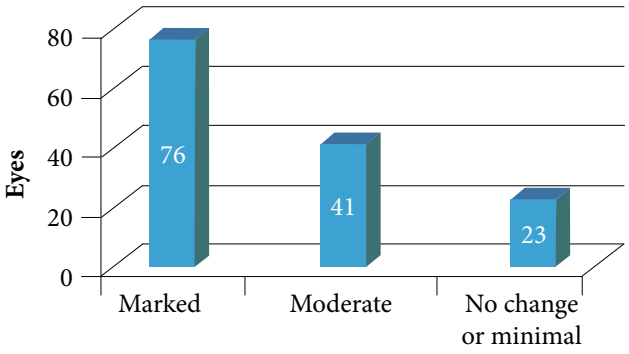
Abbreviation: ARMD, age-related macular degeneration.

Figure 5. ARMD dry: results for contrast improvement.



Abbreviation: ARMD, age-related macular degeneration.

Figure 6. ARMD dry: results for visual field expansion.



Abbreviation: ARMD, age-related macular degeneration.

Table 4. Results: Glaucoma[a,b]

Acuity Improvement	**Number of Eyes**
≥2 lines	10
1-2 lines	26
<1 line	16
No change	6
Contrast Improvement	**Number of Eyes**
>6 letters	17
3-5 letters	14
1-2 letters	17
No change	10
Visual Field Expansion:	**Number of Eyes**
Marked	37
Moderate	14
No change or minimal	7
Pressure Lowering	**Number of Eyes**
>5 mm Hg	13
1-5 mm Hg	27
No change	11[c]
Increase in pressure	7[c]

[a]n = 29 patients, 58 eyes.
[b]The average change in acuity was 6 letters; the average change in contrast was 3.6 letters; and the average drop in pressure was 4.8 mm Hg.
[c]The majority of these patients stopped their eye drops; therefore, the pressure elevation or lack of response could be due to stopping medication.

Figure 7. Glaucoma: results for acuity improvement.

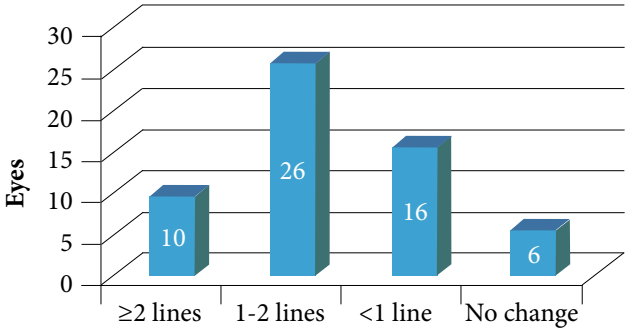


Figure 8. Glaucoma: results for contrast improvement.

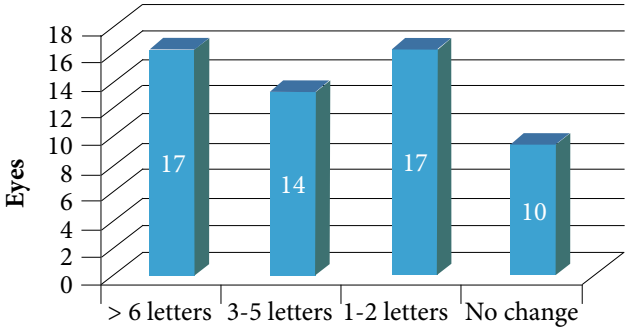


Figure 9. Glaucoma: results for visual field expansion.

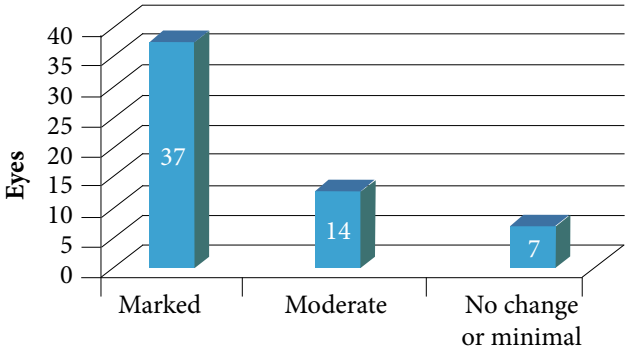


Figure 10. Glaucoma: results for pressure lowered.

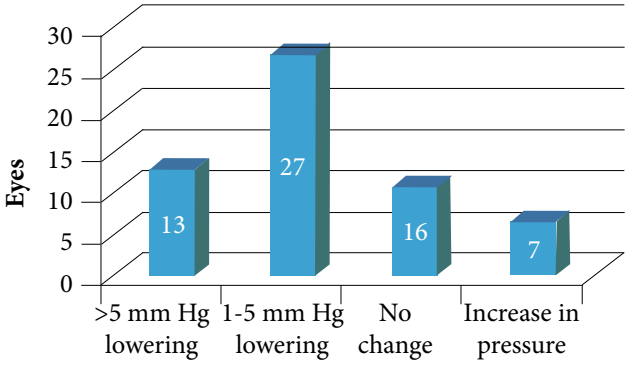


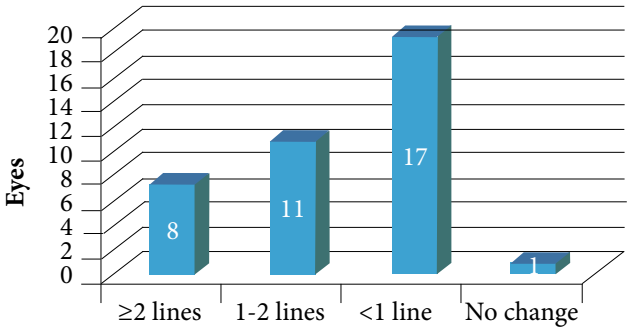
Table 5. Results: ARMD Wet[a,b]

Acuity Improvement	Number of Eyes
≥2 lines	8
1-2 lines	11
<1 line	20
No change	1
Contrast Improvement	**Number of Eyes**
>6 letters	11
3-5 letters	9
1-2 letters	13
No change	7
Visual Field Expansion	**Number of Eyes**
Marked	26
Moderate	8
No change or minimal	6

Abbreviation: ARMD, age-related macular degeneration.

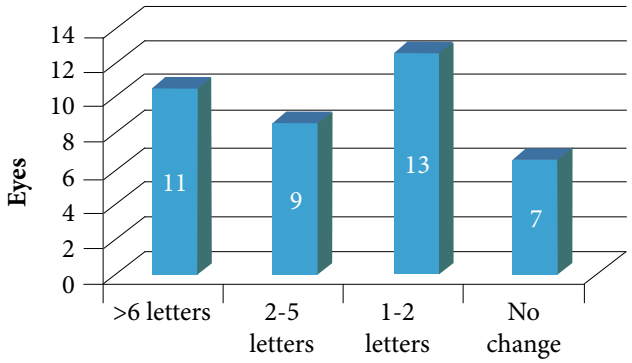
[a]n = 20 patients, 40 eyes.
[b]The average improvement of acuity was 6.4 letters, and the average improvement of contrast was 5.0 letters.

Figure 11. ARMD wet: results for acuity improvement.



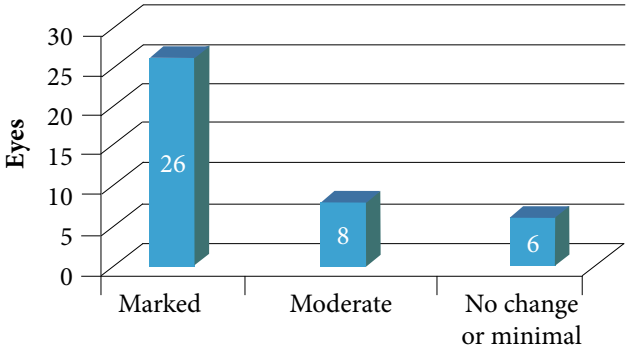
Abbreviation: ARMD, age-related macular degeneration.

Figure 12. ARMD wet: results for contrast improvement.



Abbreviation: ARMD, age-related macular degeneration.

Figure 13. ARMD wet: results for visual field expansion.



Abbreviation: ARMD, age-related macular degeneration.

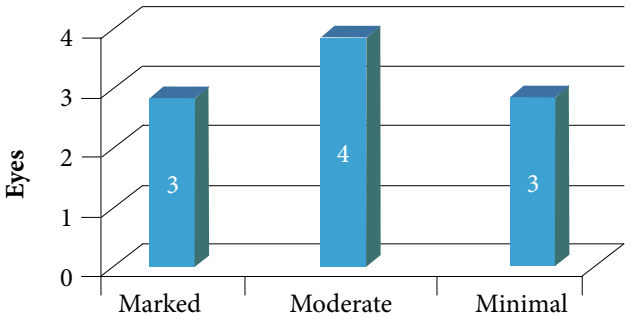
MACULAR HOLE, WRINKLING, PUCKER

Table 6. Results: Macular Hole, Wrinkling, Pucker[a]

Acuity Improvement	Number of Letters
Average acuity change	4.3
Range	0-11
Contrast Improvement	**Number of Letters**
Average contrast change	2.5
Range	0-8
Visual Field Expansion	**Number of Eyes**
Marked	3
Moderate	4
Minimal	3

[a]n = 9 patients, 10 eyes.

Figure 14. Macular hole, wrinkling, pucker: results for visual field expansion.



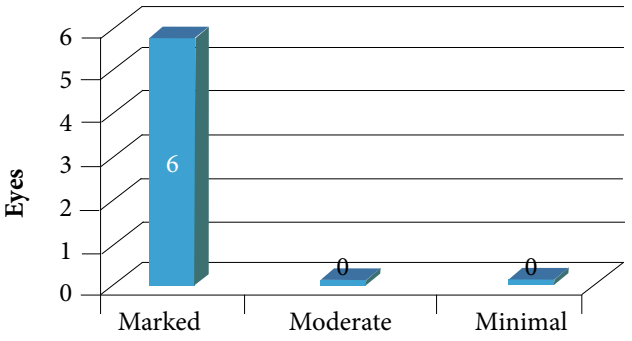
STARGARDT'S DISEASE

Table 7. Results: Stargardt's Disease[a]

Acuity Improvement	Number of Letters
Average acuity change	6.6
Range	2-13
Contrast Improvement	**Number of Letters**
Average contrast change	3.67
Range	0-10
Visual Field Expansion	**Number of Eyes**
Marked	6

[a]n = 3 patients, 6 eyes.

Figure 15. Stargardt's disease results for visual field expansion.



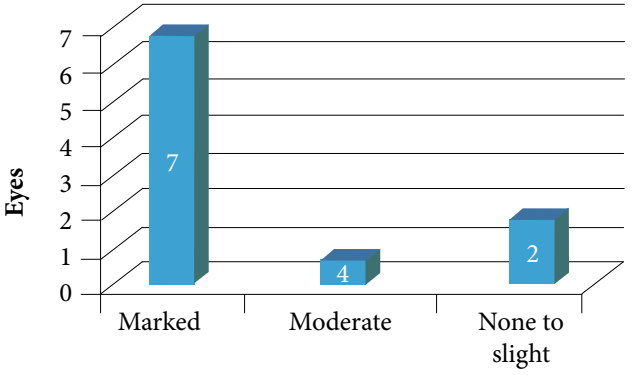
CATARACTS

Table 8. Results: Cataracts[a]

Acuity Improvement	Number of Letters
Average acuity change	5.75
Range	0-16
Contrast Improvement	**Number of Letters**
Average contrast change	2.3
Range	0-6
Visual Field Expansion	**Number of Eyes**
Marked	7
Moderate	1
None to slight	2

[a]n = 6 patients, 10 eyes.

Figure 16. Cataract: results for visual field expansion.



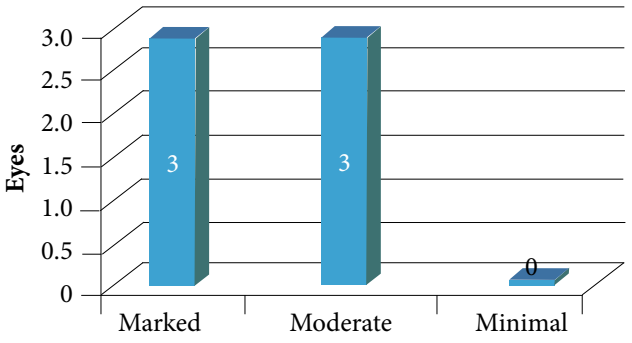
ISCHEMIC OPTIC NERVE

Table 9. Results: Ischemic Optic Neuropathy[a]

Acuity Improvement	Number of Letters
Average acuity change	5.75
Range	0-15
Contrast Improvement	**Number of Letters**
Average contrast change	3.75
Range	0-6
Visual Field Expansion	**Number of Eyes**
Marked	3
Moderate	3

[a]n = 4 patients, 6 eyes.

Figure 17. Ischemic optic neuropathy: results for visual field expansion.



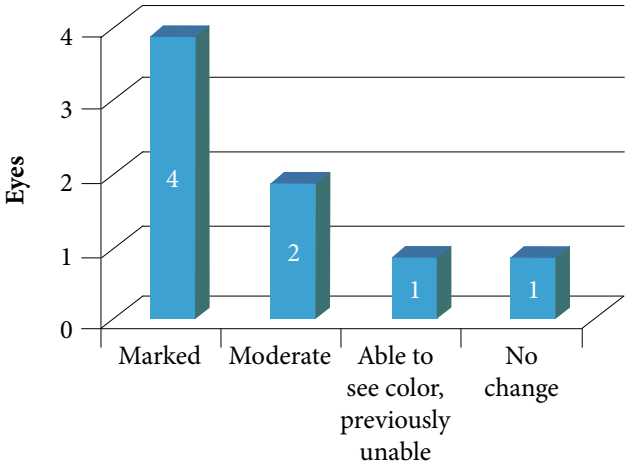
RETINITIS PIGMENTOSA

Table 10. Results: Retinitis Pigmentosa[a]

Acuity Improvement	Number of Letters
Average acuity change	15.3
Range	0-68
Contrast Improvement	**Number of Letters**
Average contrast change	3.1
Range	0-8
Visual Fields Expansion	**Number of Eyes**
Marked	4
Moderate	2
Able to see color, previously unable	1
No change	1

[a]n = 4 patients, 8 eyes.

Figure 18. Retinitis pigmentosa: results for visual field expansion.



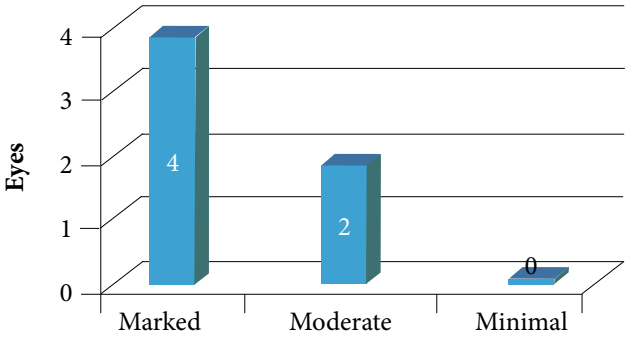
DIABETIC RETINOPATHY

Table 11. Results: Diabetic Retinopathy[a]

Acuity Improvement	Number of Letters
Average acuity change	7.8
Range	3-17
Contrast Improvement	**Number of Letters**
Average contrast change	5.5
Range	2-11
Visual Field Expansion	**Number of Eyes**
Marked	4
Moderate	2

[a]n = 3 patients, 6 eyes.

Figure 19. Diabetic retinopathy: results for visual field expansion.



HISTOPLASMOSIS SCARRING: THE CONDITION

Table 12. Results: Histoplasmosis Retinal Scarring[a]

Acuity Improvement	Number of Letters
Average acuity change	4
Range	2-11
Contrast Improvement	**Number of Letters**
Average contrast change	7.3
Range	3-12
Visual field expansion	**Number of Eyes**
Marked	4
Reduction in blind spots	2

[a]n = 3 patients, 4 eyes.

CONE DYSTROPHY: THE CONDITION

Table 13. Results: Cone Dystrophy[a]

Acuity Improvement	Number of Letters
Average acuity change	5
Range	4-6
Contrast Improvement	**Number of Letters**
Average contrast change	1
Range	0-2
Visual field expansion	**Number of Eyes**
Moderate	2

[a]n = 1 patient, 2 eyes.

DISCUSSION

Very little research has been done to date that has attempted to reverse chronic eye disease. One study involved 3 patients with Stargardt's macular dystrophy and 1 patient with dry ARMD, who received stem-cell transplants. According to published results in *Lancet* on January 24, 2012,

> ... it is encouraging that during the observation period neither patient lost vision. Best-corrected visual acuity improved from hand motions to 20/800 (and improved from 0 to 5 letters on the Early Treatment Diabetic Retinopathy Study's [ETDRS'] visual acuity chart) in the eye of the patient with Stargardt's macular dystrophy, and vision also seemed to improve in the patient with dry age-related macular degeneration.

In that study, 5 letters of improvement was considered significant, but the cost of the treatment as well as its risks far exceeded those of the multifactorial intervention using natural therapies in the current 3-day program.

Of the current study's participants, 69% had improvement of at least 1 line (ie, 5 letters) in acuity, and 36% had improvement of at least 1 line in contrast (Table 2; Figures 1, 2, and 3). The treatment modalities used were statistically beneficial to all groups treated—improving acuity, contrast, and visual fields. All treatment modalities are beneficial individually and have absolutely no associated pain or discomfort, toxicity, or side effects. This is in significant contrast to conventional medicine's treatments that are either invasive (surgery) or toxic (pharmaceuticals) and produce only short-term remediation without addressing any of the underlying causative factors that produce eye disease. The treatments used produced the results due to the possible mechanisms of (1) improvement of blood flow, (2) reduction in inflammation, (3) stimulation of cellular activity, and/or (4) stimulation of stem cell activity and regeneration. All of these processes are known to be conducive to tissue, organ, and system health.

Further, to fully grasp the significance of these results, it is important to highlight the limitations and toxicity involved in conventional treatments for macular degeneration, glaucoma, and cataracts.

ARMD is a progressive eye disease that is becoming more and more prevalent in the world. There are more than 2 million new cases per year in the United States and Canada. Currently, more than 30 million people have the condition. There are 600 new cases of wet macular degeneration every day, making it a significant problem. Ten thousand people turn 65 years old every day in North America. This is the highest risk group for eye conditions that lead to blindness due to age as well as due to early life exposure to heavy metals, prior to the banning of leaded gas and certain toxic pesticides.

Conventional pharmaceutical and surgical treatment of both glaucoma and macular degeneration are fraught with limitations and toxic side effects that make the acceptance of natural, overall health-improving strategies, such as those discussed in this article, even more compelling. None of the methods used in the 3-day program has any toxic side effects.

Eye specialists have long been aware of the pathological changes that can result from the treatment of wet macular degeneration with anti-VEGF (vascular endothelial growth factor) injections. Endophthalmitis, which is severe infection that usually leads to blindness, can occur, as can a retinal detachment. Glaucoma as well as cataracts can develop. However, there are even more disturbing findings. A recent national study designed to compare the relative effectiveness of 2 frequently prescribed anti-VEGF medications to treat wet macular degeneration had some alarming results when it determined that, for more than 18% of those receiving the anti-VEGF treatment, the treatment itself was found to produce retinal geographic atrophy (GA), which is a more severe form of macular degeneration involving retinal cell death. The team of researchers led by Juan E. Grunwald, MD, of the University of Pennsylvania, has published a study of 1024 patients whose color fundus photos or fluorescein angiograms showed no visible signs of GA at enrollment.

After two years, the researchers found that GA had developed in 187 patients, or 18.3% of the cohort being studied. They concluded that "anti-VEGF therapy may have a role in the development of GA."[17]

The pharmaceutical agents used to control glaucoma can be expected to produce several side effects depending on the type of agent used:

(1) Prostaglandin analogs: possible changes in eye color and eyelid skin, stinging, blurred vision, eye redness, itching, burning.
(2) β-Blockers: low blood pressure, reduced pulse rate, fatigue, shortness of breath; rarely: reduced libido, depression.
(3) α-Agonists: burning or stinging, fatigue, headache, drowsiness, dry mouth and nose, relatively higher likelihood of allergic reaction.
(4) Carbonic anhydrase inhibitors: in eye drop form: stinging, burning, eye discomfort; in pill form: tingling hands and feet, stomach upset, memory problems, depression, frequent urination.

Some products use combined formulas and side effects of combined medications may include any of the side effects of the drug types they contain.[18] Further,

> The development of systemic side effects is due to the medications [being] placed in the eye and absorbed into the conjunctival blood vessels on the eye's surface. A certain percentage of the active ingredient of the medication, though small, will enter the bloodstream and may adversely affect functions such as heart rate and breathing. Likewise, some types of eye drops may worsen certain existing medical conditions such as asthma. Some glaucoma drugs also can interact with other common medications such as digitalis, prescribed for heart conditions.[19]

Cataract surgery, the long standing and most common—indeed the only—conventional treatment for cataracts is not without problems. Cataract surgery may increase the risk of macular degeneration, although at this time the studies linking macular degeneration and cataract surgery are conflicting. The Beaver Dam eye study found as high as a 3-fold increase in macular degeneration after cataract surgery. A study in the *Journal of Ophthalmology* showed no clear effect but advised caution.[20]

There are several reasons that may cause the development of ARMD after cataract surgery. The surgical procedure itself produces shock to the eye, which may result in inflammation. The pharmaceutical drops used after surgery are toxic to the eye. The aging process of the eye is accelerated due to loss of the human lens, known to protect against ultraviolet light. The last and most interesting is the suppressive effect of cataract surgery. Suppression is a homeopathic law that states that the human body has intelligence, and that symptoms and disease develop to achieve a homeostasis or balance in the body. If the underlying cause of disease is not treated, a more serious disease will develop. A cataract is a symptom of an underlying disease. Surgery does not treat the underlying cause. The result is a more serious disease (ie, macular degeneration).

The 5-year results of the Beaver Dam eye study identified persons with and without a history of cataract extraction at a baseline examination and reexamined them for ARMD at 5 and 10 years. They found an association between cataract surgery and the 5-year incidence of late ARMD:

> These data strongly support the past findings of an association of cataract surgery with late A[R]MD independent of other risk factors, including high-risk genetic status, and suggest the importance of considering these findings when counseling patients regarding cataract surgery. These findings should provide further impetus for the search for measures to prevent or delay the development of age-related cataract.[21]

Vitamin C deficiency may be a cause of cataracts, leading to a form of focal scurvy in the eye. It has long been believed that a vitamin C deficiency in one area or tissue of the body means there is a comparable vitamin C deficiency everywhere else. Nothing could be further from the truth. When a cataract develops, the levels of ascorbic acid decease in the aqueous humor that surrounds and bathes the lens with nutrients and oxygen.[22] Might high dosages of vitamin C might reverse cataracts? If so, this approach would be preferred to surgery in that it would correct the underlying conditions rather than only the manifestation of the deficiency.

Despite public health efforts to cut lead in gasoline, paint, and other sources in the environment, lead exposure continues to pose a significant problem, wrote researcher Debra A. Schaumberg, ScD, MPH,[23] with the preventive medicine division at Brigham and Women's Hospital in Boston.

In fact, "Most adults continue to have substantial body burdens of lead," she wrote in her report.[23] More than 90% of the total body burden of lead is accumulated in the bones, where it is stored. Much evidence has indicated that accumulated lead exposure increases the risk of several chronic disorders, including hypertension and mental decline. Studies have also shown that lead exposure could cause age-related cataracts, the leading cause of blindness and visual impairment worldwide, wrote Schaumberg.

Schaumberg's study[23] involved 642 men—all approximately 69 years old—who had leg bone measurements indicating lead exposure. Researchers also looked at the men's medical records for information on eye cataracts. Men with the highest levels of lead in their bones had more than a 2.5-fold increased risk of cataracts compared with men with the lowest lead levels.

Lead exposure can damage eye cells in a variety of ways, leading to protein buildup on the lens and interfering with calcium absorption, which keeps the lens clear. Lead has even been found in cataracts removed from eyes. Based on the researchers' estimates, 42% of cases of cataracts in the study were attributed to lead exposure. [23]

Many of the treatment protocols used in this study can be implemented by general medical practitioners who have a

preventive and functional approach to understanding health and disease. With the expected increase in age-related vision loss due to both macular degeneration and glaucoma, a national movement to arrest or remediate these conditions at early stages can prevent millions in the aging population from disability or blindness, and it can bring the associated social and economic benefits to society. Data are being collected to study the long-term use of these modalities.

CONCLUSIONS

These treatment protocols should be considered part of a treatment program for all ocular disease process. Eye health needs to be repositioned within an assessment of general health with the understanding that, with the exception of congenital disorders or accidents, vision decline represents a general diminishment in overall health and results directly from toxicity from both external sources such as air and water, and the internal accumulation of toxic metals; poor nutrition; and other life exposures and habits. The metabolism of the eye is such that this organ is very likely the first part of the body to signal overall health problems. Once this is accepted, a protocol for integrating eye health assessment can become part of an overall health evaluation rather than compartmentalized to specialists, and preventive strategies can be introduced at a time when they will be most effective.

In this article, I demonstrated that certain natural interventions given in a short period can reverse eye disease and improve vision. A long-term study is needed to compare a group with these interventions to a matched group with no interventions.

AUTHOR DISCLOSURE STATEMENT

The author received no external funding for this study. Patients had the option to purchase a microcurrent machine, light-therapy equipment, and/or an ozone generator after the program, but the researcher has no financial interest in the manufacturing or distribution of the equipment. The purchase option was offered as a convenience to participants.

REFERENCES

1. Kondrot EC. *Healing the Eye the Natural Way: Alternative Medicine and Macular Degeneration*. Carson City, NV: Nutritional Research Press; 2001.
2. Goldberg J, Flowerdew G, Smith E, Brody JA, Tso MO. Factors associated with age-related macular degeneration: an analysis of data from the first National Health and Nutrition Examination Survey. *Am J Epidemiol*. 1988;128(4):700-710.
3. Kryzhanovskiĭ GN, Lipovetskaia EM, Kopp OP. Role of the sympathetic nervous system in the pathogenesis of experimental glaucoma [in Russian]. *Biull Eksp Biol Med*. 1980;89(5):535-538.
4. Paul EL Jr. The treatment of retinal diseases with micro current stimulation and nutritional supplementation. Paper presented at: International Society for Low-Vision Research and Rehabilitation (ISSLRR) Low Vision Congress; 2002; Goteborg, Sweden.
5. Michael LD, Allen MJ. Nutritional supplementation, electrical stimulation and age related macular degeneration. *J Orthomol Med*. 1993;8(3):168-171.
6. Kondrot EC. *Ten Essentials to Save Your Sight*. Charleston, SC: Advantage; 2012.
7. Bocci VA. Scientific and medical aspects of ozone therapy: state of the art. *Arch Med Res*. 2006;37(4):425-435.
8. Nguyen QD, Shah SM, Van Anden E, Sung JU, Vitale S, Campochiaro PA. Supplemental oxygen improves diabetic macular edema: a pilot study. *Invest Ophthalmol Vis Sci*. 2004;45(2):617-624.
9. Riva Sanseverino E, Meduri RA, Pizzino A, Prantera M, Martini E. Effects of oxygen-ozone therapy on age-related degenerative retinal maculopathy. *Panminerva Med*. 1990;32(2):77-84.
10. Cheng N, Van Hoof H, Bockx E, et al. The effects of electrical currents on ATP generation, protein synthesis, and membrane transport of rat skin. *Clin Orthop Relat Res*. 1982;(171):264-272.
11. Chan HH, Leung MC, So KF. Electroacupuncture provides a new approach to neuroprotection in rats with induced glaucoma. *J Altern Complement Med*. 2005;11(2):315-322.
12. Chu TC, Potter DE. Ocular hypotension induced by electroacupuncture. *J Ocul Pharmacol Ther*. 2002;18(4):293-305.
13. Kondrot EC. Initial results of microcurrent stimulation in the treatment of age-related macular degeneration. *Townsend Lett Doct Patients*. 2002;(231):65-67.
14. Kondrot EC. *Microcurrent Stimulation: Miracle Eye Cure?* Carson City, NV: Nutritional Research Press; 2001.
15. Gottlieb RL, Wallace LB. Syntonic phototherapy. *Photomed Laser Surg*. 2010;28(4):449-452.
16. Zaretskaya RB. Intraocular pressure of normal and glaucomatous eyes as affected by accessory light stimuli. *Am J Ophthalmol*. 1948;31(6):721-727.
17. Grunwald JE, Pistilli M, Ying GS, Maguire MG, et al. Comparison of Age-related Macular Degeneration Treatments Trials. *Ophthalmology*. 2015 Apr; 122(4):809-816.
18. Glaucoma Research Foundation. Glaucoma medications and their side effects. http://glaucoma.org/treatment/glaucoma-medications-and-their-side-effects.php. Updated July 31, 2013. Accessed June 10, 2015.
19. Haddrill M. Glaucoma treatment: eye drops and other medications. All About Vision Web site. http://www.allaboutvision.com/conditions/glaucoma-3-treatment.htm. Updated February 2015. Accessed June 10, 2015.
20. Blair CJ, Ferguson J, Jr. Exacerbation of senile macular degeneration following cataract extraction. *Am J Ophthalmol*. 1979;87(1):77-83.
21. Klein BE, Howard KP, Lee KE, et al. The relationship of cataract and cataract extraction to age-related macular degeneration: the Beaver Dam Eye Study. *Ophthalmology*. 2012;119(8):1628-1633.
22. Levy T. *Curing the Incurable: Vitamin C, Infectious Diseases, and Toxins*. Philadelphia, PA: Xlibris Corp; 2002.
23. Schaumberg DA, Mendes F, Balaram M, Dana MR, Sparrow D, Hu H. Accumulated lead exposure and risk of age-related cataract in men. *JAMA*. 2004;292(22):2750-2754.