

Macular Degeneration

JEYTON'S STORY

When Jeyton couldn't focus on street signs and house numbers, people said, "it's aging." Any glare became very uncomfortable and her eyes hurt. Then she started noticing gray, shadowy areas while she was reading. After reading for a short time, her eyes felt strained. In the morning her eyelids stuck shut. Eventually, small ulcers developed on her eyeballs. In 1982, these painful ulcers led to a complete eye examination, which produced a short, two-word diagnosis: macular degeneration. Put another way: You're going blind!

WHAT IS MACULAR DEGENERATION?

A small area, less than 1/4 inch on the retina of the eye, where central vision and color perception takes place, is named the macula. The macula is essential for focusing the eye. It makes it possible to read, see detail, and focus on close or distant objects. For example, you can read this page, say ten inches away, and then focus on a star a million light years away in an instant. If the macula fails, you can't focus, everything is a blur, and you're left with only the ability to see light and dark. A little peripheral vision sometimes remains, but not enough to stop you from being declared "legally blind."

When this peripheral vision survives after the macula is gone, a set of binocular-like devices can be prescribed to help you get around. The binocular device is difficult to wear and isn't much help, but it's better than no vision at all. However, it lets the person function without a seeing-eye dog.

As we age, the blood vessels that supply the macula often harden. When the blood flow declines, the cells that form the macula begin to die and central vision deteriorates. Your ability to read normal print goes first and eventually all central vision disappears. As the macula degenerates, it progresses from a soft, delicate, depressed area on the retina, to a raised hard bump. About 16,000 new cases of blindness occur each year from macular degeneration. That's almost two people every hour, 24 hours a day.

Macular degeneration has always been considered an age-related form of blindness. It parallels general hardening of the arteries, which usually progresses as we get older. Most research efforts were directed toward helping the victim use the peripheral vision that remained. This meant the development of various optical devices and special large-print books. Few scientists looked for either a cure or, more importantly, a preventive approach. Don't get the impression from this that research scientists and physicians are close minded. The issue here is the terminology "it's part of aging." Whenever an illness gets labeled that way, the door on research is usually shut. After all, why investigate something that's simply part of being normal?

BACK TO JEYTON

In February 1984, Jeyton sought a second opinion from a specialist in the closest city, Corpus Christi, Texas. Diagnosis: macular degeneration! The doctor could give no

encouragement for her visual future and offered literature that taught victims of macular degeneration how to cope, while becoming blind in slow motion. His recommendation was to learn how to live as a blind person, while she could still see.

After the 1984 diagnosis, Jeyton tried to carry on life as usual. She didn't complain nor burden her family or friends. As her vision deteriorated, she got stronger and stronger prescription glasses. Since street signs became fuzzy and she lost the ability to focus, she drove less and less. She had become resigned to the diagnosis, so she sought understanding from literature and organizations dedicated to macular degeneration. Since macular degeneration has already claimed over 240,000 eyes, the organization has lots of members and it's growing.

Jeyton's most depressing experience was when she attended the February 1988 convention for people with macular degeneration. Experts at the convention said there was no cure. Support people showed various optical devices to help victims of the disease cope with life. In her words, "I was profoundly discouraged. They wouldn't give the slightest glimmer of hope for a cure. We were treated as if our vision was lost." But in spite of experiencing her slow loss of sight, Jeyton couldn't simply give up. She couldn't visualize herself as blind.

Later, in the same spring of 1988, Jeyton was watching the evening news when a doctor being interviewed told how some people with macular degeneration were helped with zinc. Shortly after that, an article appeared in *Readers' Digest* telling about research conducted by Dr. David A. Newsome of the Louisiana State University Eye Center. Newsome's research showed that the development of macular degeneration could be slowed by taking 200 milligrams of zinc daily. In his study, the volunteers got 100 milligrams of zinc twice daily or a placebo. Of those who got the zinc, the degeneration slowed or even stopped.

By now, Jeyton's vision had deteriorated to 20/40. This meant she could focus on things very close, but things at even a short distance were fuzzy at best and most often a blur. She decided that was as bad as she would ever let it get. She was going to start a program of zinc supplements. Jeyton adjusted her Shaklee supplement-program to include 200 milligrams of zinc. She kept a daily scorecard so that whatever supplements she used, they included 200 milligrams of zinc.

By November 1988, five months later, her eye doctor said the macula in each eye had improved. Improvement means the area of the macula looked softer and not raised; it was closer to normal. This was confirmed by a quantitative test, which showed vision of 20/30, an easily correctable nearsightedness. This meant that the eye doctor's subjective conclusion was confirmed by the tests.

In December 1989, eighteen months after starting her zinc regimen, her left eye showed no macular degeneration. Her right eye had just a slight indication of degeneration and tested at 20/25, which is very close to normal. With 20/25 vision, you don't need glasses.

By January 1991, the disease was completely eliminated. Her vision tests at 20/20 in both eyes and there is no visual evidence of macular degeneration. Jeyton is cured.

No, it was in her eyeballs. The retina of the eye is really an extension of the brain, and is one of the last frontiers of nutritional biochemistry research. For example, eye tissues, including the retina, contain many nutrients in concentrations 50 to 100 times of that found in the blood that bathes them. This means that those tissues must expend energy to concentrate these nutrients. It's like pumping water up from a deep well. If you need the water, you pump. Usually there is no problem for the tissue to concentrate these nutrients, and all that's required of us is to achieve the Recommended Daily Allowance (RDA) of most nutrients. But what happens if something goes wrong with the system that extracts the nutrients from our blood, or the system that builds the nutrient in the tissues isn't working? We've got to give them some help. In fact, lots of help. Help under these conditions means getting much more zinc than the RDA. Chemists would call this applying the law of mass action. If you use the well analogy, it's like raising the water table so you don't need to pump as hard.

Two-hundred milligrams of zinc daily is over 10 times the RDA for zinc. At that level, eye tissues could get the zinc, but it still took almost two years for Jeyton's eyes to return to normal. That's what I mean when I say nutrition works in slow motion.

Loss of visual sensitivity, which is another type of retinal degeneration that involves vitamin E, was recently reversed with vitamin-E supplements at a level even higher than 10 times the RDA. But it took two years for complete reversal. This time frame is similar to Jeyton's experience with zinc. Both eye conditions confirm that people aren't all the same, and some require more than the RDA of certain nutrients to stay healthy. More importantly, it serves notice on people who expect nutrition to produce fast results like modern miracle drugs. Nutrition doesn't work that way; it takes time.

Is zinc a drug in Jeyton's case? I don't think so. Obviously, Jeyton was not zinc deficient by the classical definition of zinc deficiency. She didn't have acne nor the taste and smell aberrations that come with zinc deficiency, her energy level was high, her cuts healed correctly, she followed a good diet, and had always taken Shaklee Vita-Lea. Since Vita-Lea provides the RDA for zinc (18 milligrams), Jeyton had always achieved her RDA even if her diet slipped. In short, she had practiced sensible supplementation and nutrition insurance. But the zinc RDA set for normal people simply wasn't enough for Jeyton.

Suppose, in her case, we take a healthy macula as a criterion of adequate nutrition. Then you'd have to agree that she was deficient and needed more zinc. Jeyton's zinc RDA is not 15 milligrams, it's higher; possibly as high as 200 milligrams. Do you think anyone with macular degeneration wants to test for exactly how much zinc they need? I doubt it. Taking 200 milligrams is harmless, so why not?

Jeyton's zinc requirement is not easily determined, but by taking the amount she does, she has her sight. It's important to understand that drugs can not be used in the same way. Everyone requires zinc to live. Some people require a drug to cure an illness, so they can live as near to normal a life as possible. There's a world of difference between zinc requirements and drugs. Drugs are prescribed by doctors for a specific purpose and should be taken as directed. All drugs

have side effects, and misuse can be devastating, if not fatal. At 200-milligrams daily, zinc has no noticeable side-effects.

ABOUT THE AUTHOR

James Scala was educated at Columbia (B.A.), Cornell (Ph.D.), and Harvard (Post-doctoral studies) Universities.

He has spent his career in research, research management, and teaching. His accomplishments include over fifty published papers on research in nutrition, biochemistry, and biology. His teaching includes courses for undergraduate, graduate, medical, and dental school students.

As a research manager, Dr. Scala held positions at Procter and Gamble, Owens-Illinois, Unilever, General Foods, and was the Senior Vice-President of Scientific Affairs for the Shaklee Corporation. He now devotes his energies to writing and speaking for the general public.

Dr. Scala lives with his wife Nancy in Lafayette, California. For recreation, they sail the ketch La Scala from its home port on San Francisco Bay.