

Controlling Macular Degeneration: A Common-Sense Approach

Fall 2009
Kristin Homme, PE, MPP, MPH
mercuryandmore.weebly.com

8/21/2009



1

Summary

- You can prevent and treat macular degeneration with diet.
- The micronutrients in which you're probably deficient, despite your current "healthy" diet are:
 - **Vitamin A**
 - **Zinc**

8/21/2009



2

A Healthy Diet

A healthy diet includes ample fresh vegetables and adequate protein, plus:

- **True Vitamin A**
 - Found in the fat of fish and animal liver
- **Zinc**
 - From liver and meat

8/21/2009



3

Macular Degeneration

- Macular degeneration is a chronic eye disease in which the central retina gradually deteriorates, causing a blind spot in the center of the visual field.
- Wet macular degeneration is an aggressive form in which new blood vessels grow and leak fluid under the macula, causing rapid loss of central vision.

8/21/2009



4

Mechanism

- Dry macular degeneration is believed to be caused by an accumulation of metabolic waste products in the delicate, metabolically active center.
- Wet macular degeneration is believed to be caused by hypoxia (low oxygen) via impaired circulation.
 - Impaired circulation may be caused by damage to blood vessels and/or by sticky immune cells clogging tiny capillaries.

8/21/2009



5

Prognosis



- Vision loss is generally limited to the macula (central retina), due to its high metabolic rate and high oxygen demand, with its low vascularization, which is due to the tight packing of nerve cells needed for detail vision.
- Patients lose the ability to drive, but with visual aids patients can do most things albeit more slowly.

8/21/2009



6

Prognosis

- Since macular degeneration is a chronic metabolic and/or immune condition, it will progress until the cellular imbalance is corrected.

8/21/2009



7

Systemic considerations

- Macular degeneration is a localized manifestation of a systemic problem:
 - Poor circulation
 - High oxidative stress
 - Pro-inflammatory state
- It is often associated with:
 - Heart disease
 - Poor digestion
 - Poor liver function

8/21/2009



8

Conventional Treatment

- Micronutrients – many supplement formulas, based on vitamin A and zinc.
- Anti-angiogenesis drugs (injections) – interfere with new blood vessel growth.
- Laser photocoagulation – targets new blood vessels for destruction.

8/21/2009



9

Conventional Treatment

Micronutrient formulas with vitamin A and zinc	Many fail to use the best forms of these key micronutrients. Many formulas include copper -- an angiogenesis agent.
Anti-angiogenesis drugs (injections) to suppress new blood vessel growth	Outlook is promising -- but these drugs have side effects and a hefty price tag.
Laser photocoagulation -- to kill new blood vessels.	Appears to slow progression in short-term but not long-term. Destroys retinal tissue.

8/21/2009



10

Flaws in many conventional micronutrient formulas

- **Vitamin A**
 - Many use beta-carotene or mixed carotenoids, (which are unreliable precursors) instead of true vitamin A.
 - Many use too low a dose.
- **Zinc**
 - Many use the poorly-absorbed oxide form instead of the better-absorbed chelate form.
 - Many use too low a dose.

8/21/2009



11

The key to treating macular degeneration

- **Vitamin A**
 - use the true form, in high but safe doses.
- **Zinc**
 - use a well-absorbed form, in high but safe doses.

8/21/2009



12

Vitamin A

- Deficiency of Vitamin A is common. It affects the skin and epithelial tissue, and the immune system.
- Beta carotene and mixed carotenoids are not true vitamin A; they are converted to vitamin A only if the liver is healthy and energetic.
- True vitamin A is found in large amounts only in liver.
- Since liver contains high copper (as well as high vitamin A and zinc) and liver-oil does not, the best source of vitamin A for macular degeneration appears to be natural high-vitamin cod liver oil (not the type with the vitamins removed).

8/21/2009



13

Vitamin A Dosing: Safety Issues

- Conventional physicians are reluctant to recommend vitamin A because they are unfamiliar with its full range of benefits and because they believe to be toxic at long-term doses above 10,000 IU per day.
- These toxicity studies used synthetic vitamin A, unbalanced by vitamin D.
- Toxicities have never been found for natural vitamin A taken as cod liver oil.
- Natural cod liver oil, containing vitamin A in various forms, and balanced by vitamin D, has been used therapeutically in high doses by traditional cultures and has never been shown to be toxic.

8/21/2009



14

Zinc Dosing

- Needs vary, since zinc is rapidly depleted by stress.
 - Macular degeneration = oxidative stress.
- Zinc chelates (zinc gluconate, zinc picolinate, etc.) are better absorbed than zinc oxide.

8/21/2009



15

Zinc-Copper Imbalance

- In the body, zinc competes with copper for absorption and transport.
- Zinc is found in seafood and animal protein.
- Zinc is rapidly depleted by stress.
- Copper, though an important nutrient, is found in many foods; thus deficiency is unlikely except in the poorest of diets.
- Many zinc-rich foods – seafood, organ meats -- contain high levels of copper.
- Zinc is found without high copper only in meat, poultry, and eggs.

8/21/2009



16

Additional Treatments

- Vitamin C -- take very few hours
- Vitamin B-complex -- take several times per day
- Vitamin E
- Essential fatty acids
- Flavinoids – quercetin, bilberry -- antioxidant components of colorful fruits and vegetables
- Carotenoids – zeaxanthin and lutein are anti-oxidants found in the retina; other carotenoids need to be converted to vitamin A in the liver.
- Selenium
- Magnesium
- Taurine

8/21/2009



17

Chronic mercury poisoning

- The body burden of mercury cannot be measured.
- Chronic mercury poisoning appears to be a hidden epidemic, contributing to many neurodegenerative diseases.
- Mercury contributes to macular degeneration:
 - It causes oxidative damage;
 - It disables hemoglobin, exacerbating hypoxia;
 - It causes retention of copper – an angiogenesis stimulant.

8/21/2009



18

Summary

- Take vitamin A as some form of retinol – the best source is high-vitamin cod liver oil.
 - Take 10,000 IU of any brand; or 25,000 to 30,000 IU of vitamin A as natural, high-vitamin cod liver oil.
- Take zinc in chelate form.
 - Try 50 to 150 mg per day.
- Eventually, read:
 - Read about copper-zinc imbalance, copper toxicity, and high-copper foods.
 - Read about long-term balancing of minerals including zinc, copper, manganese, and iron.

8/21/2009



19

Frequently asked questions

- Can I regain any lost vision?
 - Only if the nerve cells have not yet died.

8/21/2009



20

General References

- A good general reference for the macular degeneration patient is:
 - Grossman, M, Swartwout, G (1999). Natural Eye Care: An Encyclopedia. McGraw-Hill. (out-of-print but may be available used).
- Another one, a bit heavier, is:
 - Abel, Robert (2004). The Eye Care Revolution. Kensington.
- For ongoing news on the benefits and safety of high-dose vitamin A :
 - Weston A. Price Foundation web site
- For a good overview of chronic mercury poisoning:
 - Cutler, Andrew (1999). Amalgam Illness: Diagnosis and Treatment. (self-published).

8/21/2009



21