

TREATMENT OF MACULAR DEGENERATION WITH CHINESE MEDICINE

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Macular degeneration is easily diagnosed by modern methods, using basic eye examinations and, for more detailed analysis, retinal imaging and IV administration of a dye that allows observation of blood flow. These methods were not available during the development of traditional Chinese medicine (TCM). Therefore, it is not possible to know whether a particular description of an eye disorder in Chinese medicine texts or even in Chinese journal reports of the 20th century indicated macular degeneration (MD) or some other eye disorder. In the 1989 ophthalmology volume of the **English-Chinese Encyclopedia of Practical TCM** (1), there is no mention of MD; most of the later publications lumped MD in with other retinal disorders. The characteristic for the patient with MD is the experience of blurred vision associated with localized distortions of the visual field, sometimes with portions of the field being nearly absent. A common preliminary test is to have the person look at uniform crosslines (Amsler grid); if the pattern is seen with areas of distortion or missing lines then that is a likely indicator of MD. Modern studies show that there is development of yellow globules (drusen) under the retina, easily seen in ophthalmic exams that include retinal and fundal photography, and there may also be growth of excess blood vessels, observed with fluorescein or indocyanine angiography.

TCM texts refer to blurred vision that occurs as a new symptom, as opposed to the problem of near sightedness, far sightedness, or astigmatism that are persistent and may worsen very gradually. While MD usually develops slowly from its initial manifestation, the blurring is an obvious change from prior conditions. MD mostly develops in older persons, usually past age 60, but there is a dramatically higher incidence after age 70. From the TCM understanding, one cause of such blurring is the deficiency of liver and kidney qi and depletion of essence that is deemed an inherent part of old age; the particular manifestation at the retinal area depends on the local conditions, such as having capillary bed distortion affiliated with decline in qi and blood circulation. There is a TCM concept of uprising clear qi and yang that nourishes the senses of the head, especially affecting vision and hearing, but also influencing taste, smell, and brain function that is likely relevant to MD. A well-known traditional formula for addressing deficient arrival of this important essence is *Yi Qi Cong Ming Tang*. MD is not necessarily associated solely with deficiency; it can also represent an excess condition of stagnation. For example, blood vessel proliferation (an excess) may indicate a deficiency of adequate circulation that occurs secondarily to blood stasis (limited capillary passage of blood cells): the restricted circulation then induces this growth of more vessels to compensate. Leakage of fluid from the vessels, especially these newly formed ones, causes further damage and the accumulating materials are a form of excess. The globular deposits may be products of cellular breakdown or substances that are otherwise normally absorbed but that accumulate due to the reduced circulation.

Aside from aging and the role of genetics, the predominant risk factor for MD is smoking. Smoking cessation and prevention of smoking initiation have been major public health targets for decades now in the U.S. In 1965, just over half of men and just over a third of women were smoking cigarettes. A significant fraction of these individuals have been experiencing MD as a result. While the rate of smoking had declined to about 25% of men and 20% of women by 2005, and gradually reaching about 14% overall today, this is still a significant contribution to MD. Risk of MD is also associated with cardiovascular disease, an indication that circulatory disturbance is a likely factor in its etiology. In different studies, the association of MD with a number of other medical conditions has yielded varying results (sometimes no correlation, other times an apparent one), so it is difficult to pin down additional specific factors that may contribute to its development. MD, like some other eye disorders, may be more prevalent in those who have excessive exposure to UV light, mainly via sunlight; the elevated exposure level is often due to living situations (e.g. being outdoors for prolonged periods) and lack of adequate eye protection (sunglasses, visors). Reduction of risk factors, even late in life, may be able to reduce the incidence, severity, or rapidity of progression of MD.

TCM texts often have references to eyes and vision, but rarely give a detailed depiction of the eye disorder, other than those readily apparent to the patient or an observer, such as red eyes, dry eyes, itching eyes, coating over the eye surface, appearance of specks in the visual field, blurry vision, difficulty seeing in the dark, and blindness. One of the prime textbooks of eye disorders preserved to now is *Yin Bai Jing Wei*, which is likely a Ming Dynasty text, though it was sometimes attributed to Sun Simiao of the early Tang Dynasty. This text has been translated by Jürgen Kovacs and Paul Unschuld under the title **Essential Subtleties on the Silver Sea** (2). In this extensive presentation on vision, it is noted that: “If the qi of the liver and kidney are deficient, vision will be dim and confused” (p. 125), which forms a basis for a treatment strategy for degenerative eye disorders such as MD. This text is about herbs rather than acupuncture (a subject not mentioned). There is a prescription that seems to fit the general condition of newly occurring blurred vision associated with aging:

Modified Pills to Preserve Vision

The qi of liver and kidney is depleted, vision is blurred, and the blood is wanting while qi is abundant.

Che Qian Zi (plantago seed)
Dang Gui (tang-kuei)
Shu Di Huang (rehmannia)
Gou Qi Zi (lycium)
Chuan Jiao (zanthoxylum)
Wu Wei Zi (schizandra)
Tu Si Zi (cuscuta)

This formula is made as a pill and taken either with wine (selected because it improves blood circulation) or salt water (directs to kidneys). It is a variant of *Wu Zi Yan Zhong Wan*, used for nourishing essence, which has the four “zi” herbs listed above plus Fu Pen Zi (rubus). The inclusion of Chuan Jiao in this vision formula is based on an ancient idea that it has the ability to “remove blinding obstruction in the eye.” Other versions of the formula incorporate Ru Xiang (frankincense), Ren Shen (ginseng), Rou Cong Rong (cistanche), and Chu Shi Zi (broussonetia; reputed to benefit liver and kidney and clarify vision). Another strategy mentioned in the text is to divide the treatment into two parts: first tonifying qi and yang, where the herbs are taken in the morning after breakfast has been digested, and then nourishing the yin at bed time. The idea behind this method is to raise the clear qi and yang while yang is naturally increasing in the morning, and to later nourish the yin, which is dominating in the night, contributing to restful sleep. In raising the yang, herbs that resolve the surface, such as Fang Feng (siler) and Qiang Huo (chiang-huo) or Ge Gen (pueraria) may be included so that the rising essences do not become congested, especially if there is already some obstruction of the upper circulation due to entrance of “wind” into the unfilled vessels. Yin nourishing formulas will have herbs that nourish kidney and liver, such as Shu Di Huang, Gou Qi Zi, Tu Si Zi, and Shan Zhu Yu (cornus); these nourishing herbs are usually accompanied by spleen tonifying herbs to aid production of blood.

Acupuncture Point Selections

Acupuncture for eye disorders is based on using local points surrounding the eyes accompanied by a few distal points, some of them well-known for treating eye disorders and others to accomplish the particular needs of supplementing or dispersing. The commonly recommended points near the eyes are:

Jingming (BL-1)
Zanzhu (BL-2)
Taiyang (EX-HN)
Sibai (ST-2)
Yangbai (GB-14)

The idea behind using these local points is to directly influence circulation to the eye, removing local blockages and, in terms of modern description of acupuncture effects, stimulating nerves affecting muscles in the area for vasodilation.

Potentially useful adjunctive distal points include:

Fengchi (GB-20)

Hegu (LI-4) and *Neiguan* (PC-6) [not as commonly mentioned in the treatment]

Guangming (GB-37) and *Sanyinjiao* (SP-6), *Taixi* (KI-3) and *Taichong* (LV-3) [use LV-3 if using LI-4]

Ganshu (BL-18) and *Shenshu* (BL-23)

These points have been listed here with first the head points, then the arm points, then the leg points, and finally the back points. Practically speaking, the patient could be sitting up to receive the needles of the face, upper back, forearms, and lower legs, while the Bladder Meridian points are not as easily accessible. Or lying down, the same points are workable, though GB-20 is usually not accessible. Thus, two needling sets may be required either one after the other during one acupuncture session or every other treatment.

In a 1992 review article (3) of acupuncture treatment for eye disorders classified as optic nerve atrophy, cases of MD may have been included. The acupuncturists considered methods that were useful for eye disorders generally, giving special attention to deficiency cases thought to be the basis of atrophy. The various acupuncture approaches reviewed included three broad categories: selection of acupuncture points all over the body using traditional meridian theory; selection of local points with a small number of supporting points distally; and treatment based on “new acupuncture” developed in the 1980s, including some of the better known extra points (e.g. *Qiuhou*), but also some rarely used points (which will not be pursued further here). As an example of the first approach, treatment of four differential diagnosis patterns were portrayed as “Huang’s Method”:

| Tonification of Liver, Kidney and Lung | Tonification of Kidney Yang | Tonification of Kidney Yin | Tonification of Liver, Kidney, and Spleen |
|--|-----------------------------|----------------------------|---|
| <i>Fengchi</i> (GB-20) | <i>Hegu</i> (LI-4) | <i>Hegu</i> (LI-4) | <i>Ganshu</i> (BL-18) |
| <i>Ganshu</i> (BL-18) | <i>Zusanli</i> (ST-36) | <i>Fuliu</i> (KI-7) | <i>Mingmen</i> (GV-4) |
| <i>Shenshu</i> (BL-23) | <i>Sanyinjiao</i> (SP-6) | <i>Sanyinjiao</i> (SP-6) | <i>Guanyuan</i> (CV-4) |
| <i>Taiyuan</i> (LU-9) | <i>Fuliu</i> (KI-7) | <i>Taichong</i> (LV-3) | <i>Zusanli</i> (ST-36); use moxa |
| <i>Hegu</i> (LI-4) | <i>Taichong</i> (LV-3) | <i>Yingu</i> (KI-10) | |
| <i>Feiyang</i> (BL-58) | | | |
| <i>Taixi</i> (KI-3) | | | |

The work of other authors was summarized as follows for the review:

Ye’s Method, said to dredge the channels, tonify kidney and liver, nourish blood, tranquilize the mind, and invigorate circulation, involves using *Fengchi* (GB-20) and *Guangming* (GB-37) and three local points: *Neijingming* (a point closer to the eyeball than neighboring BL-1), *Taiyang* (EX-HN), and *Qiuhou* (EX-HN), along with body points for five differential categories.

Li’s Method, is said to have two main subdivisions: to clear the head and brighten the eyes; or to dredge the channels, invigorate blood circulation, and brighten the eyes. For the first purpose, the main points are *Fengchi* (GB-20), *Hegu* (LI-4), *Guangming* (GB-37), and *Taiyang* (EX-HN); for the latter purpose, *Ganshu* (BL-18), *Shenshu* (BL-23), *Dazhui* (GV-14), and *Sanyinjiao* (SP-6); these main points are then supplemented by others as indicated for the patient.

Cheng’s Method is said to have three differential types: yin deficiency of liver and kidney; deficiency of qi and blood; and stagnation of liver qi. Acupuncture points for these three types are used to support the main set of *Fengchi* (GB-20) and *Guangming* (GB-37) with local points *Jingming* (BL-1) and *Qiuhou* (EX-HN).

For selection of local acupuncture points, authors featured in the review made use of *Jingming* (BL-1), *Zanzhu* (BL-2), *Tongziliao* (GB-1), *Yuyao* (EX-HN), and *Qiuhou* (EX-HN) along with primary distal supporting points *Ganshu* (BL-18), *Shenshu* (BL-23), and *Fengchi* (GB-20).

It is evident that despite some variations, many of the points selected as main ones are mentioned repeatedly. The author of the review article notes that results are better with younger patients, shorter duration of the disorder, and less severity of visual impairment, that is, when discovering the condition early and treating promptly, and in those cases the person being treated has the best chance of overcoming deficiency and stagnation because of more vibrant health. Acupuncture was typically administered daily for 7-10 days, followed by a break of 2-3 days, and repetition. There can be additional breaks between later courses, but altogether about 25-50 treatments would be administered. In the western practice of TCM, where daily acupuncture is impractical, acupuncture can be performed twice per week over three to six months.

One Chinese medicine report from the journal *China Acupuncture* (4) was specifically devoted to macular degeneration. The text indicated that most patients attained benefits, though to varying degrees, with the main points *Fengchi* (GB-20) and *Guangming* (GB-37) plus local points *Jingming* (BL-1), *Zanzhu* (BL-2), *Taiyang* (EX-HN), *Sibai* (ST-2), *Yangbai* (GB-14), and *Tongziliao* (GB-1), and supporting points *Ganshu* (BL-18), *Shenshu* (BL-23) and *Fenglong* (ST-40).

A recent review of English language acupuncture publications about MD and other visual impairments (5), displayed a remarkably broad range of strategies, both with point selection and with methods of needle stimulation. As an example, one report promoted the “emayaoling” intensive needle manipulation technique claiming better results than with ordinary needle stimulation, and utilizing primary points *Zanzhu* (BL-2), *Yiming* (EX-HN), *Ganshu* (BL-18), *Pishu* (BL-20) and *Shenshu* (BL-23). Another study using standard acupuncture involved three of the same bladder meridian points (BL-2, BL-18, and BL-23) and then expanded upon that considerably, especially with gallbladder meridian points: *Guangming* (GB-37), *Yangbai* (GB-14), *Tongziliao* (GB-1), and *Fengchi* (GB-20), plus *Jingming* (BL-1), *Taiyang* (EX-HN), *Sibai* (ST-2), and *Fenglong* (ST-40).

Ideally, MD is addressed early in its development, before substantial irreversible changes occur; at an advanced stage of retinal damage, TCM may improve vision but not reverse the former deficits. Also, if there is extensive production of new blood vessels, laser surgery to remove them can provide a definite therapeutic effect, while acupuncture and herbs probably will not be able to eliminate these new vessels. Rather, TCM interventions would help prevent the recurrence of undesired vascularization once the laser treatment removed those vessels produced previously. Aside from acupuncture and herbs, there is some evidence that ingestion of anti-oxidant vitamins and minerals and visual pigments (such as lycopene and the xanthins from green vegetables and colorful fruits) can help prevent worsening of MD, especially inhibiting a transition from “dry” form, which is more slowly progressing, to the “wet form,” the latter involving leakage of fluids from the vessels, and causing rapid decline in vision.

References

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