

## Commentary (Series editor: David Taylor)

### Alternative eye care

“History teaches us that men and nations behave wisely once they have exhausted all the other alternatives.”  
Abba Eban, 1915–

As ophthalmologists we tend to stick to what we know. We mostly use only four main groups of drugs that act on the eye—anti-infectives, anti-inflammatories, antiglaucoma medications, and lubricants—a limited formulary, but one that is evidence based according to our medical training. But there are alternative therapies which are becoming a growing part of our health care and for which eye conditions present an ideal substrate. In the United States alone an estimated \$14 billion a year is spent on alternative treatments and 37 medical schools are starting to devote a small part of their training to this subject.<sup>1</sup> Medline lists 24 main headings under “Alternative medicine” and indexes a number of relevant journals including ones on acupuncture, biofeedback, Chinese medicine, manipulative and physiological therapeutics, and natural products.

In his *Foundations of Ophthalmology* (Vol VII, 1962) Duke-Elder covers a great deal more than pharmacology in his “Ocular therapeutics” section.<sup>2</sup> He describes some unconventional biological and physical treatments which may have had their day but which do not seem so incongruous when compared with the vast array of alternative treatments revealed by searching the world wide web today.

In their time many of these treatments represented attempts to treat the untreatable. They demonstrated an inventive ingenuity influenced by the scientific knowledge of the day and were applied with great enthusiasm to unsuspecting patients. Some techniques that have been used include protein shock (milk, serum, or vaccine), biogenic stimulation with tissue such as placenta, injected subconjunctivally for a host of incurable eye conditions, and the injection of cobra venom for macular degeneration. Physical treatments that have been dreamt up over the years include environmental therapy (for the affluent sick), ocular massage, blood letting, thermotherapy, and electrotherapy—a faradic current was used to create an “electric eye bath” which by all accounts created a “local gymnastic effect” on the sufferer.

Three to four thousand years before the Christian era the cause of disease was blamed on malignant spirits and devils, and superstition and mystical rites dominated the therapeutic scene.<sup>3</sup> The recital of complex incantations was augmented with prophylactic measures to prevent the devil from entering the eyes. These “treatments” were often concocted to be more vile than the demoniacal causes of the affliction; an Assyrian recipe for dry eyes consisted of a local application of the gall of a freshly disembowelled frog mixed with raw onion. Some treatments, however, were less bizarre and more effective, and by the 7th century BC the pharmacopoeia contained many plant extracts and minerals. These were applied as powders, which were blown into the eye, or ointments mixed with water, milk, wine, or oil. As these therapeutic measures became more elaborate the roles of the priest-magician and physician diverged but today, five millennia later, the former still retain a significant influence with the practice of “traditional medicine.” Some present day traditional eye treatments are reminiscent of the old recipes—being of plant

origin (juice or powder), human origin (breast milk, blood, urine, or semen), or just plain toxic (cleaners, dyes, toothpaste, and kerosene).

Despite advances in pharmacology and the efficacy of proved conventional eye treatments, traditional beliefs and superstitions persist today in the form of apotropaic symbols of fertility used to ward off the evil eye such as crosses, cowrie shells, fish, or mirrors worn as amulets. The modern use of eye make up and the wearing of earrings and tattoos all having their origins in preventing the entrance of evil spirits.

Nowadays, however, most alternative eye treatment does not involve the use of icons or noxious substances but rather seeks to adopt a holistic approach by involving diet, nutritional supplementation, and physical exercise. It often defies rational explanation and lacks scientific proof but enables patients to become more involved with their own treatment and acknowledges the therapeutic importance of the relationship between themselves and the therapist.<sup>3</sup>

Many ophthalmologists will be familiar with one of the more outspoken proponents of natural treatment—Harry Benjamin, who as a highly myopic teenager in 1926 was influenced by WH Bates, MD, a New York ophthalmologist and the author of *Perfect Sight Without Glasses*. Having been told that there was nothing more that could be done and he would have to give up reading, the young Benjamin read Bates’s book, threw up his job and threw out his glasses (−20.0/−3.0 cyl), and adopted a “naturopathic” diet which he claimed enabled him to read and write “quite well,” although he admitted that his distance vision was “not so good”! He himself then wrote *Better Sight Without Glasses* which is now in its sixth edition and after four decades is still making the health columns of the popular press.

With the advent of the internet there is no shortage of advice about eye care without the aid of medicines. Most of this advice involves good sound common sense—plenty of green vegetables, a low fat diet, physical exercise, and nutritional supplements in the form of trace elements, antioxidants, and vitamins. Continuous television watching is discouraged, especially in the dark late at night, and frequent blinking and taking a break during the advertisements is advised. Harry Benjamin goes one step further and suggests as a treatment for cataract a 5 day fast followed by a strict diet (with no bread or bananas), a nightly enema, and a daily dry friction rub.

Homeopathy offers remedies for eye injuries or eye strain based on microdoses of substances such as *natrum muriaticum* (for heavy eyelids and headaches) or *ruta graveolens* (for eye strain from overuse). For conjunctivitis with a thick yellow discharge, *pulsatilla* is recommended and for people who also have swollen glands, offensive breath, and excessive salivation—*mercurius solubilis*. Mercury of course has other connotations—namely, in the form of its yellow oxide which was first advocated as a panacea for chronic conditions of the outer eye by Alexander Pagenstecher of Wiesbaden in the middle of 19th century and which generally did more harm than good. An

alternative treatment for conjunctivitis comes in the form of a herbal remedy comprising one teaspoon of goldenseal and half a teaspoon of myrrh mixed with water. A peeled and grated fresh potato applied to the eyelids acts as an astringent and is said to have a healing effect.

The Orient provides a rich source of life enhancing tonic herbs such as ginseng to which is attributed the ability to provide atmospheric energy to the five viscera, a quieting of the animal spirits, a brightening of the eye and improvement of vision. It is a western myth that ginseng should only be used by men and that it causes a moustache to grow on women. A wild ginseng root may be up to 200 years old and is pharmacologically diverse, containing over 20 constituents including vitamins B-1 and B-2, calcium, titanium, strontium, and several steroids. It is generally accepted that wild Manchurian Tung Pei ginseng is the finest available. Another ancient remedy still used today is an extract from a tree, *Ginkgo biloba* (the maidenhair tree), thought to be the oldest on earth (first growing about 190 million years ago). Ginkgo inhibits blood clotting and is used as an aid to mental alertness and is claimed to have improved visual acuity in macular degeneration.<sup>4</sup> However, a combination with aspirin may be hazardous and has been associated with pupillary margin haemorrhage.<sup>5</sup>

It is a fact of life that common degenerative conditions such as age related macular degeneration (ARMD) will attract novel methods of treatment, which are claimed as “revolutionary” and are potentially lucrative when one considers that 13 million American people over 65 are affected. One such is “Microcurrent stimulation: miracle eye cure” described by Edward C Kondrot. This technique, which is believed to improve membrane permeability, nerve conduction velocity, and ATP levels, has been evaluated by the American Academy of Ophthalmology’s Complementary Therapy Assessment Task Force. They concluded that there is no strong scientific evidence to demonstrate its effectiveness in treating ARMD.<sup>6</sup> Moreover, “there may be a significant financial risk associated with the cost of treatment over a period of time.” Other forms of alternative treatment for ARMD include dietary supplements (lutein from spinach, carotenoids, and antioxidant vitamins) and fish consumed more than once a week.<sup>7</sup>

The AAO task force has also focused on marijuana (*Cannabis sativa*, containing over 400 chemicals) for the treatment of glaucoma and found no scientific evidence to support its efficacy, although initial studies in the 1970s reported that smoked marijuana resulted in lower IOP 3–4 hours after administration.<sup>8,9</sup> Topical administration, however, had no pressure lowering effect.<sup>9</sup> Smoking marijuana is known to increase the heart rate and lower blood pressure which in turn may compromise optic nerve perfusion.<sup>10,11</sup> Numerous adverse effects may occur but euphoria as an acute effect is acknowledged to be a benefit!

Acupuncture has been part of the healthcare system in China for over 4500 years and is designed to correct the imbalance of energy flow (Qi) along specific channels throughout the body. Responses to skin stimulation

include the release of opioid peptides accounting for an analgesic effect, an alteration in the secretion of neurotransmitters, and the regulation of blood flow.<sup>12,13</sup> Acupuncture has been reported for treating and alleviating a variety of ocular conditions including dry eye, myopia, paralytic strabismus, retinitis pigmentosa, optic atrophy, iritis, conjunctivitis, and cataract. As an example, a patient with an internal ocular haemorrhage may be diagnosed as suffering from an underlying systemic imbalance caused by an exuberance of liver yang or fire, for which needle techniques are applied to specific points around the eye. One such point is G-20 Fengchi, which intersects the meridians of the gall bladder, triple burner, and the Yang-linking, all of which embark or terminate in the eye vicinity. A successful manipulation technique creates a needle sensation that travels across the skull until it reaches the eye. This technique may be augmented by a heated snail shell placed over the closed eyelids (moxibustion), a procedure which if correctly performed should be enjoyable and relaxing for the patient.<sup>14</sup>

The AAO task force has acknowledged that acupuncture may be useful as an adjunctive therapy or as an acceptable alternative to conventional treatment.<sup>15</sup>

After thousands of years the human race has remained profoundly superstitious and prepared to try virtually any remedy when faced with a threat such as blindness. There is infinite scope for quacks and entrepreneurs and many harebrained schemes have fallen by the wayside but, nevertheless, a vast knowledge base has accumulated. Whether treatment is based on hard evidence, common sense, old wives’ tales, or oriental wisdom, we should view it all with an open mind.

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