

Review

Traditional Chinese Veterinary Medical Ophthalmology

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ABSTRACT

The eyes are the bridge between *Zang-Fu* organs and the outside world. They connect with all meridians/channels of the body either directly or indirectly to form the eye unit. The close association of eye function with the *Zang-Fu* organs allows diagnosis of organ dysfunction through abnormal ocular clinical signs as well as specific lesion location on the eyes using the theories of Five Spheres, Eight Boundaries and Six Channels. This combined with diagnosis of body imbalance can greatly aid in the TCVM treatment of eye disorders. The extraordinary vessels, which include the Governing and Conception Vessels, *Yin* and *Yang Qiao Mai* and *Yang* Linking Vessel also connect to the eye unit and play a role in regulation of *Yang* and *Yin Qi* in the eyes. Internal and External pathogenic factors affect the entire body system which can manifest as ocular disease. By using the presenting ocular clinical signs and their association with particular channels and *Zang-Fu* organs, and discerning the overall TCVM pattern of imbalance in the body, practitioners are provided with a strong and effective approach to treating eye disorders with TCVM.

Key words: Eye, traditional Chinese veterinary medicine, ocular disease, *Zang-Fu* organs, veterinary ophthalmology

ABBREVIATIONS

TCVM	Traditional Chinese Veterinary Medicine
IVDD	Intervertebral Disc Disease

In TCVM, the eyes are closely related to the five *Zang*-Organs and six *Fu*-Organs, which communicate with each other by the *Jing Luo* (Meridians and Channels) in the body. The eyes are the bridge between *Zang-Fu* organs and the outside world. The Essence-*Qi* of the *Zang-Fu* organs flow upwards into the eyes to enable sight. This concept was discussed 2000 years ago by the *Yellow Emperor's Classic of Internal Medicine* at *Spiritual Axis*, which affirmed, "the eyes are the place where the *Jing* (Essence) of the *Zang-Fu* organs has gathered and the *Ying* (Nutrient-*Qi*), the *Wei* (Defensive-*Qi*), the *Hun* (Ethereal-Soul), and the *Po* (Corporeal-Soul) run through and the *Shenqi* (Spirit) often infuses into."¹ The Classic also presents the physiology and pathology of the eyes and its relationship to the *Zang-Fu* organs, meridians and channels. Based on these early writings, treating and balancing the TCVM pattern can be an effective clinical approach to treating eye disease.

THE EYE AS A FUNCTIONAL UNIT (*Mu Ben*)

In TCVM practice the eye system behaves as a unit with individual parts. It comprises eyelids, globe with

iris, sclera, pupil, optic nerve, and vessels connecting to the brain; all of which correspond with separate organs and pathways within the body. The eye has connections with The Twelve Channel system, and it also has its own system of extraordinary channels which can be used for diagnosis and treatment. It functions both as a unit and as separate individual parts for diagnosis.

Channels and Meridians

The *Zang-Fu* organs connect with the channels to form the eye unit, which communicates with the brain at the top of the head (vertex) and emerges from the occiput. The Twelve Channels are either directly connected with the eye unit or indirectly connected by intersecting with channels and collaterals that nourish the *Qi* and Blood of the eyes through an intricate mutually supporting system that provide vision.² The eye unit starts at BL-1 and ends at GB-20. It meets the channels of Bladder (BL) and Stomach (ST) at the medial canthus and Triple Heater (TH) and Gall Bladder (GB) at the lateral canthus. The Small Intestine Channel (SI) passes through the lateral canthus while the Large Intestine (LI) and Stomach Channel pass through the infra-orbital ridge (Figure 1). The Liver (LIV) and Heart (HT) Channels connect indirectly with the eye unit by their internal ascending branch. There are three regional point areas (Figure 2) related to the eye unit: Peri-orbital (BL-1, ST-1, GB-1, TH-23, BL-2); Temporal (ST-8, GB-4/5/6/7), and Occipital (GV-16, GB-20, BL-10).³

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Extraordinary Vessels

The extraordinary vessels, which include the Governing and Conception Vessels, *Yin* and *Yang* Stepping Vessels (*Yin Qiao Mai*, *Yang Qiao Mai*), and the *Yang* Linking Vessel (also known as the *Yang Wei* Channel) all connect to the eye unit. Their acupoints are commonly used to treat neurological, brain and mental disorders (Figure 3).⁵

Qiao Mai (Stepping Vessels) go through the sides of the body. The *Yang Qiao Mai* (*Yang* Stepping Vessel) arises in the heel at BL-62, is a branch of pelvic limb *Tai-*

yang which rises above the lateral ankle, then goes up to the medial canthus along the lateral part of the body. It meets with several Meridians and Channels at BL-1. *Yin Qiao Mai* (*Yin* Stepping Vessel) starts from KID-6, is a branch of pelvic limb *Shao-yin* which rises above the medial ankle. It proceeds up to ST-9 along the medial part of the body where it continues upward to the face, enters the cheekbone, ascends, and connects to the medial canthus of the eye. Here it meets the five vessels of the pelvic *Tai Yang*, *Yang Ming*, and the *Yang Qiao Mai* at BL-1.^{2,5}

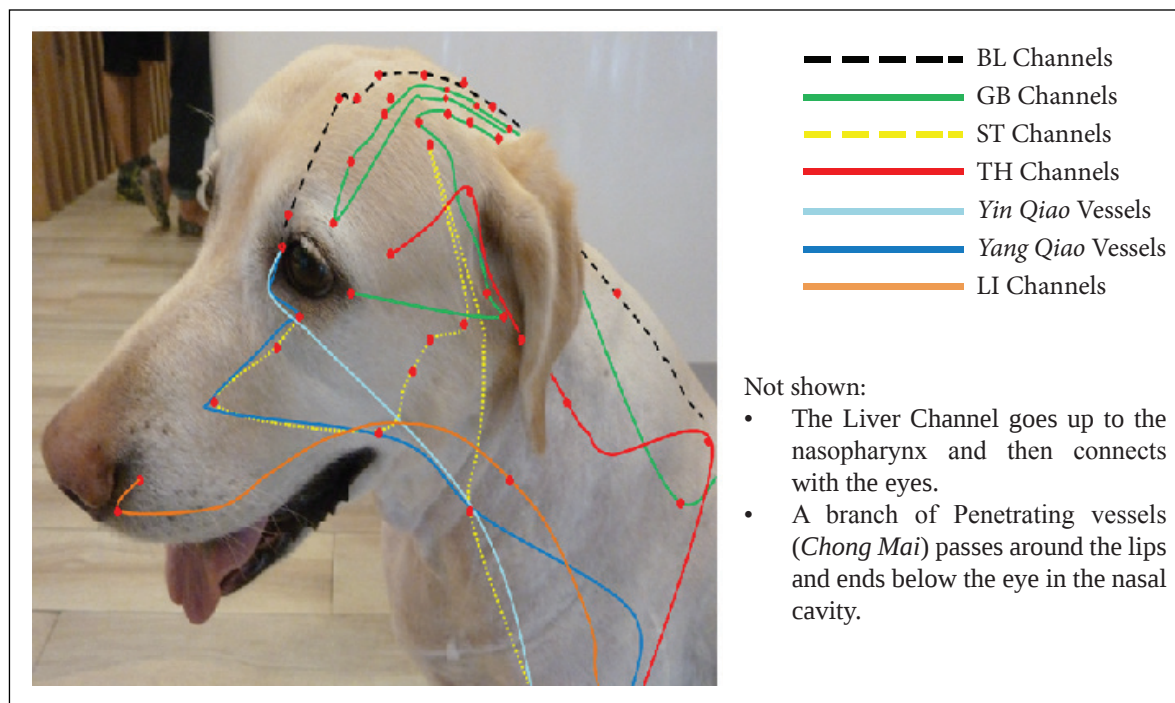


Figure 1: Channels and Extraordinary Vessels related to the eye unit.^{4, 12}

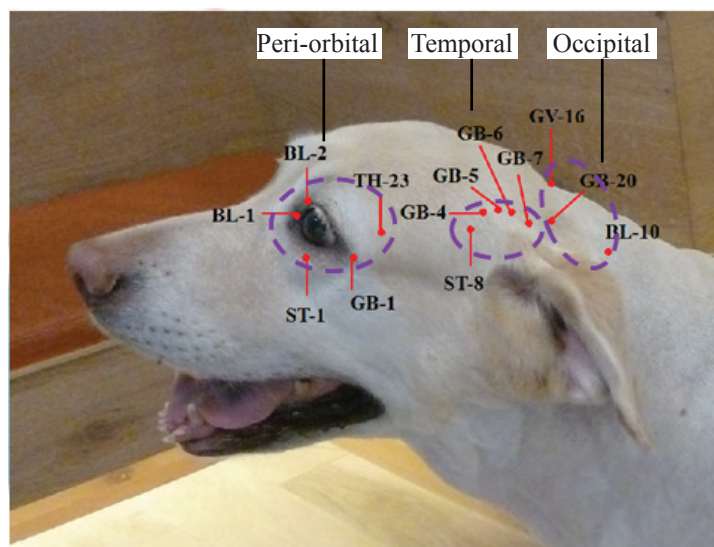


Figure 2: This picture demonstrates the acupoints of the Peri-Orbital, Temporal and Occipital regions of the eye system.⁵

The *Yin-Yang Qiao Mai*, provide *Qi* around the eyes. They warm and nourish the eyes to enable the eyes to open and close. *Yang Qiao* brings *Yang Qi* to the eyes, helping to keep the eyes open. If *Yang Qi* is overly full, the eye cannot close; *Yin Qiao* brings *Yin Qi* to the eyes. If *Yin Qi* is deficient, the eye cannot open (Figure 4).^{2,5}

Tian You Five Regions

The *Tian You* Five Regions (Five Regions of the

Windows of Heaven) are located at five different sites medial to lateral on the neck and include LU-3, ST-9, LI-18, TH-16, and BL-10. Chapter 21 of the ‘Spiritual Axis’ clearly lists ‘Window of Heaven Points’ as a group of acupuncture points with common characteristics.⁴ These regulate and nourish *Yang Qi* between head and body, and are important in treatment of acute disease, e.g. sudden deafness, loss of voice, epilepsy. Together, the *Tian You* Five Regions, the eye unit and *Yin-Yang* Stepping Vessels

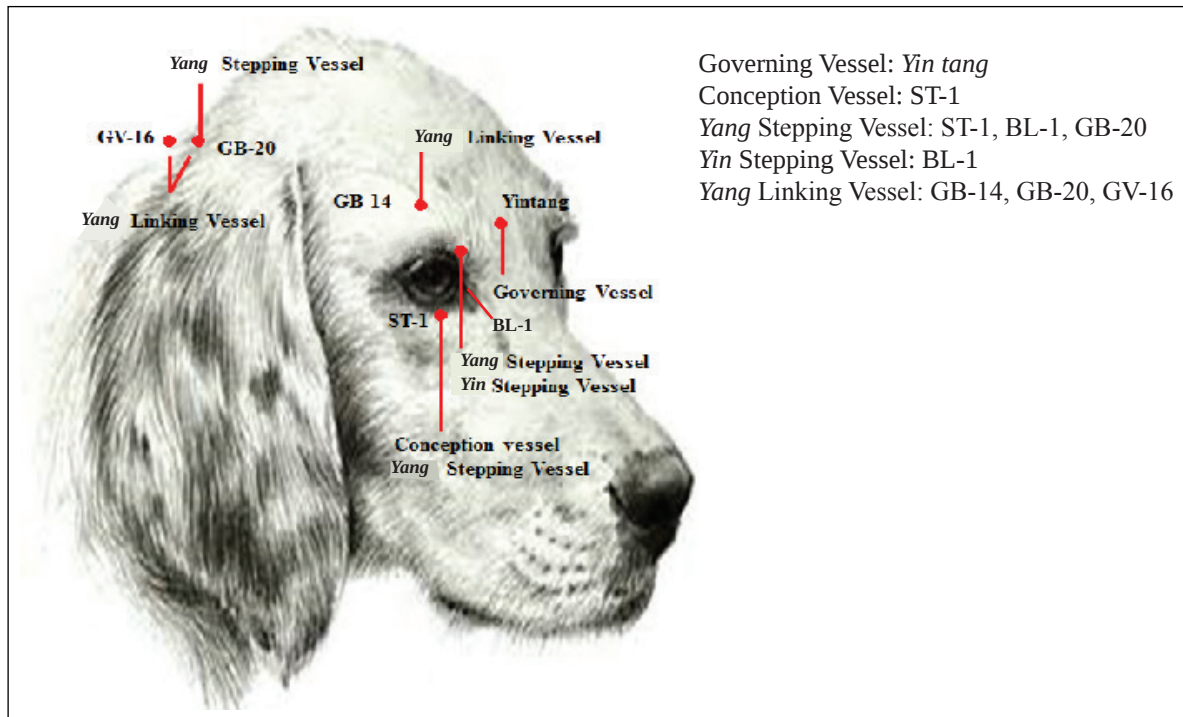


Figure 3: The eye unit meets with the Extraordinary Vessels.⁵

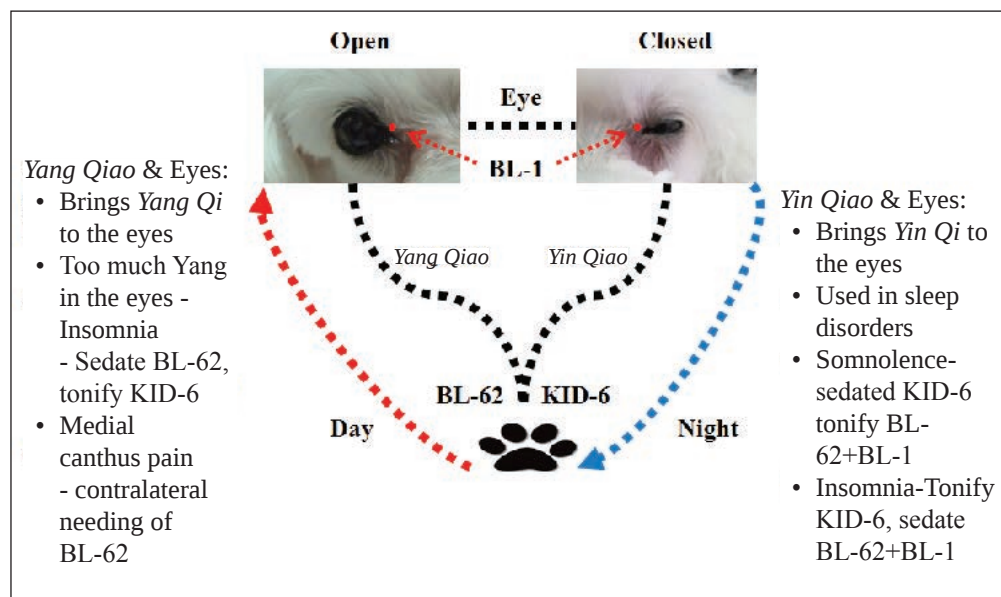


Figure 4: *Yin-Yang Qiao Mai* related to the Eyes.⁵

all function to regulate ascending-descending *Qi* to and from the head and *Yin-Yang* balance in the head (Figure 5).^{1,4,6}

FIVE SPHERES (*Wu Lun*), EIGHT BOUNDARIES (*Ba Kuo*) and SIX CHANNELS OF EYE DISEASE DIAGNOSIS

In *General Discourse on the Five Spheres and the Eight Boundaries of Essential Subtleties on the Silver Sea* (Sun Si-Miao, 682 BC) stated: “Generally speaking, the eyes are an essential reflection of the five *Zang* organs and constitute an important junction for the entire body. Hence, each of the five *Zang* organs is associated with one of the Five Spheres and the Eight Boundaries.”⁶

The theory of Five Spheres (or Five Elements) and Eight Boundaries allows the practitioner to understand the relationship of lesion location in the eyes with the internal organs of the body. The spheres and boundaries are the foundations of the eye with the blood providing

an enclosing network. In practice, the clinical appearance of the eyes can be used to diagnose the pathology of internal organs and treat the underlying disease based on identifying the TCVM pattern.

In the Five Spheres (*Wu Lun*) concept, the Liver is associated with Wood element and the respective sphere is called Wind-sphere. It constitutes the iris of the eye. The Heart is associated with the Fire element and the respective sphere is called Blood-sphere. Its anatomic structure is the blood vessels (most easily observed on the sclera at the canthi of both eyes). The Spleen is associated with Earth element and is called Flesh-sphere, which constitutes the upper and lower eyelids. The Lung is associated with the Metal element, is called *Qi*-sphere and constitutes the sclera. Finally, Kidney is associated with Water element and the respective sphere is called Water-sphere which constitutes the pupil. (Figure 6).⁷

The Eight Boundaries concept can also be used for eye examination and diagnosis. The eyes are divided into

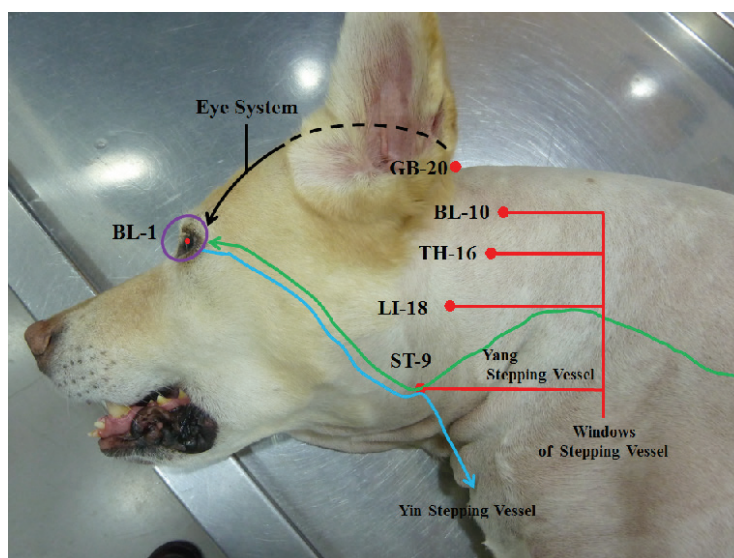


Figure 5: The Eye unit, *Yin-Yang Qiao Mai* and *Tian You* Five Regions.⁵

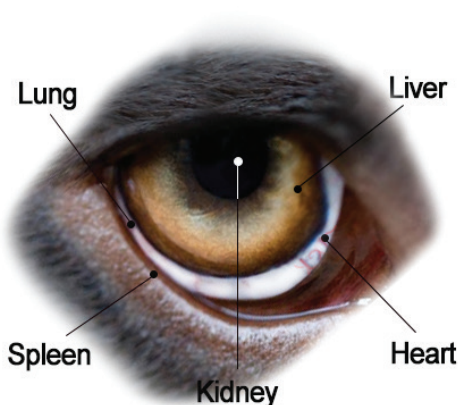


Figure 6: Five Spheres concept for TCVM diagnosis⁷

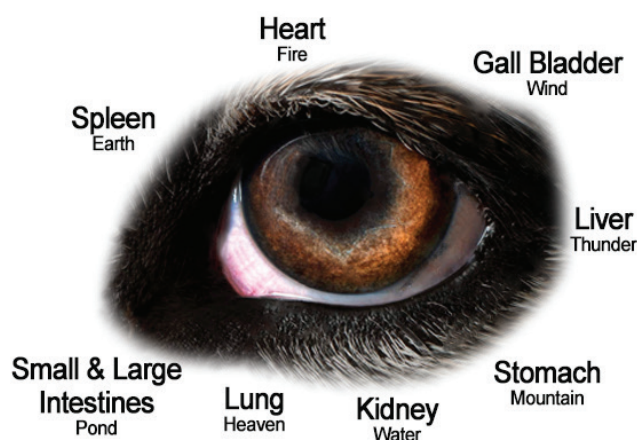


Figure 7: The Eight Boundaries of the Eyes.⁷

eight portions or regions like a clock face, with each of the Eight Boundaries belonging to one of these regions. The most dorsal position relates to the Heart (Fire), with the Spleen (Earth) and Gallbladder (Wind) respectively located medial and lateral to it. The Liver (Thunder), is located at the lateral canthus, and the Small and Large Intestines (Pond) are located at the medial canthus. The Kidney (Water) lies in the most ventral aspect. The Lung (Heaven) lies in the ventromedial portion of the Eight Boundaries while Stomach (Mountain) relates to the ventrolateral portion (Figure 7).⁷

A third method of diagnosis of eye disease uses the position, size, and color of scleral blood vessels and conjunctival color to differentiate disease patterns and treat them (Table 1). General color change of the conjunctiva may appear bright red for disease progression; purplish red for excessive heat; deep red or crimson for severe febrile disease, dark red for febrile disease attacking the interior; yellowish red as Stomach *Qi* recovers; light yellow during disease recovery.^{8,9}

Finally, Dr. Dafu Chen, author of Methodology for Using the Six Channels (Warps) in Ophthalmology, associates Channels (*Yang Ming*, *Tai Yang*, *Shao Yang*, *Tai Yin*, *Shao Yin*, *Jue Yin*) with eye pathology for more effective treatment. For example, *Yang Ming* channel involvement is characterized by increased vascularity in the *Qi* Sphere, especially on the Heaven and Earth-Boundaries. Clinical signs include photophobia, tearing, headache in the forehead and orbital ridge manifesting with stiff neck/back, mild sweating and an aversion to Wind-Cold rather than Heat.^{8, 17}

Disorders of *Tai Yang* Channel are characterized by acute onset, red conjunctiva, scleral injection at the median canthi, floating pulse, aversion to the Wind, vertex headache (or pain lateral head) and sometimes a nasal sound (snoring). This is due to Wind damage to Greater *Yang*. If it is accompanied by nebulae in the Wind or Water Sphere, it should be treated according to the channel involved. *Shao Yang* injury is characterized by lateral head pain (or *Tai Yang* acupoint) accompanied by bitter mouth, dry throat, red eye, photophobia and scleral injection at the lateral canthi with wiry, thready tight pulses. It is a disorder created by the Cold pathogen and associated with Wind

strike manifesting as *Qi* block in ears and uncomfortable chest.^{8, 17} Treatment for *Tai Yang*, *Yang Ming* and *Shao Yang* Channel pathology is respectively by warming and dissipating methods using Cinnamon Twig Decoction (*Gui Zhi Tang*), Cinnamon Twig Decoction plus Kudzu (*Gui Zhi Jia Ge Gan Tang*), and Minor Bupleurum Decoction (*Xiao Chai Hu Tang*).

Diagnosis of eye disorders of the Greater, Lesser and Faint *Yin* can be identified by the Six Channel Method. *Tai Yin* involvement is characterized by wrapping headache, swollen, soft Flesh-Sphere, thin prominent vessels in the *Qi*-Sphere, or increased vascularity of the Water and Heaven Boundaries, along with vexation in the limbs. *Shao Yin* eye disorders are characterized by stabbing headache (either the exterior or interior), acute presentation of red eyes particularly prominent in both Water and Fire Boundaries, without photophobia and tearing. The Wind pattern of *Jue Yin* is characterized by splitting headache and deficient, cold pain only at the vertex. Additional signs may include gray-white nebulae in the Wind-Sphere, red and painful sensation in the sclera of the eyes and alternating feeling of Cold and Heat in the hand and foot.⁸

¹⁷ Treatment of *Yin* Channel pathology (*Tai Yin*, *Shao Yin*, *Jue Yin*) includes respectively, Cinnamon Twig Decoction (*Gui Zhi Tang*), Cinnamon Twig Decoction plus Aconite (*Gui Zhi Jia Fu Zi Tang*) and Tangkuei Decoction for Frigid Extremities (*Dang Gui Si Ni Tang*).

THE EYES AND THE INTERNAL ORGANS

The ability of the eyes to see objects and distinguish colors is dependent on the Essence and *Qi* nourishment from the internal organs. As mentioned in the Spiritual Axis: “the essence of internal organs is transported to supply the eyes.” It explains the close physiological relationship between the eye and internal organs (Table 2).

Eyes and the Liver

The Liver Channel connects with the eyes and out of the 12 channels, the Liver Channel is the most important one connecting to the eye unit. In ancient Chinese medicine, the Liver opens into the eyes and the eyes are the gate of the Liver. The eyes, therefore, are the bridge between the Liver and the outside world and are an outward expression

Table 1: Diagnosis of systemic disease based on ocular vascular morphology

Change in Vasculature	Disease Syndrome
Wide Vascular Roots	Heart disease, Chronic Nephritis
Congested Vessels	Acute Pneumonia
Extended Vessels	IVDD
Interrupted Vessels	Dysfunction of blood circulation- Vascular stenosis or Blood Stagnation in certain Organs
Bifurcated Vessels	Unstable inflammation
Protruding Vessels	<i>Fu Organ</i> disease
Indistinct Vessels in Liver area	Liver <i>Qi</i> Stagnation
Black dot or circle at end of vessel	Blood stagnation or Tumor
Blood Vessel penetrating into cornea	Lymphatic problem

of the health of the Liver. The Liver stores Blood and vision depends on the nourishment of the Liver *Yin* and Blood. Tears are the fluid of the Liver and under normal conditions, the secretion of tears moistens the eyes but does not overflow. If the Liver is not functioning properly, the eyes will reflect this. Thus, dry eyes are a symptom of Liver *Yin* Deficiency, while blurred vision is a symptom of Liver Blood Deficiency (Table 3). Congested conjunctiva is a sign of flaming-up of Liver Fire while yellow sclera is a sign of Liver/Gallbladder Damp-Heat. Nystagmus, watering eyes, or even the eyes rolling back in the head are signs of internal stirring of the Wind.^{2,3,8, 9,10, 11,12, 15}

Eyes and the Heart

The Heart governs the Blood and rules the Blood Vessels of the body. The Blood circulating throughout the body is facilitated by the Heart *Qi*. When the Blood flows to the eyes, it ensures the transport of nutrients necessary to sustain healthy vision.

Chapter 80 of the *Spiritual Axis* said: “The eye is the ambassador of the Heart and the Heart houses the *Shen*”. It states that the Heart controls spirit, consciousness and thinking and is reflected in the eyes. This is a particularly important aspect of diagnosis, as careful observation of the eyes reveals the state of Mind and Spirit. In practice, if the Heart *Yang* is rising, it disturbs the *Shen* or Mind. If the

Heart *Yang* is deficient, the patient may have dim vision (Table 4).^{2,3,8,9,10,11,12,15}

Eyes and the Spleen

The Spleen controls the muscles of the eyelids and is responsible for transporting Essence upward into the eyes (e.g. nutrients & water). The Essence-*Qi* of the *Zang-Fu* organs originating from the Spleen all ascend to the eyes. The normal function of Spleen nourishes the eyes, brings clear *Yang* upward to the eyes and ensures their opening and closing. In addition, the Spleen keeps the Blood in the vessels, which nourishes the eyes. If there is a failure to keep the Blood in the vessels, bleeding disease may occur (e.g. intra-ocular bleeding, aged related macular degeneration associated with bleeding) (Table 5).

^{1,2,3,8,9,10,11,12,15}

Eyes and the Lungs

The Lungs control the *Qi* and eyes are bright if *Qi* is smooth. The lungs dominate the *Qi* of the body because it controls the vessels. *Qi* in motion renders Blood circulating normally and when the function is normal, *Qi* and Blood circulate freely to warm and nourish the eyes. The Lungs are responsible for distribution of *Qi*, Blood, and Fluids to the eyes, which protects the eyes from virus and bacterial invasion and vision disorders. The Lungs

Table 2: The Eyes and the Internal Organs.

Organ	Color	Part of Eye
Kidneys	Black	Pupil, macula, and retina
Liver	Green/brown	Iris and eye muscles
Heart	Red	Inner canthus
Spleen	Yellow	Eyelids and aqueous
Lung	White	Sclera and cornea

Table 3: Liver Patterns and Eye Disease

Pattern	Resulting Eye Condition
Liver Blood Deficiency	Color-blind, tired eyes, dry eyes, floaters
Liver <i>Qi</i> Stagnation with Liver <i>Yang</i> /Heat rising	Conjunctivitis, keratitis, glaucoma, optic atrophy, retinal perivasculitis
Liver and Kidney Deficiency	Optic atrophy and related degenerative diseases, ocular tearing, blocked tear duct, glaucoma

Table 4: Heart Patterns and Eye Disease

Pattern	Resulting Eye Condition
Heart <i>Yang</i> Deficiency	Optic nerve atrophy and macular degeneration (especially geriatric population)
Blood Stasis	Intraocular bleeding/degeneration, retinal artery/venous obstruction
Heart Fire	Retinal perivasculitis, epiphora

Table 5: Spleen Patterns and Eye Disease

Pattern	Resulting Eye Condition
Spleen <i>Qi</i> Deficiency	Swollen eyes
Spleen not holding Blood	Intra-ocular bleeding, aged related macular degeneration with bleeding
Spleen Heat/Damp	Dry eyes, blepharitis, excessive production of tears, entropion

govern fluid circulation in the head for the release of tears which may be associated with Metal element emotions such as sadness and grief (Table 6).^{2,3,8,9,10,11,12,15}

Eyes and the Kidney

The Kidney is the “battery” pack for the body because it stores the *Jing*, and is imperative for healthy vision and hearing. It nourishes the Wood of the eyes and stores vital Essence. Chapter 80 of the *Yellow Emperor’s Classic of Internal Medicine* of the Spiritual Axis said: “The eyes are the places where the *Jing* (Essence) of the *Zang-Fu* organs has gathered.” The visual activity of the eyes is normal if the Kidney *Jing* is full. The Kidney *Jing* generates marrow, and the marrow generates Brain (sea of marrow), therefore, the eye unit belongs to the Brain through the components of retina and optic nerve. Vision is sharp if the sea of marrow is superabundant. Chapter 33 of the Spiritual Axis said: “When the sea of marrow is insufficient, it will cause dizziness and tinnitus---diminution of vision, blurred vision---.”¹

Since the Kidney is an organ of water and fluids, the fluids of Kidney (tears, *Lei Yi*), spirit jelly (*Shen Gao*/vitreous humor), spirit water (*Shen Shui*/aqueous humor) moisten and nourish the eyes. In geriatrics, Kidney Deficiency, especially *Yin* Deficiency, causes poor water metabolism, creating fluid retention (glaucoma) and reduced fluids (dry eyes or cataracts) (Table 7).^{1,2,3,8,9,10,11,12,15}

Clinical Signs associated with eye disease and *Zang-Fu* organs

Specific ocular clinical signs such as vision abnormalities, pain, itching, dryness, discharge and eyelid abnormalities can be associated with *Zang-Fu* pathology as well as pathogens. Diagnosis of the specific organ and pathogen abnormality associated with the clinical signs can aid in treatment of both the eye disorder as well as the root cause.^{2,3,4,11,13} Specific clinical signs associated with the eyes are listed in Table 8.

TCVM ETIOLOGY OF EYE DISEASES

Eye disease is related to an imbalance between the body and nature resulting from external or internal pathologic factors. As with other diseases, the body and the internal organs and channels should be kept in balance or clinical disease will occur. If the balance is damaged, the end result is the conflict between *Zheng Qi* (antipathogenic *Qi*) and *Xie Qi* (pathogenic *Qi*). The six external pathologic factors include Wind, Cold, Summer Heat, Dampness, Dry and Fire/Heat.^{2,3,10,15} These 6 pathogens can occur singularly or in combination of multiple factors with Wind, Fire and Damp being the most commonly seen in clinical practice.

External Pathogenic Factors

Wind is a *Yang* factor which is the number one pathogenic factor causing disease. The ancient Chinese Character for Wind ‘風’ includes an ‘insect’ (i.e. a small organism carried by the Wind and causing disease, equivalent to modern bacteria and virus). Western medicine sees infectious diseases as being caused by bacteria and viruses, while Chinese medicine sees them as being caused by exterior climatic factors. Wind affects the *Yang* part of the body, has a rapid onset and causes rapid changes which manifests as movement from place to place in the body. It affects the top part of the body which leaves the eyes particularly vulnerable to attack. Wind invades the exterior and defensive *Qi* (*Wei Qi*) and when *Wei Qi* is weak, the eyes loathe the Wind and light. The main pathologic manifestations of the eyes caused by the Wind are tearing. Other signs include photophobia, aversion to wind, dry pruritic eyes, painful reddening of the eyes, swollen or drooped eyelids, mydriasis and nystagmus. In addition, because Wind corresponds to the Liver, deficient Liver Blood may be accompanied by blurred vision, myopia, dry gritty feeling, floaters or color blindness.

Cold is a *Yin* pathogenic factor and impairs *Yang Qi*. It causes obstruction and stagnation of *Qi* and Blood, which induces pain. When the pathogenic Cold impairs *Yang Qi*, it leads to tearing, and when it accumulates

Table 6: Lung Patterns and Eye Disease

Pattern	Resulting Eye Condition
Lung <i>Qi</i> deficiency	Tearing
Lung <i>Yin</i> deficiency	Dry eyes, corneal erosion, corneal ulceration
Long-term sadness	Tearing
Wind-Cold Invasion to Lung	Tearing
Wind-Heat Invasion to Lung	Conjunctivitis, entropion

Table 7: Kidney Patterns and Eye Disease

Pattern	Resulting Eye Condition
Kidney <i>Yin</i> deficiency	Fluid abnormalities resulting in cataract, glaucoma, hypertension
Kidney <i>Yang</i> deficiency	Optic atrophy

in the channels it causes *Qi* and Blood stagnation. *Qi*/Blood stagnation to the outside of the eye results in eye pain, eyelid bruising, and a bloodshot appearance of the sclera while accumulation within the eyes causes Blood accumulation in the retina/choroid (hyphema) and blurred vision. If the pathogen attacks the Sinew and Muscle Channels, it causes opisthotonus, leading to eye jerking and deviated eyes/mouth or accumulates in the eyes causing eye hypertonicity, resulting in strabismus. The pathogenic Cold corresponds to the Kidney and is associated with a slow onset, sharp pain, poor circulation of the eyes and

often chronic degenerative vision loss.

Summer-Heat is a *Yang* pathogenic factor and, as such, it tends to injure *Yin*. The pathogen disperses upward to the top part of the body, causing disturbance of the clear orifice and the *Shen* or Mind. It affects all organs and is often accompanied by dampness (mucus or yellow discharge). Clinical signs predominately present as red eyes with pain, mucus production and swelling, along with blurred vision.

The pathogenic Damp is heavy and turbid. It is difficult to resolve this pathogen because it has a prolonged

Table 8: Specific clinical signs and TCM diagnosis associated with eye disease.

Vision abnormalities	
Blurred vision and floaters	LIV Blood, LIV <i>Yin</i> , or KID <i>Yin</i> Deficiency
Photophobia	Liver Blood Deficiency or LIV <i>Yang</i> rising
Night Blindness	LIV-KID Essence Deficiency, SP/KID <i>Yang</i> Deficiency
Rapid Vision Decline	<i>Qi</i> Stagnation or Blood Stasis, HT Deficiency, SP not holding blood

Pain in the Eyes	
Acute, stinging, or continuous pain or swelling	Excess
Pain with Hyperemia	Fire
Vague Pain	Deficiency
Dull Pain	Deficiency with Cold
Stabbing Pain	Blood Stagnation

Itching in the eyes	
Itching with congestion	Wind
Lid-Margin itching with redness and inflammation	Damp Heat in SP and ST with external Wind
Itching and Pain with redness and swelling	Wind-Heat Toxin
Intermittent itching with dry	Blood Deficiency engendering Wind

Dry eyes	
Dry sensation	Fluids Deficiency, Blood Deficiency, LIV/KID <i>Yin</i> Deficiency
Sandy Sensation with redness, itching, pain, photophobia, and tearing	Wind-Heat, Fire in the Lung and Liver, foreign body in the eye

Discharge and Tearing	
Copious Hard Discharge	Heat in LU Channel
Copious yellow thick discharge	Heat-toxin
Sticky discharge	Damp-Heat
Hot Tearing	Wind-Heat
Cold Tearing	Wind, Internal Liver Wind

Eye lids	
Swollen Eye Lids	With excess = Damp Heat With Deficiency = <i>Yang</i> or <i>Qi</i> Deficiency
Drooping Eye lids	<i>Zhong Qi</i> Deficiency vacuity, Wind, <i>Qi</i> Stagnation, Blood Stasis
Phlegm Pit in eyelids	Phlegm dampness accumulation, Phlegm and Fire combining
Ulcer below eyes	Heat-Fire
Eyelids sticking together	Dampness

and lingering disease course. The main symptoms seen in the eyes caused by Damp are eyelid erosion, sticky eye discharge, turbid conjunctiva, and optic nerve edema. Damp, a *Yin* pathogenic factor, impairs *Yang* and obstructs *Qi* flow, causing heavy eyelids. If the pathogen injures the Spleen *Yang*, it causes failure to transport water-damp resulting in flooding upwards, leading to edema of eyelid or optic nerve. The eye will present with clinical signs of severe pruritus if the pathogen is accompanied by Wind or the eyes will develop erosive ulcers with crust if it is associated with Heat.

Dryness, a *Yang* pathogenic factor, injures the Fluids. The eyes are easily affected by Dryness which manifests as a Fluid Deficiency and the eyes become dry indicative of Keratoconjunctivitis Sicca (KCS). Clinical signs frequently present as frequent blinking (to moisten and increase fluids) and red conjunctiva with a dry sticky discharge.

Heat or Fire is a *Yang* pathogenic factor which often causes a severe condition.

Fire tends to flare upwards and is characterized by red swollen painful eyes with hot tearing, yellowish sticky discharge, corneal ulcers and thirst.

Internal Pathogenic Factors

The Internal Pathogenic Factors are associated with emotions and include Anger/Rage, Joy, Worry, Grief/Depression, Fear/Panic and more subtle Hidden Emotions.^{10,12} Liver *Yang* rising is associated with Anger/Rage and disturbs the function of the eyes by not nourishing them. This can lead to poor perception of light and black dots (floaters) in the visual field. Excess Joy first injures blood circulation and then Heart *Yang*, resulting in blurred vision and *Shen* disturbance. Worry causes *Qi* to knot, which impedes Essence. This leads to poor eyesight and stagnation which is associated with ulcers, styes and eye inflammation. With Grief and Depression, *Qi* is depressed which leads to stagnation and red eyes. Over time this emotion turns to Fire which leads to cataracts and impairs circulation leading to swollen painful eyes. Finally Fear/Panic injures Fluids, Nutritive *Qi*, *Yin*, vital Essence and leads to dim vision and light sensitivity while panic is a significant factor in acute glaucoma. Hidden Emotions reduce *Qi* and Blood to the eye,

Foods that affect the eyes

Pungent flavor foods, such as garlic or onion, lead to red or sore eyes. Dry foods, which are high in carbohydrates and fat and fed for a long time, create Heat and Stagnation. Rich foods and dairy, such as eggs or cheeses produce Dampness and Fire, creating purulent conjunctivitis. Carrots contain β -carotene, a component of rhodopsin (visual purple), which is broken down into retinol, benefiting night blindness. Animal liver such as cod liver or beef liver help the eyes by strengthening the Liver. Blueberries improve night vision and assist optic nerve function.¹²

Poisons that affect the eyes

Mercury, lead and phosphorus are toxic to the eyes and present with some classic TCM pattern changes.¹² From the standpoint of TCM pattern diagnosis, mercury presents with three main adverse effects: accumulation of phlegm, progressive degeneration of the eyes and kidney dysfunction (particularly excretory). There is increasing thick viscous phlegm in the body (particularly nose, head) due to pathology of handling fluid. The fluid dysfunction is reflected in the development of glaucoma, chronic erosion and retinal degeneration.

Lead can commonly exist in the environment (i.e., plumbing systems, paint). Exposure depletes Kidney *Yang*, leading to atrophy disorders such as *Wei* syndrome.

The effect of lead on the eyes is mainly on the nervous system and retina, causing such symptoms as optic neuritis, optic nerve atrophy, macular degeneration and glaucoma.

Excess phosphorous can be associated with agricultural chemicals, particularly pesticides (organophosphates). Effects on the nervous system and sensory organs result in *Yin* Deficiency symptoms such as severe light sensitivity, dry/red eyes, cataracts, glaucoma and retinal damage.

SUMMARY

Nearly 2000 years ago, in Traditional Chinese Medicine, it was recognized in the *Yellow Emperor's Classic of Internal Medicine of the Spiritual Axis* that the eyes intimately supported by the internal organs had an intricate relationship which could be used for disease diagnosis of both the organs and the eyes.¹ Review of these ancient texts and writings can greatly aid the TCVM practitioner in the treatment of eye diseases.

The eye unit, which begins at BL-1 and extends to GB-20, connects with the *Zang-Fu* organs through the meridians/channels and Extraordinary Vessels. The twelve channels are either directly or indirectly connected to the eye unit and nourish the *Qi* and Blood of the eyes to provide vision. As early as 682 BC, Sun Si-Miao wrote in *General Discourse on the Five Spheres and the Eight Boundaries of Essential Subtleties on the Silver Sea* that the relationship of the eyes with the five viscera constitute an important junction for the entire body and location of eye lesions can be used to diagnose internal disease. Using the five viscera designated as Five Spheres and adding Eight Boundaries, which correlate with general regions of the eye, the clinical appearance of the eye can be used to diagnose the TCVM patterns and treat root causes leading to eye diseases.

In addition to the recognition of organ pathology and its relationship to eye disease, TCVM recognizes the role internal and external pathogens play in the etiology of eye disease. The external pathogens include Wind, Cold, Summer Heat, Dampness, Dry, and Fire/Heat. Wind, Fire and Damp along with multiple combinations of pathogens are the most commonly occurring clinical syndromes

diagnosed in practice. Internal pathogens creating or exacerbating eye disease include emotions such as Anger/Rage, Joy, Worry, Grief/Depression, Fear/Panic and more subtle Hidden Emotions.

Understanding the intricacies of acupuncture channels and their involvement in the eyes, extraordinary channels specifically associated with the eyes, and the Five Spheres and Eight Boundaries of organ locations as they exist in the structures of the eye can greatly aid the TCVM practitioner in treatment of eye diseases. Using the *Zang-Fu* organ theory for overall body balance combined with specific eye acupuncture points and Five Spheres and Eight Boundaries, the TCVM practitioner has a powerful combination of treatment options for successful management of ocular disease.

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