Imagine, distinctly different eye conditions such as dry eyes, floaters, age-related macular degeneration and optic neuropathy can be classified under the same “syndrome” in Traditional Chinese Medicine (TCM)?

Without some knowledge of TCM, one can never make sense out of the above statement.

History of TCM and basic TCM theories

TCM has been in practice since ancient times. One of the earliest and one of the most important literatures in TCM is the “Huang-di-nei-jing” (黄帝内经) written in between 475 B.C. and 265 B.C. It describes correctly the gross anatomy of the body, gives advice on a healthy diet and lifestyle, and emphasises the importance of exercise. All of which are still applicable today. This book is the first documented source of Chinese medical theory.

Whilst Western medicine has a strong scientific basis of anatomy, physiology, biochemistry, and molecular biology, TCM takes a philosophical approach towards the body and maintaining health.

Basic TCM theories include the followings: 2, 3, 4

1) Holistic ideology (整体观念)
Humans are part of the universe. Everything within or outside of the body is ultimately interconnected.

2) The Vital Substances: Essence (气), Qi (气), Blood (血) & Body Fluids (津液) theory
These substances within the body are fundamental to life and provide the material and functional basis of the body.

3) Yin-yang (阴阳) theory
The development of all phenomena in the universe is the result of the interplay of two opposite stages, symbolised by Yin and Yang. Although Yin and Yang are opposite, they are also interdependent and are in a constant state of dynamic balance.

4) Five-element theory (五行)
The five elements are seen as existing in a dynamic and balanced relationship with each other. By way of analogy, phenomena and matter are classified in terms of the five elements.

5) Zang Fu Theory (臟腑)
The concept of “organ” in Chinese medicine is not equivalent to that in Western medicine. Although the internal organs, collectively known as “Zang-fu organs”, do share some of the functions as the same-named organs as understood in Western medicine, there are major departures in terms of functions and inter-relationships. Zang-fu organs are better thought of as complex functional systems. These systems are inter-connected by “meridians”.

6) Meridian Theory (經絡)
The meridian system is the system of inter-connecting pathways throughout the body in which qi and blood circulate, connecting all parts of the body into an organic whole.

Good health is seen as a reflection of internal harmony of the body. TCM believes that good health is due to a kinetic balance between both Yin aspects (nourishing substances) and Yang aspects (functional activities) of the human body, with good level of vital substances generated from normal physiological functioning of various Zang-fu organs.

How do the eyes fit into this body “Universe”? 5

All parts of the body are inter-connected. The eyes are nourished by the Essence and Qi produced by all Zang-fu systems. Of all the Zang-fu systems, the eyes are most closely related to the Kidney and Liver Systems.

Eye and Kidney System
The most important function of the “Kidney” is to store Essence - which is the most basic substance of life. It is the basis of body Yin and Yang. The level of Essence normally lowers with advancing age but its consumption will be speeded up with exhaustion, stress, and chronic illness. We can only see if the eye is well nourished by Essence.

Eye and Liver System
According to Huang-di-nei-jing, the eye is the sense organ of the Liver System (肝開窍於目). The Liver Meridian is the only meridian that runs directly to the eyes. The function of the Liver is to store blood (as in Western medicine) and regulate the circulation of Qi.

Back to the first question - how can distinctly different eye conditions be classified under the same “syndrome”? On a macro level, when the level of Essence drops, all
functions of the body are also reduced; when the flow of Qi is disrupted, all functions of the body are disrupted. Similar analogy in Western medicine can be thought of as anaemia or hypoxia and metabolic disorder.

On a micro level, a body part will manifest a certain symptom when internal harmony is lost.

For example, if the stored level of Essence or stored blood drops, malnourished conjunctiva would manifest as dry eye; malnourished vitreous-floaters; malnourished retina - macular degeneration; malnourished optic nerve - optic neuropathy. Apart from the eyes, this affected person may have other symptoms, such as easy fatigue, dizziness, tinnitus etc. All together these symptoms are collectively known as a syndrome/ pattern(症) that describes the pathological process of illness. For the above example, the syndrome / pattern in TCM terms will be that of "deficiency in Kidney essence and Liver blood" (肝腎精虛, 肝血虧損) or simply "impaired renal and liver functions" (肝腎不調). Of course, this does not imply that the liver and renal function tests results are abnormal.

This concept of "syndrome/ pattern" is unique in TCM. Treatment then aims to treat this abnormal "pattern / state of health" but not to treat specific "disease" or "symptom".

**TCM treatment**

The aim of TCM treatment is to restore internal harmony in terms of Yin-yang, Vital Substances, between Zang-fu systems. What is deficient, you replenish; what is in excess, you reduce or down-regulate.

The most common forms of TCM treatment are herbs and acupuncture.

**Herbal TCM treatment**

Herbs are categorised primarily in terms of their actions on the body and are designated as warm (熱), hot (熱) (that correlate with Yang), neutral, cold (寒), cool (涼) (that correlate with Yin). Chinese medical theory also holds that herbs enter specific meridians. It is understood that each individual herb has an affinity with one or more specific organs and would reach the organs via their meridians to produce therapeutic effect. This is probably the earliest form of understanding of receptors and target organs.

Herbs are rarely used individually. TCM herbal treatment usually is in the form of "medicinal formula" (方). The choice of herbs follows TCM theory and the prescription is individualised according to the patient's condition, age, gender... There are hundreds of known medicinal formulae that treat many diseases and their various syndromes. Practitioners may simply choose the key representative formula for a given condition or syndrome and then modify it according to the patient's presenting condition.

**Acupuncture**

The free flow of Qi is the foundation of a balanced mind and body i.e. a healthy person. Diseases are the products or indications of interrupted flow of Qi or the weakness of Qi. Acupuncture is to restore its free flow. Combination of local points around the malfunctioning organ and distant points along its corresponding meridian are often chosen and these points are stimulated using thin needles in a treatment session.

In the treatment of eye diseases by acupuncture, local points are dangerous with risks of globe perforation / orbital haemorrhage / intra-orbital or even intra-ocular retained foreign body. Therefore distant points along the Liver and Kidney meridians are preferred.

As with TCM treatment for other diseases, one would always be given diet and healthy lifestyle advice on top of specific treatment in order to achieve long term success in maintaining health.

**Is TCM treatment safe?**

All therapeutic drugs can be poisonous. Although often thought of as a form of "natural healing", herbal remedies are of no exception in causing possible side effects. Unlike conventional drugs, the quality of herbal products can be influenced by a range of natural factors, such as climate change, soil quality, harvesting, processing etc. It is difficult to always guarantee good quality herbs.

Even with good quality herbs, in their dried / processed forms, herbs can look very alike. Serious adverse effects have been reported due to misidentification of herbs.

One other major problem for TCM products is contamination with conventional Western drugs, which quite often are not shown on the product labels. We hear it on news from time to time that certain over-the-counter herbal product has to be withdrawn from the market due to this reason.

A good herb if taken in excessive amount or misused can result in adverse effects.

Prolonged use of Ginseng (人参) has been associated with a "ginseng abuse syndrome" including symptoms like hypertension, oedema, morning diarrhoea, skin eruptions, insomnia depression and amenorrhoea.

Prolonged use of Licorice (甘草) Whi result in hypertension, encephalopathy and pseudohyperaldosteronism.

A good herb being used correctly can sometimes cause serious side effects in susceptible individuals. Specific example in causing ocular side effects is Ma-huang (麻黄) (Ephedra species). These contain the tertiary alkaloid ephedrine. It causes mydriasis (dilation of the pupil) and may trigger acute angle closure glaucoma which can cause blindness if not treated within a short time.

Special precautions are needed peri-operatively if a patient is known to use TCM. Some examples are shown in the table below (quoted from American Academy of Ophthalmology):
### Conclusions

Whether you accept it or not, a significant proportion of population in Hong Kong uses TCM on a daily basis. TCM development is unstoppable and the government policy for the future development of Chinese medicine was enshrined in the Basic Law of the Hong Kong Special Administrative Region Article 138 "the Government of the Hong Kong Special Administrative Region shall, on its own, formulate policies to develop western and traditional Chinese medicine and to improve medical and health services. Community organizations and individuals may provide various medical and health services in accordance with law." Some knowledge of TCM is advisable for all of us for the better care of our patients.

### References


### Nutritional Supplements: Actions & Possible Side Effects

<table>
<thead>
<tr>
<th>Supplement</th>
<th>Action</th>
<th>Side effects</th>
<th>Suggested Prep Discontinuation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Echinacea</td>
<td>Activates cell-mediated immunity</td>
<td>Allergic reactions initially, then decreased immunosuppression</td>
<td>No data</td>
</tr>
<tr>
<td>Ephedra</td>
<td>Increases heart rate and blood pressure; also arrhythmias (direct sympatheticomimetic)</td>
<td>Myocardial infarction/venoocclusive ar accident. Interacts with monoamine oxidase inhibitors</td>
<td>24 hours at least</td>
</tr>
<tr>
<td>Fenugreek</td>
<td>Stimulates pancreas to release insulin; lowers low density lipoprotein; interferes with iron absorption</td>
<td>Alters thyroid hormone balance</td>
<td>2-3 weeks</td>
</tr>
<tr>
<td>Garlic</td>
<td>Inhibits platelet aggregation; Increased fibrinolysis; +/- antihypertensive effect</td>
<td>Increased bleeding risk (especially if other antiplatelet, indom or warfarin)</td>
<td>7 days at least</td>
</tr>
<tr>
<td>Ginkgo</td>
<td>Inhibits platelet aggregation</td>
<td>Hyperpyrexia; increases bleeding risk; decreases anticoagulant effect of warfarin; psychoactive central effect (monoamine oxidase inhibitor)</td>
<td>36 hours at least</td>
</tr>
<tr>
<td>Ginseng</td>
<td>Increases cortisol</td>
<td>Hypokalaemia; increases effects; hepatotoxicity. May increase sedative effects of anesthetics; possibly addictive/withdrawal effects; hepatotoxicity</td>
<td>24 hours at least</td>
</tr>
<tr>
<td>Licorice</td>
<td>Increases serotonin; decreases anxiety</td>
<td>May increase sedative effect of anesthetics; possibly addictive/withdrawal effects; hepatotoxicity.</td>
<td>7 days at least</td>
</tr>
<tr>
<td>Feverfew</td>
<td>Decreases cytochrome P450 enzymes &amp; P-glycoprotein intestinal transport</td>
<td>Decreases cyclosporine, warfarin, steroids, protease inhibitors, and possibly benzodiazepines, theophylline, calcium channel blockers</td>
<td>5 days at least</td>
</tr>
</tbody>
</table>

SOURCE: Adapted from Ang-Lee et al (JAMA, 2001)8