

## Case Report

# A Case Report of Vogt-Koyanagi-Harada Syndrome Treated With the Ancient Formula: Dang Gui Long Hui Wan water decoction

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**Purpose:** To explore a viable non-steroid anti-inflammatory therapy in treating Vogt Koyanagi-Harada Syndrome (VKHS) using Traditional Chinese Medicine (TCM).

**Observations:** A 56-year-old male with VKHS acute stage in both eyes whereas his symptoms were consistent with liver fire flaming upward of TCM. He was treated with the ancient Chinese Angelica, Gentian & Aloe Formula (Dang Gui Long Hui Wan), water decoction for one week. The symptoms of liver fire quickly subsided and his vision gradually improved. He continued to take the medicine to consolidate the effect over the course of two months. The optic coherence tomography (OCT) and indocyanin green angiography (ICG) showed his exudative retinal detachment fully subsided and the uveitis in both eyes were completely controlled. No recurrent symptoms found in the 5-year follow-up. **Conclusions and Importance:** VKHS and uveitis linked to the wind wheel of five wheels theory in TCM corresponding to the liver of the eye, and the VKHS patient showed an excellent response to the Dang Gui Long Hui Wan water decoction alone. This study may shed light on a new perspective in treating VKHS or other uveal inflammatory diseases.

**Key words:** Vogt-Koyanagi-Harada Syndrome, Dang Gui Long Hui Wan, Uveitis, Liver fire flaming upward, Five wheels

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## Introduction

Vogt-Koyanagi-Harada Syndrome (VKHS) is an idiopathic multisystem autoimmune disease featuring inflammation of melanocyte-containing tissues such as the uvea, ear and meninges. VKHS sometimes subdivided into Vogt-Koyanagi disease, characterized mainly by skin changes and anterior uveitis, and Harada disease, in which neurological features and exudative retinal detachments predominate. Ocular complications of VKHS include choroidal neovascularization, subretinal fibrosis, preretinal and disc new vessels and vitreous haemorrhage, cataract and glaucoma. The prognosis of this disease is very variable, and is partly dependent on aggressive control in the early stages [1]. The first-line therapies are immunosuppressive agents, such as high-dose systemic corticosteroids, administered either orally or through a short course of intravenous delivery, with a minimum treatment period of six months. Rapid discontinuation of the corticosteroid may incur in recurrences of uveitis and ocular complications [2]. Control of inflammation in uveitis is critical to minimize vision loss. Patients treated with a combination of immunosuppressive agents with Traditional Chinese Medicine (TCM) herbs have shown improved vision and controlled uveitis [3], this, however, is the first case report in treating VKHS via TCM herbs alone.

## Case Report

A 56-year-old male claiming to have blurred vision was diagnosed with Vogt-Koyanagi-Harada Syndrome (VKHS) in a medical center hospital of Taiwan on the 25th of November, 2016. Due to the lack of beds, he was on the waiting list for the hospital

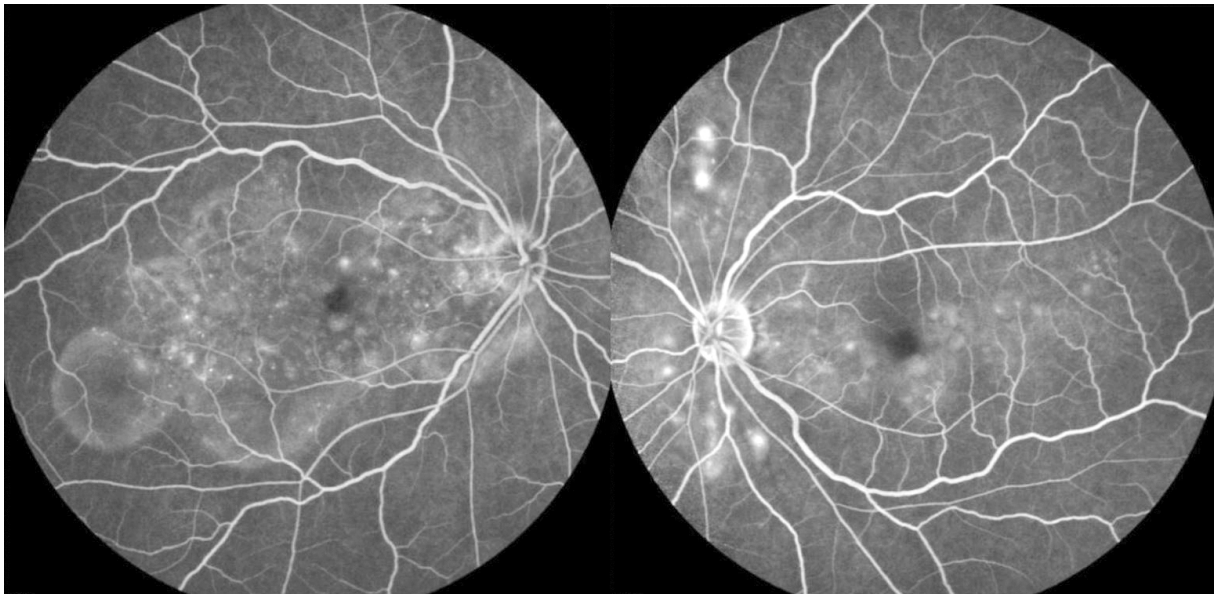
admission for a six months course of steroid injection treatment. Prior to starting any therapy at the hospital, the patient wished for a Traditional Chinese Medicine (TCM) treatment, and so came to our ophthalmic clinic three days later.

The chief complaints of the patient were both eyes blurred vision associated with a headache on the left hemisphere of the brain over the last week. He also complained bitter taste in the mouth, constipation, dizziness, excessive dreaming and disruption of sleep for recent pressure.

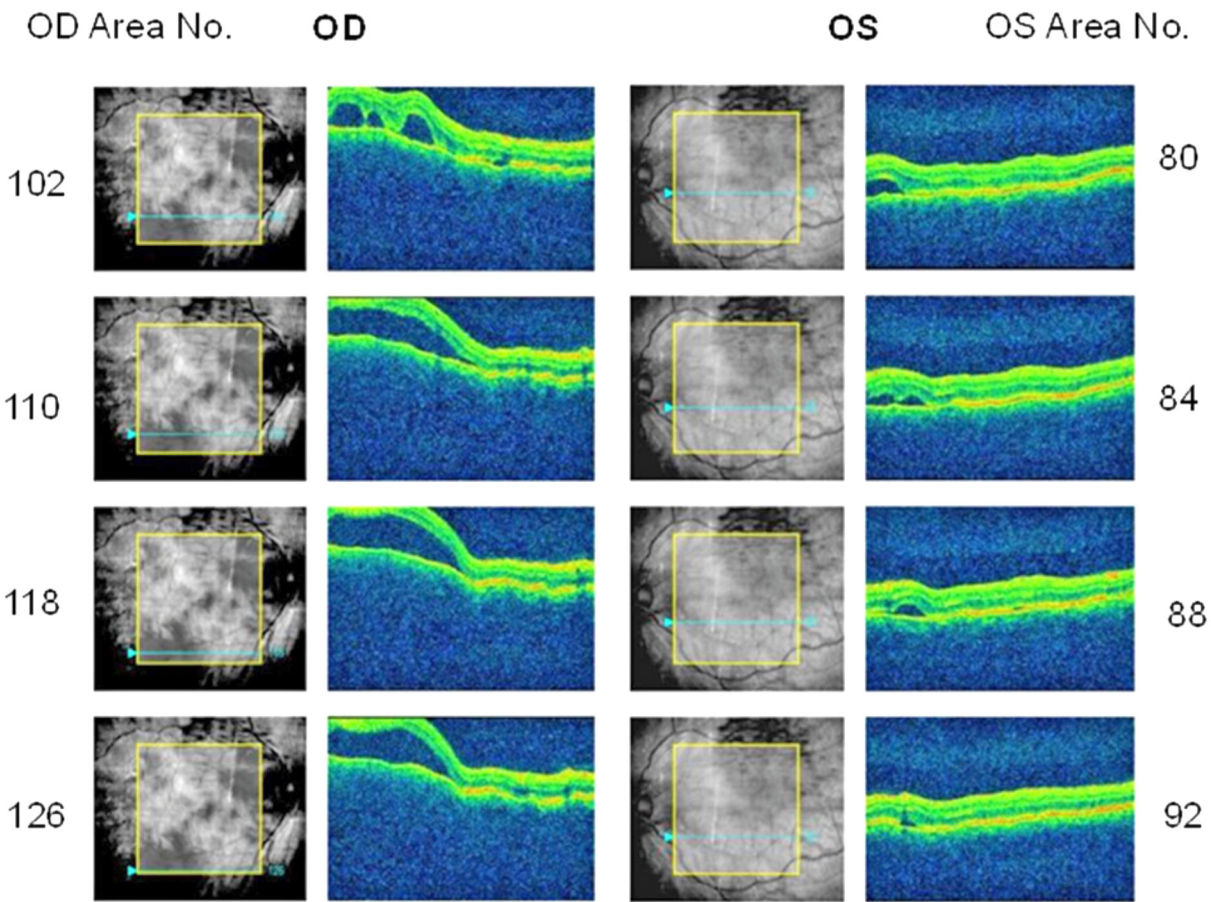
He is an optometrist and the owner of an optical shop. He had not suffered uveitis or other autoimmune diseases before. He has no history of diabetes and smoking either. His past medical history includes the surgical treatments for a liver tumor five years ago and a pituitary tumor five months ago, an anal fistula surgery three years ago, along with subsequent visits, amounting to a count of four times for debridement surgeries due to a *Staphylococcus aureus* infection on the lower right area of the patient's leg. In addition, both eyes underwent cataract surgery last year and he was inflicted with hypertension and chronic tinnitus. He hadn't taken any steroid for more than six months before coming to our clinic.

On examination, visual acuity (VA) was 20/25 in OD and 20/40 in OS whereas both eyes were optically uncorrectable. His bilateral intraocular pressure was normal and conjunctiva appeared hyperemia. He also presented with bilateral multifocal posterior uveitis with diffuse choroidal infiltration and exudative retinal detachments via fundus evaluation, indocyanine green angiography (ICG; Figure 1), and optic coherence tomography (OCT; Figure 2) scans.

The patient was diagnosed with VKHS acute stage in both eyes, the same diagnosis as the medical



**Figure 1** Choroiditis at macular regions in the right (OD) and left eye (OS) on the first date of examination.



**Figure 2** Exudative retinal detachment at macular regions in right (OD) and left eye (OS) on the first date of examination.

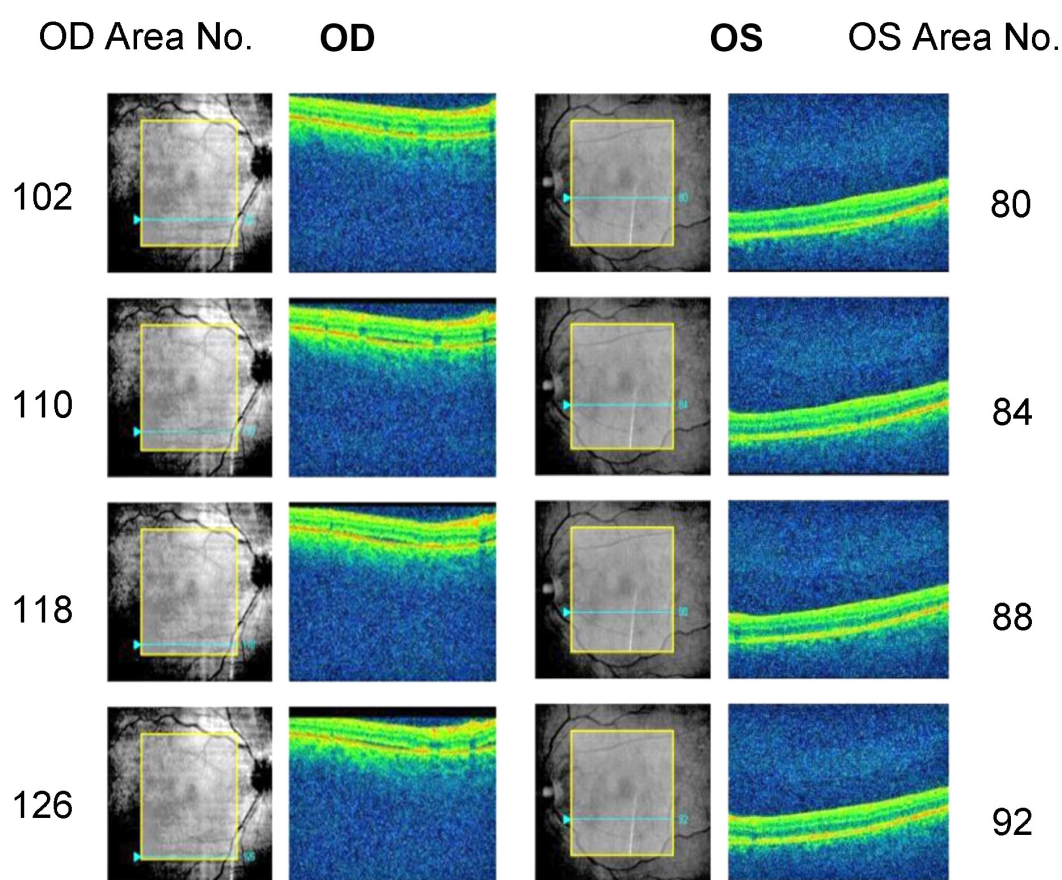


center hospital. Further, according to TCM diagnosis, his symptoms and signs revealed a pathological change characterized by liver fire flaming upward to the head and eyes.

Upon diagnosis, the patient was prescribed the Chinese Angelica, Gentian & Aloe Formula (also called Dang Gui Long Hui Wan) which was to be cooked with water and administered orally twice per day for one week. The patient surprisingly found that his vision improved and conjunctival hyperemia disappeared on the next morning after taking the first prescription. His symptoms of bitter taste in the mouth, constipation, dizziness, excessive dreaming and disruption of sleep were also relieved. One week later,

he received a hospitalization notice from the medical center hospital, but the original steroid injection treatment plan was canceled because the symptoms and image inspection results had improved. The patient felt assured and continued to take the TCM herb prescribed to consolidate the effect for total two months, without taking any other medicine. No drug side effects were reported.

A second examination was held at the clinic 28 days later. Both eyes had an improvement in VA at OD 20/20 and OS 20/25. The dilated fundus and OCT examinations indicated that the retinal detachment at the same areas in the right and left eye had subsided significantly at the 2nd month follow-up (Figure 3).



**Figure 3** Subsided retinal detachment at the same areas in the right (OD) and left eye (OS) at the 2nd month follow-up.

The choroidal inflammation was not seen in the follow-up on the 10th of February, 2017 (Figure 4). His VA was corrected to OD 20/20 and OS 20/22 in the follow-up of two years later. No recurrent symptoms found and VA could be corrected to OD 20/20 and OS 20/20 at the latest follow up on the 7th of December, 2021. The diagnosis and treatment timeline are described as below:

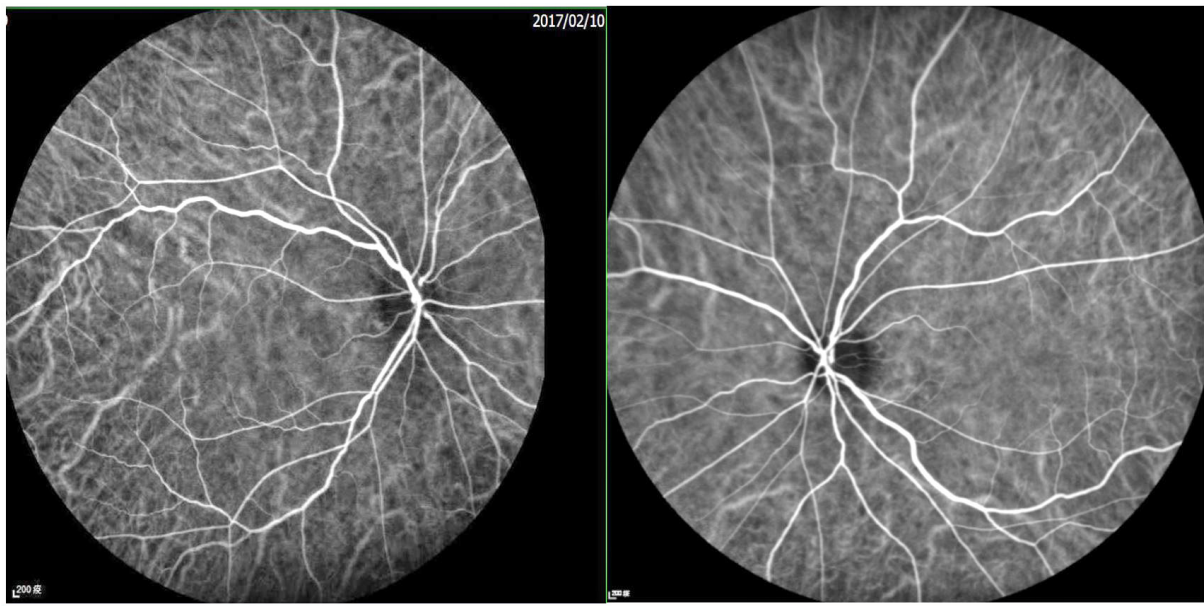
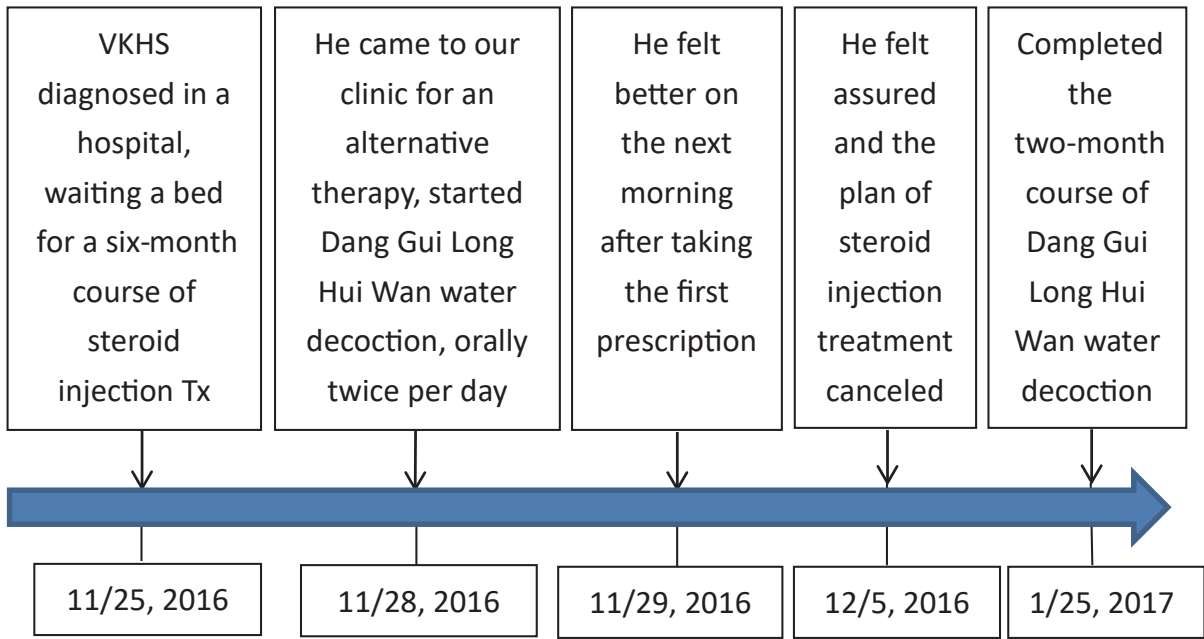


Figure 4 No choroiditis at the 4th month follow-up (ICG).

## Discussion

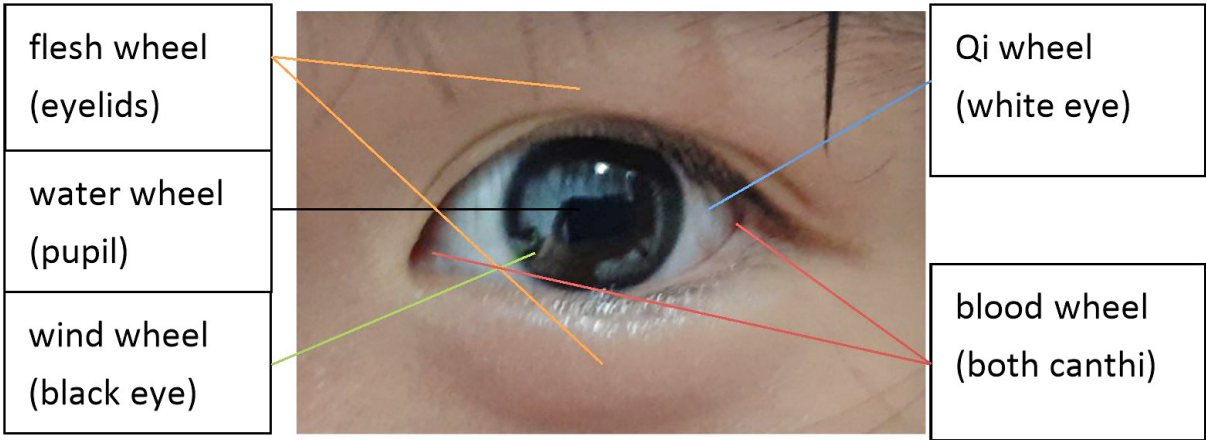
In this report, we present a case of VKHS who was treated with the Dang Gui Long Hui Wan water decoction in two months course. To the best of our knowledge, this is the first case report on a viable non-steroid anti-inflammatory therapy in treating VKHS. The disease is characterised by bilateral uveitis associated with a varying constellation of auditory, neurological and cutaneous manifestations. Early and aggressive systemic corticosteroids are still the primary initial therapy for VKHS. Ocular complications may require an intravitreal injection of corticosteroids. Despite proper treatment with steroids, a number of patients experience recurrent attacks or steroid-associated complications. Thus, non-steroid immunomodulatory therapy has become necessary for the treatment of VKHS [4]. In our study, using Dang Gui Long Hui Wan water decoction alone could effectively eliminate active inflammation and, at the same time, minimize the side effects.

With the rapid development and progress of modern science and technology, the new and high-end ophthalmic examination instrument has gradually entered the eyes of ophthalmologists [5]. However, as a result of the increasingly detailed medical divisions, modern physicians are becoming more and more specialized in their fields and ignoring the overall symptoms. In contrast to the ‘micro’ approach of modern medicine, TCM takes a holistic view of the human body with the same theory describing the universe: yin-yang and wu-xing [6,7]. TCM syndrome differentiation is based on the co-occurrence of TCM manifestation profiles, such as signs and symptoms, and pulse and tongue features [8]. TCM patterns of bodily disharmony can be described in terms of eight

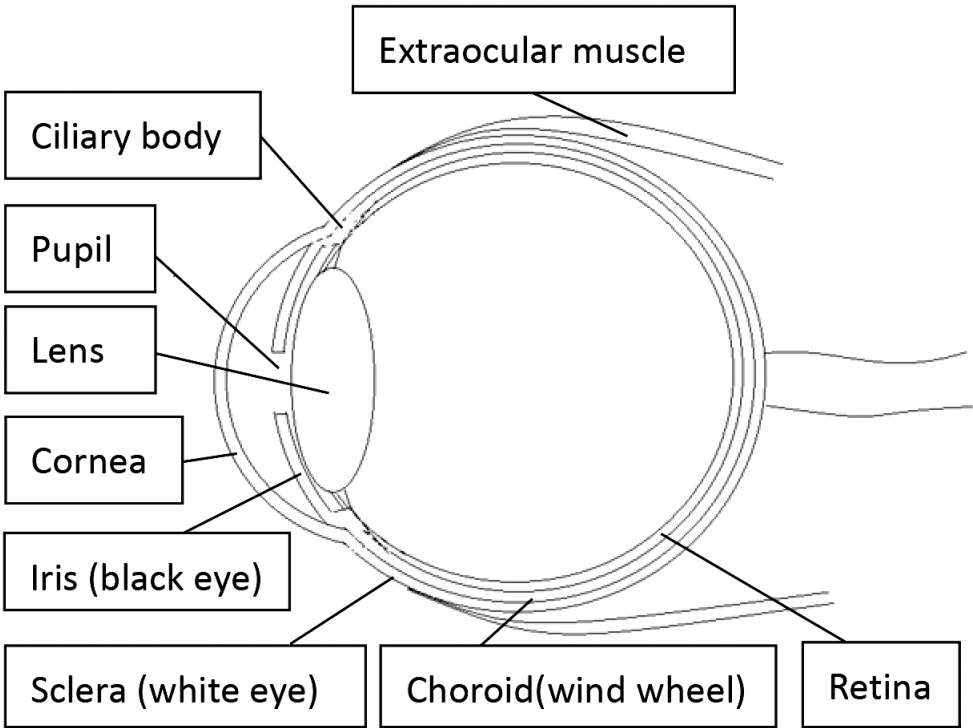
basic parameters: yin and yang, external and internal, hot and cold, and excess and deficiency [9]. The single clinical feature “bitter taste” of this patient could be explained by the TCM syndromes: liver qi stagnation transforming into fire, internal disturbance of phlegm-heat, liver fire flaming upward, and hyperactivity of fire due to yin deficiency [10]. Together with the other symptoms and signs of constipation, dizziness, disruption of sleep, and conjunctival hyperemia, the patient was diagnosed by suffering from the pattern of liver fire flaming upward.

The patient's sign of conjunctival hyperemia should be differentially diagnosed whether it belongs to the surface conjunctivitis, episcleritis, or the deeper layer tunic uveitis. We hypothesized that the ancients could not accurately differentiate and diagnose due to the scarcity of modern ophthalmic examination instruments, e.g. slit-lamp microscope. The patient's examination results of the fundus evaluation, ICG and OCT scans strongly imply that uveitis is conformable to the pattern of liver fire flaming upward rather than conjunctivitis and episcleritis. Intriguingly, this is also in line with the five wheels theory of TCM.

The five wheels theory originated from the five phases theory, has still been in usage for the practice of ophthalmology in Chinese Medicine [11]. The five wheels are the wind wheel, blood wheel, flesh wheel, qi wheel, and water wheel, each corresponding to the five viscera: liver, heart, spleen, lung and kidney (Figure 5). It is an ancient theory that classifies the different areas of the eyes into five viscera, explains the relationship between the five viscera of the body and the five areas of the eyes. For a lateral view, the five wheels theory confirms to the ocular anatomy of modern ophthalmology, and could be expanded to include the entire eyeball (Figure 6). The wind wheel for the uvea



**Figure 5** Illustration of the theory of Five Wheels and correspond eye components.



**Figure 6** Illustration of the eyeball components by a lateral view.

includes the iris, ciliary body and choroid. The blood wheel for the medial and lateral canthi includes the ophthalmic artery and arteriovenous vascular networks in the orbit. The flesh wheel for the upper and lower eyelids include the six extraocular muscles. The Qi wheel for the sclera includes the cornea, and finally, the

water wheel for the pupil includes the lens and retina [12]. VKHS affects the eye with an acute onset of severe panuveitis. The holistic view of TCM does not like as the modern western medicine that subdivides uveitis into anterior, intermediate, posterior, and panuveitis by anatomical classification, or into acute,



chronic, and recurrent uveitis by clinical features. The uvea, including the iris, ciliary body, and choroid, make up the middle layer tunic of the eye. Based on the five wheels theory, it also can be inferred that VKHS and other uveitis linked to the wind wheel corresponding to the liver of the eye.

The liver of human body is a vascular organ and receives up to 25% blood of total cardiac output, more than any other organ [13]. The uvea, including the iris, ciliary body, and choroid, is the vascular layer of the eyes. The choroid vascular network contains more than 70% of the blood in the eyes and is known as the blood bank of eyes, consistent with the concept of liver holding blood in TCM. Numerous Chinese herb formula of the liver, e.g. Shaoyao Qinggan Powder, Qinggan Mingmu Fang, Qinghuo Rougan Mingmu Fang... etc, have been proposed to improve the efficacy in the treatment of acute or chronic uveitis [14-16]. However, Dang Gui Long Hui Wan is the most effective for uveitis based on our clinical experience. Its indication is the main prescription for the treatment of liver heat, which specifically reduces the liver and gallbladder fire, conducts heat downward and clearing excessive heat from the internal viscera to improve the symptoms of manic behavior, deafness, tinnitus, restlessness, delirious speech, dizziness, headache, and constipation.

VKHS affects the eye with an acute onset of severe panuveitis with a drastic and rapid reduction of vision in one or both eyes, which cannot be quickly reduced without the great bitterness and coldness drugs. The ancient liver drugs of Dang Gui Long Hui Wan is formed by many natural great bitterness and coldness herbal drugs (i.e, scutellariae, phellodendron, coptidis) to directly relieve the excess fire in the meridians from the urine and feces. The medical properties of Angelica are sweet, warm and moisturizing, and it

is essential for blood enrichment. The Angelica and Muxiang are taken their functions of regulating qi and blood so that the functions of clearing heat and purging fire promoted, and could buffer the harmful effects of large doses of bitter and cold injuries. The purpose of the consumption here is to quench excessive heat, a TCM concept, in the liver manifested by uveal or choroidal inflammation. This study may shed light on a new perspective in treating VKHS or other uveal inflammatory diseases.

## Conclusions

In conclusion, VKHS and uveitis linked to the wind wheel of five wheels theory in TCM corresponding to the liver of the eye, and the VKHS patient showed an excellent response to the Chinese Angelica, Gentian & Aloe Formula (Dang Gui Long Hui Wan) water decoction, without any combination of steroid-type medicines. A large study is warranted to assess the effectiveness of the Dang Gui Long Hui Wan in treating VKHS or uveitis, and whether every VKHS case shows the pattern of liver fire flaming upward; if confirmed, it will offer another treatment modality for VKHS and other uveal inflammatory diseases.

## Patient Consent

Consent to publish this case report has been obtained from the patient in writing.

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Authorship: All authors attest that they meet the current ICMJE criteria for Authorship.

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# 以古中藥複方當歸龍薈丸水煎劑治療小柳原田症候群病例報告

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**目的：**探索傳統中醫藥作為治療「小柳原田症候群」非類固醇療法之可行性。

**觀察：**一名 56 歲雙眼急性期小柳原田症候群男性患者，其全身症狀恰與中醫的肝火上炎吻合，以古方「當歸龍薈丸」複方水煎劑連續治療一星期後，其肝火症狀迅速消退，兩眼視力也逐漸好轉，並持續服藥兩個月以鞏固療效。以光學同調斷層掃描和循血綠眼底血管攝影追蹤檢查，顯示其滲出性視網膜剝離完全消退，而且兩眼的葡萄膜發炎症狀完全控制。持續定期眼科門診追蹤 5 年，無任何復發跡象。**結論和重要性：**小柳原田症候群和葡萄膜炎對應到眼睛之肝，與中醫五輪學說的風輪相關，且此原田氏症患者對單獨使用「當歸龍薈丸」複方水煎劑反應良好，這項結果可能為治療原田氏症或其他葡萄膜發炎疾病提供新的視角。

**關鍵字：**小柳原田症候群、當歸龍薈丸、葡萄膜炎、肝火上炎、五輪

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