Brief Comment and Review Based on the Article Entitled “Evidence for Traditional Chinese Medicine in Treating Anterior Uveitis: A Pilot Cohort Study”

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Our study “Evidence for Traditional Chinese Medicine in Treating Anterior Uveitis: A Pilot Cohort Study” investigated the effect of ancient liver drugs Danggui Longhui Wan in treating anterior uveitis [1]. This study was conducted as a pilot cohort study at the Universal Eye Center in Tainan, Taiwan, where four ophthalmologists took turns seeing outpatients on every daily basis. Each ophthalmologist has his own medication habits, and patients are randomly assigned according to the time of visit. These four doctors are ophthalmologists specializing in Western medicine, and one of them also holds a license to practice Traditional Chinese Medicine (TCM) who can select to use Western medicine or TCM for treatment according to the patient’s condition.

In this study, a total of 55 patients diagnosed with anterior uveitis were collected and divided into two groups: the first group was treated with steroids alone (n = 22), and the second group was treated with TCM with or without steroids (n = 33). Group 2 was further divided into two subgroups, those who only used TCM (n = 8) and those who used TCM combined with steroids (n = 24). The results found that all the index, e.g. reduction in anterior chamber cells grading, improvement in visual acuity, median time for recovery or recovery rate, the group patients treated in TCM formula were better than the group in steroids (p < 0.01). In addition, this study also found that the recovery trends were similar between TCM subgroups with steroids and without steroids. This result not only means that steroids alone are not as effective as TCM alone, but also suggests that steroids may not be an effective treatment for this inflammatory response at all.

The mainstay therapies for non-infectious uveitis of conventional Western medicine are anti-inflammatory drugs, corticosteroids (systemic or local injection or implantation), immunosuppressive drugs (such as mycophenolate mofetil, azathioprine and calcineurin inhibitors, e.g., tacrolimus and ciclosporin) and biologics [2]. However, these conventional therapies did not result in satisfactory outcomes for some active uveitis and were associated with numerous side effects [3] such as elevated intraocular pressure and cystoid macular edema. TCM is the crystallization of thousands years of medical practice experience. Compared with the exposure to single-target chemical drugs, TCM has the advantages of multi-component, multi-pathway and multitarget synergies with fewer adverse events and more therapeutic effects [4].

The choice of this liver herb medicine in our study is based on the five wheels theory of TCM, but it is slightly different from the current widely circulated version. It is organized by the above-mentioned ophthalmologists with Chinese and Western medicine licenses combined with many years of his clinical experience, referring to the five wheels theory of Chinese medicine and the anatomy and physiology of Western medicine ophthalmology. The new five wheels theory is based on the frontal view of the eye with extending to modern ophthalmologic anatomy. The wind wheel corresponding to the liver is the black part of the eye, but only the iris is rich in melanocytes, not the transparent cornea. This theory should be rearranged as the wind wheel is the iris, which together with the ciliary body and the choroid constitute the middle layer tunic of the eye, named the uvea. Therefore, it can be inferred that anterior uveitis is an inflammation of the anterior part of the uvea, which is related to the wind wheel corresponding to the liver.

In the past hundred years, most scholars’ research on the five wheels has some flaws in certain points of view, for example, most of the articles follow the wrong view that “the wind wheel is the cornea” and believe that “if the corneal disease is treated from the lungs, it will be not as effective as treating it from the liver, and this can prove it.” However, after a detailed review of their contents, it would be found that the so-called liver disease with symptom of tears in wind was due to the insufficient quantity or quality of the tear film layer on the surface of the cornea. The tear film is currently thought to be a multilayered structure that the surface is covered with a lipid layer produced by the meibomian glands, and the interior is a mixed gel consistent of soluble mucus, fluid, and proteins that are contributed by the lacrimal gland, conjunctival goblet cells, and surface epithelium [5], which respectively correspond to the hepatobiliary system (lipid),...
the gastrointestinal system (mucus), and the renal system (fluid) in TCM concepts. The problem of the “wind wheel” mentioned by these scholars was not with the cornea itself, but with the lacrimal system, which instead proved that “the wind wheel is not the cornea”.

Previous animal experiments also proved that numerous liver formulas of Chinese herbal medicines are effective in treating uveitis [6], e.g. Qinghuo Rougan Formula, Longdan Xiegan Tang [7,8]. But with an acute inflammatory condition like uveitis, which can cause sharp and rapid loss of vision in one or both eyes, or even blindness, the condition cannot go down quickly without strong bitterness and coldness medicines. Danggui Longhui Wan originated from the Danxi’s Experiential Therapy written by Zhu Zhenheng (A.D.1481), is consisted of eleven medicines including natural great bitterness and coldness herbal drugs. The purpose of taking this prescription is quickly to quench excessive fire in the liver manifested by uveal or choroidal inflammation.

In conclusion, the efficacy of the ancient Chinese medicine Danggui Longhui Wan in the treatment of anterior uveitis is better than that of steroids alone, which indirectly proves the correctness of the TCM theories, and implies its potential application as a non-steroid anti-inflammatory drug in the treatment of uveitis.

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Conflict of Interest
The authors declare no conflict of interest.

References