

Research Progress of Traditional Chinese Medicine Therapy for Retinal Vein Occlusion

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Abstract: Retinal vein occlusion is a kind of refractory retinal vascular disease. Tissue ischemia, hypoxia and secondary macular edema caused by retinal vein occlusion are the main causes and common complications affecting visual acuity, which belongs to the category of "collateral stasis storm blindness" in traditional Chinese medicine. Ancient medical scientists have accumulated rich experience in its treatment. In this paper, the etiology and pathogenesis of the disease were sorted out through literature review, and blood stasis was analyzed as the main pathogenesis of retinal vein obstruction, and four treatment methods including syndrome differentiation, stage treatment, external treatment and Chinese patent medicine were summarized, in order to provide reference for the clinical treatment of retinal vein obstruction by traditional Chinese medicine.

Keywords: Retinal vein occlusion, Chinese medicine therapy, Research progress, Summary

1. Introduction

Retinal vein occlusion (RVO) is the second most common retinal vascular disease after diabetic retinopathy. It is more common in older patients, and the prevalence rate in people over 40 years old is 1-2%^[1]. It is divided into central retinal vein occlusion (CRVO) and branch retinal vein occlusion (BRVO)^[2]. Zhang Huirong et al. made statistics on the risk factors of venous obstruction in 913 patients (944 eyes), and showed that high intraocular pressure accounted for 57.8%, arteriosclerosis 67.49%, increased blood viscosity 24.6%, diabetes 6.2%, and primary glaucoma 1.5%^[3].

Retinal vein obstruction belongs to the category of "collagoidal damage and blindness" in traditional Chinese medicine. The etiology and pathogenesis of this disease are complex. "Examining Yaohan • Internal and External two handicaps" said: "The eye is the essence of the viscera and the viscera, which is bright, such as the skylight of the house, which originates from the liver and gallbladder. If there is a blockage of blood stasis, the water will not be able to flow." There are emotional internal injury, Yin deficiency of liver and kidney, overeating, fat and sweet taste, endogenous phlegm and dampness, etc., which lead to vein stasis, blood overflow outside the collaterals, obscuring the divine light and preventing the occurrence of blurred vision^[4].

2. Understanding of retinal vein occlusion in Chinese medicine

At present, the etiology and pathogenesis of this disease are not clear in modern medicine, so far there is no satisfactory treatment. Traditional Chinese medicine has obvious advantages in the treatment of RVO. By regulating the movement of qi and blood throughout the body, it can improve the body condition, thus controlling the development of the disease and reducing the recurrence of the disease. In ancient times, retinal vein obstruction was attributed to traditional Chinese medicine^[5] "blind" "blind" "look dim" "blood" category, the first name of blind disease in the "syndrome and treatment criteria • miscellaneous diseases • seven tips" said: "blind, usually no other disease, outside does not hurt the contour, inside does not damage the eye God, suddenly blind and not see also". "Blind but not see" also reflects the disease's damage to vision.

3. Study on the treatment of retinal vein occlusion by traditional Chinese medicine

3.1 Treatment based on syndrome differentiation

The syndrome of Qi stagnation and blood stasis, the syndrome of phlegm-stasis interjunction, the syndrome of Yin deficiency and Yang hyperactivity, and the syndrome of heart and spleen deficiency are common witness types of retinal vein obstruction. Many clinical doctors have different views on this. Xiao Guoshi believed that the disease was mostly due to phlegm and dampness stop gathering, Yang rising wind movement, wind phlegm phase junction, blocking vein or exhaustion of thought, dark depletion of true Yin, liver-yang hyperactivity, qi and blood stasis. Lu Jiping thinks that the cause of the disease is very complicated, mostly caused by blood stasis and qi stagnation. CAI Hailin et al. [6] clinically classified retinal vein occlusion into solid heat type, deficiency heat type, deficiency of heart and spleen, deficiency of qi and blood type, and stasis type.

Comprehensive literature on the syndrome differentiation of this disease is summarized as follows. Xuefu Zhuyu Decoction was selected for the type of Qi stagnation and blood stasis, Tianma Gou Teng Yin decoction was selected for the type of liver Yang Shangkang, Erchen Decoction combined with Taohong Siwu or Acorus Yu Jin Decoction was selected for the type of phlegm-stasis Hujie, Qiju Dihuang decoction was selected for the type of liver and kidney Yin deficiency, Bazhen decoction was selected for the type of qi and blood deficiency, Buyang Huanwu decoction was selected for the type of Qi deficiency and blood stasis, and Kanli Jiji Fang was selected for the type of Yin deficiency and fire Wang [7]

3.2 Staging treatment

Early stage: The course of the disease is about one week. Visual acuity plummets, and fresh bleeding or vitreous hemorrhage occurs in the retina of the fundus [8]. Early to stop bleeding as the first priority, the treatment should be Tongqiao activating blood, clearing heat and stopping bleeding. To rhinoceros horn Dihuang decoction, supplemented by panax notoginseng, pueraria and so on to promote blood circulation, and strive to stop bleeding do not forget stasis, hemostasis without stasis. Middle stage: The course of the disease is about two weeks. Retinal hemorrhage is old. Qi and blood circulation, blood stasis and collaterals should be treated. With blood Fu Zhuyu decoction, at the same time to Notoginseng, Earthdragon and other promoting blood circulation dispersing blood stasis products, do the line of blood stasis and collect new blood. Later stage: retinal hemorrhage is basically absorbed, retinal color is dirty, its surface or vitreous body has proliferation formation. Treatment should promote blood stasis, clear liver and improve eyesight. Chrysanthemum, barbaric fruit and leonurus japonica were added to Tongqiao Huoxuesis decoction [7].

3.3 External treatment

External treatment of ophthalmology is one of the characteristics of TCM therapeutics. It is a method to treat diseases by selecting different external treatment techniques and applying, fumigating and ironing drugs through the body surface, orifice and acupoints, or applying acupuncture, moxibustion, massage and point clearing to the meridians and affected areas under the guiding ideology of holistic concept and syndrome differentiation [9]. In the treatment of TCM ophthalmology, the commonly used external treatment methods include acupuncture, massage, fumigation, auricular point therapy, physical therapy and so on.

3.3.1 Acupuncture therapy

As Miraculous pivot • Kou Wen says, "The eye is the source of the family's pulse." "Miraculous pivot • Evil Qi Zangfu disease shape" cloud: "Twelve meridians, 365 collaterals, the blood and gas are on the surface and walk the air, the Jing Yang qi on the eye and eye." "Taiping Shenghui Fang • Eye Theory" said: "The open hole through the five viscera, if the viscera qi disorder, the eyes will be born; If all the dirty things are safe, how can they be harmed?" The above discussions all show that the diseases of the eyes are closely related to the channels of the viscera. Just as "Miraculous pivot • Meridians" cloud: "meridians, so the decision of life and death in all diseases to adjust the deficiency and the solid, cannot be different." Therefore, internal regulation of Zang Fu organs and external regulation of meridians are very necessary means to treat eye diseases. Acupuncture and moxibustion can stimulate and stimulate the corresponding points to dredge the qi of meridians and collaterals and promote the recovery of diseases. Acupoints around the eyes are commonly used in Qingming, Zao Zhu, Si Bai, Tong Zi, Cheng

Wei, Sun, ball Hou, etc. The distal acupoints are Fengchi, Hegu, Neiguan, Sanyinjiao, Zusanli, Taichong, Yifeng and Zusuanguangming. 2 periorbital points and 2 distal acupoints were selected every day, and 15 needles were retained once a day. Ear acupuncture^[10]: Take liver, gallbladder, spleen, heart, kidney, ear tip, eye 1, eye 2, eye, brain stem, Shenmen and other points. Acupuncture combined with pill pressure, once every 2 days.

3.3.2 TCM iontophoresis therapy

Drug ion introduction is the use of electric field and charge repulsion, opposites attract characteristics, so that drug ion under the action of electric field force through the eyelid skin, cornea into the eye, to achieve the purpose of treating eye diseases. The drug delivery method of ion introduction can directly introduce drugs into the eyes of patients in the form of ions, which can achieve a high concentration of drugs in various tissues of the eyes and effectively adjust the maintenance time, so as to achieve the therapeutic purpose of accelerating the absorption of vitreous hematoma^[11]. Salvia miltiorrhiza injection has functions such as promoting blood circulation and removing blood stasis, regulating veins and nourishing heart, which can dilate blood vessels, increase blood volume, improve microcirculation and cell hypoxia, so as to achieve the purpose of treating retinal vein obstruction^[12]. Wang Shujuan^[13] et al. observed that Xuefuzhuyu decoction combined with electric iontophoresis had a good effect in the treatment of retinal vein obstruction in the fundus hemorrhage stasis stage, with a total effective rate of 93.75%.

3.4 Traditional Chinese Medicine

Drug therapy plays a key role in the treatment of RVO in traditional Chinese medicine. Traditional Chinese medicine can delay the occurrence and development of retinal vein obstruction and play a role in protecting vision^[14]. Huo Qin et al.^[15] made a statistical analysis on 70 prescriptions for internal administration, involving 17 types of TCM, including 112 TCM in total. According to the classification of efficacy, at the top were drugs for promoting blood circulation and removing blood stasis, drugs for clearing heat, drugs for stopping bleeding, drugs for regulating qi, drugs for tonifying blood, drugs for improving water and dampness, drugs for reducing phlegm and drugs for calming liver and quenching wind, and 88.09% were used in total. The cumulative frequency of liver, heart, kidney and spleen channels was 68.12%.

3.5 Chinese Patent Medicine

Jiang Rong et al.^[16] observed the clinical effect of Yunnan Baiyao on retinal vein occlusion in 60 cases (60 eyes). After treatment, 23 cases had improved visual acuity, bleeding absorption and no recurrent bleeding, and the effective rate was 76.7%. Therefore, Yunnan Baiyao can be used in the early stage of retinal vein obstruction to achieve the purpose of treatment. According to the clinical studies of Li Haiwei et al.^[17], Danhong Huayu oral liquid combined with lecithin complexing iodine in the treatment of retinal vein obstruction can improve eye circulation and has good clinical efficacy. The study of Fu Yu et al.^[18] on the regulatory effect of Danhong Huayu oral liquid on cytokine network of central retinal vein occlusion showed that Danhong Huayu oral liquid combined with leizumab injection could improve the vision of RVO patients and regulate VEGF, TNF- α and serum VEGF, TNF- α , MCP-1, ICAM-1 and other cytokines in aqueous solution. Danhong Huayu oral liquid is mainly used for the treatment of retinal vein obstruction of Qi stagnation and blood stasis. As a traditional Chinese medicine preparation, compound Xueshuantong Capsule has the function of nourishing qi and Yin, promoting blood circulation and removing blood stasis^[19]. It is usually used for the treatment of retinal vein obstruction with qi deficiency and blood stasis. Compound Xueshuantong Capsule can also effectively relieve fundus retinal edema, absorb macular lesions, and reduce the treatment time of patients^[20]. Puerarin injection is a new type of pure Chinese medicine preparation developed by using modern new technology. It is a kind of flavonoid glycoside extracted from the roots of leguminous plants Kudzu and Pueraria kudzu. It is a kind of natural antioxidant, which has the effect of anti-platelet aggregation and increasing fibrinolytic activity. It can reduce the level of serum adhesion molecules, dilate blood vessels, and improve microcirculation, ischemia and hypoxia symptoms of peripheral nerves and environment^[21]. Puerarin is a relatively effective method for ROV treatment with simple treatment, no adverse reactions, good clinical feasibility and reliability^[11]. Honghua injection can promote blood circulation, remove blood stasis, increase coronary blood flow and dilate blood vessels. Safflower flavin A in Honghua can inhibit the formation of retinal neovascularization, so Honghua injection has a significant effect on retinal vein obstruction^[22].

4. Conclusion

Traditional Chinese medicine believes that the main pathogenesis of retinal vein obstruction is vein stasis and promoting blood circulation to remove blood stasis and dredging collaterals is the main treatment method. Through the observation of clinical efficacy, it can be considered that traditional Chinese medicine is effective in preventing retinal vein obstruction, but there are still some clinical problems. The classification standard of clinical syndrome differentiation is not uniform, and the drug efficacy of medicinal materials is also very different, which affects the clinical treatment effect. In the use of traditional Chinese medicine treatment, most of the compound, lack of pharmacological research, it is impossible to determine the substance that plays a key role in the disease. Therefore, how to give full play to the advantages of TCM therapy in clinical work; How to solve the problems of TCM in clinical research; Further discussion is needed on how to improve the curative effect of TCM treatment so as to achieve the purpose of better treatment of retinal vein occlusion and its complications.

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