Recent Advances of HIV/AIDS Treatment with Traditional Chinese Medicine in China

WANG Jian 王健 & ZOU Wen 邹雯
Traditional Chinese Medicine Center for AIDS Prevention and Treatment, China Academy of Chinese Medical Sciences, Beijing 100700, China

Since the early 1980’s over 40 million individuals have infected with HIV worldwide and over 12 million have died. In China by 2009 there had been 319,877 cases were identified as HIV/AIDS.1 AIDS has become not only a severe medical problem but also a social and economic issue.

In 1996, protease inhibitor therapy became widely available for use in the treatment of HIV infection, thus a decline in HIV-related morbidity and mortality had been reported. Over the last decade, more and more Chinese HIV/AIDS patients turn to seek TCM treatment, among the reasons commonly cited for the use of TCM by patients with HIV infection are: expectation of good effect, reduction of symptoms from the disease or reduction of medicine side effect, or desire for improvement of quality of life and control over the disease process. The authors have reviewed the major developments and future challenges in HIV/AIDS treatment with TCM in recent years.

TCM & AIDS

Since AIDS is a “new” disease, found in 1981, there was no specific research on the disease in the past or in the classics. AIDS is an infectious and epidemic disease which is similar to Wen Yi (pestilence) or Xu Lao (consumptive disease) in TCM in terms of the way of spreading, epidemic conditions, characteristics of the onset and clinical manifestations. This kind of relativity provides theoretical basis as well as clinical experience for the treatment of AIDS with Chinese medicine. AIDS is a complicated syndrome with the symptoms excess, and root cause deficiency, marked by various and changeable symptoms and signs. TCM is able to analyze the pathological changes and make syndrome differentiation based on which the principle of treatment is set up and prescription worked out.

It is said that “Western medicine treats the disease, Chinese medicine treats the patient”. When HIV infection occurs in someone, who has enough vital force and strong adjustment ability, he might be living concurrently with infection and becomes a long-time HIV carrier, with a retarded entering from asymptomatic stage to AIDS stage. TCM puts stress on the reactivity and adaptability of the organism to pathogens. In TCM, patients are treated with different therapies, including Chinese drugs, acupuncture, moxibustion, and Qigong exercise for enhancing the immune function of the organism, blocking the development, retarding the initiation (the progression from asymptomatic stage to the AIDS stage), or alleviating the symptoms and signs of the disease, so as to elevate the quality of life and prolong the life span of patients. The best time of intervening in AIDS with TCM is: For asymptomatic stage (HIV carrier) patients, the main purpose of treatment is to maintain and enhance the immune function so as to delay its progression to AIDS stage. For AIDS stage, TCM treatment focuses on relieving symptoms of patients who have AIDS-related opportunistic infection so as to improve the quality of life or combines with HAART therapy to alleviate the side effect of biomedical drugs.1

Advances

The antiretroviral have had an effect on reducing morbidity and mortality, prolonging lives and improving the quality of life (QoL) for many people living with HIV infection. However, HAART has some limits such as drug toxicities and cross-resistance among anti-
retroviral drugs of the same class. It is not so convenient for patients in rural areas to access the antiretroviral drugs, so alternative approaches are needed. TCM has been practiced for centuries for health care in China and is accepted gradually in the West. Over the past decade, evidence from experimental studies and clinical trials has demonstrated a positive association between use of TCM and immune promotion or symptom relief of people living with HIV/AIDS. Numerous observational studies and randomized controlled trials that compared herbal medicines or moxibustion with placebo or antiretroviral drugs in patients with HIV infection, HIV-related disease or AIDS have shown that Chinese herbs as well as acupuncture and moxibustion can reduce symptoms and signs of AIDS and opportunistic infections, and improve immune function and QoL. Significant improvement has been reported in AIDS patients with diarrhea and some gastrointestinal dysfunctions. Specifically, 3 double blind RCT trials reported that 6 months to 1 year of regular Chinese herb (Compound SH, Tangcao Tablets, Qiankunning Capsule) application could significantly reduce HIV RNA level in the treatment group than that in the placebo group. The 11 RCT trials reported that Chinese herbal medicine could enhance the immune function of HIV-infected individuals and AIDS patients. For instance, ZY-4 could increase CD4 cell count. The 47 observational studies proved the beneficial effect of Chinese herb on immune function enhancement and symptoms alleviations (such as fatigue, cough, diarrhea and poor appetite), although bias might be inherent in these observational data. These studies above showed a variety of treatment principles of Chinese medicine like supplementing Qi and nourishing Yin, promoting Qi and activating blood circulation, clearing heat and eliminating dampness, removing toxic substance. Chinese herbs were also used to treat AIDS related diseases. The 13 RCT trials reported that Chinese herbal medicine was also effective for oral candidiasis, peripheral neuropathy, skin rash, and diarrhea. For instance, Xiaomi Keli (消糜颗粒 Granule for Erosion Relief) may contribute to HIV-related oral candidiasis, Duhuo Jisheng Tang (独活寄生汤 Decoction of Pubescent Angelica and Loranthus) may have an effect in improving peripheral neuropathy, Shenling Baizhu San (参苓白术散 Powder of Ginseng, Poria and Bighead Atractylodes) may contribute to HIV-related diarrhea, a promising gastrointestinal benefit was found from the Banxia Xiezin Tang (半夏泻心汤 Pinellia Decoction for Purging Stomach Fire). However, these findings still need to be confirmed in large, rigorous trials. The use of Chinese herbal medicines was associated with no or non-serious adverse effects. However, potential interaction between herbs and antiretroviral agents still need to be explored, although it was reported that Aining Granule may prolong the metabolic duration of anti-HIV drug indinavir in vivo. Chinese herb medicine may have some effect on chemical drugs through interacting with human liver CYP450. China’s current national guidelines updated in 2008 recommend ART initiation in all patients with CD4 cell count under 350 cells/mm³, this earlier initiation indicates that Chinese herbal medicine combined with HAART should be further studied. It is reported that Chinese herb Aizhi 1 prescription may effectively correct the abnormal fat distribution resulting from HAART, improve lipid conditions and increase CD4 count. Chinese herb “Kangailbaosheng capsule” may contribute to the restoration of immune function of AIDS patients, enhance the efficacy of HAART and improve QoL.

The 3 RCT trials reported that warming moxibustion at the main points: Shenque (CV 8), Guanyuan (CV 4), Zusanli (ST 36), Zhongwan (CV 12), Tianshu (ST 25) indicated good effect on AIDS patients with diarrhea.

Evidences from those trials suggested some beneficial effects of the use of herbal medicine and moxibustion for HIV infections and AIDS. However, considering the small sample and limitations of the trials (most of trials had participants less than 30, duration arranging from 3 months to a year), more evidence from large, well-designed, rigorous trials is needed to give firm support. Therefore, future trials should be rigorous in methodology and address clinical outcomes such as PRO (patients reported outcome), QoL, or symptom relief. Participants should be stratified according to their stages, such as Asymptomatic HIV-infection, HIV-related diseases or AIDS. The quality of herbal medicine that is to be tested should be warranted through in vitro or in vivo experimental studies, and the adherence should be evaluated in the trials. An assessment system was preliminarily established to evaluate the effect of TCM in treating HIV/AIDS, including following aspects: subjective symptoms of patients, QoL, symptoms and signs concerned by physicians, clinical end points, biological parameters, which would be a good reflect on TCM efficacy.
According to the regulation of SFDA in China, new Chinese patent medicine treating AIDS should be classified into anti-HIV patent that testified through in vitro and in vivo experiments and patent supplementary for AIDS treatment that either adds synergistic effect or alleviates toxic-side effect on antiretroviral drugs already existed. Tangcao Tablet is the first patent approved by SFDA for alleviating symptoms and signs of HIV/AIDS patients, 5 other relatively matured compounds (Qiankunning Tablets, Keaite Capsule, Chuankezhi Injection, Zhongyan-2 Granule and Compound Sanhuangsan) are still under clinical trials.

Traditional Chinese Medicine intervention on HIV individual and AIDS patients started from 2004, a pilot project named National Free TCM HIV/AIDS Treatment Program had been launched by The State Administrative bureau of Traditional Chinese Medicine, and quickly scaled up from 5 provinces (Henan, Hebei, Anhui, Hubei, Guangdong) to 19 provinces, autonomous regions, and municipalities in China including some places with high prevalence, 9267 cases have been treated with TCM accumulatively. The therapeutic effects on 8946 cases from pilot project are as follows: most of the cases maintained stable immune function, main symptoms and signs like fever, cough, fatigue, poor appetite, diarrhea had significantly been relieved ($P<0.001$), no adverse reaction was found in TCM treatment. The authors reported the 3-year outcome on CD4+ lymphocyte count of 807 cases of HIV/AIDS enrolled in the program. The results showed that the overall CD4+ lymphocyte count maintained stable at the 6th month and the 12th month, declined significantly at the 18th month, 24th month and 30th month, then elevated to the pre-treatment level at the 36th month. Patients with pre-treatment CD4+ lymphocyte count level $<200/mm^3$, who possibly combined HAART therapy, had CD4+ lymphocyte count elevated significantly in after visits. Patients with pre-treatment CD4+ lymphocyte count level between 200 and $350/mm^3$ maintained stable before the 36th month, and then rose significantly, which implicated the long-term effect of TCM. Patients with pre-treatment CD4+ lymphocyte count level $>350/mm^3$, had CD4+ lymphocyte count declined significantly in after visits.$^{14}$

Challenge & Opportunity

From 2008, State Major Science & Technology Specific Projects granted about 100 million on TCM research on HIV/AIDS, including research tasks such as “TCM syndrome differentiation in HIV/AIDS patients”, “TCM intervention of the asymptomatic HIV infected patients”, “TCM treatment of opportunistic infections and alleviating side-toxic effect of HAART in HIV/AIDS patients”, “TCM treatment on immune reconstitution after HAART in HIV/AIDS patients”, “Research on anti-HIV TCM animal model ”, “TCM efficacy assessment in HIV/AIDS patients”, “Establishment of good conditional clinical research base for HIV/AIDS treatment with TCM”, which presented opportunities as well as challenges to TCM researchers. Although TCM appears to be associated with the improvement in immune function, QoL, and some AIDS related opportunistic diseases, definitive conclusions were limited due to variation in designs, comparisons, heterogeneous outcomes and inadequate controls. High-quality, well-controlled, longer randomized trials are needed for further research.

REFERENCES

7. Fang SS, Wang J, Huang WN. Effect of medicine of Aining Granule on human liver cytochrome P4501A2, 2D6 and 3A4


(Received July 28, 2010)