Patient Attitudes Toward Western Medicine and the Future of Chinese Medicine for Spondyloarthritis

James Cheng-Chung Wei[1], Yi-Chang Su[2], Hung-Chou Chang[3], Ming-Shiou Jan[4], Ruey-Hong Wong[5] and Chung-Tei Chou[*,6]

[1]*Institute of Medicine, Chung Shan Medical University, Taichung, Taiwan; Division of Allergy, Immunology and Rheumatology, Chung Shan Medical University Hospital, Taichung, Taiwan*

[2]*Department of Chinese Medicine, China Medical University, Taichung, Taiwan*

[3]*Division of Intergrative Medicine, Chung Shan Medical University Hospital, Taichung, Taiwan*

[4]*Department of Medicine, Chung Shan Medical University, Taichung, Taiwan*

[5]*Institute of Public Health, Chung Shan Medical University, Taichung, Taiwan*

[6]*Division of Allergy, Immunology and Rheumatology, Veterans General Hospital, Taipei, Taiwan*

Abstract: Spondyloarthritis (SpA) and ankylosing spondylitis (AS) have a significant social and economic impact on ethnic Chinese patients. Western medicine, especially NSAIDs and disease-modifying anti-rheumatic drugs (DMARDs), are standard mainstream therapies for patients with SpA and AS. However, patient compliance with these medications is poor, due to the fear of side effects. In spite of their poor functional status and disease activity, less than 40% of AS patients are regularly treated.

Complementary and alternative medicine (CAM) is very popular in Asian countries like China, Korea, Japan, India and Taiwan. A Korean survey in university hospital rheumatology clinics showed that 155 patients (68.5%) reported using at least one form of CAM during the previous 12 months. Herbal remedies and acupuncture were the most frequently used categories of CAM. Compared to conventional Western treatments, CAM is seen to have advantages in terms of a lower incidence of adverse reactions, greater patient choice, psychological comfort, and an increased quality of the patient/therapist relationship. Common symptoms treated by CAM were pain (80%), decreased functioning (43%), and lack of energy (24%).

Tripterygium wilfordii Hook. f. (Lei Gong Teng), Tetrandrine (Tet), acupuncture and Tai Chi are some examples of potential Chinese medicine treatments for spondyloarthritis. CAM usage is a worldwide trend. However, further study, including basic research and well-designed clinical trials, is warranted. Patients should be instructed to discuss treatment strategies for their disease, and the use of CAM, with their rheumatologists.

Keywords: Western medicines, alternative medicine, Herbal remedies, acupuncture.

SPONDYLOARTHRITIS IN ASIA

Spondyloarthritis (SpA) is a chronic inflammatory autoimmune disease involving the spine, peripheral joints, enthesis, and sometimes the visceral organs. The prevalence of ankylosing spondylitis (AS) is estimated at about 0.2~0.4%. AS has a significant social and economic impact on ethnic Chinese patients: A cross-sectional study of 314 Chinese patients with AS showed that mean age was 44 +/- 11 years, with a mean disease duration of 19 +/- 11 years. The median BASFI was 3. Twenty-three percent reported AS-related work disability after a median of 11 years. A poor socioeconomic background, long disease duration, and high disease activity level were associated with functional impairment [1]. In a large cohort study of 871 Taiwanese AS patients (James C. Wei, PhD thesis, 2007), the mean age was 34.28 ± 11.21 and the delayed diagnosis time lag was 5.91 ± 6.64 years. Average BASDAI was 3.99 ± 2.26, BASFI 2.13 ± 2.17 and BAS-G 4.27 ± 2.82 cm on a 10-cm scale. In spite of the poor functional status and disease activity, less than 40% of AS patients were regularly treated.

ATTITUDE TO WESTERN MEDICINE

Non-steroidal anti-inflammatory drugs (NSAIDs) are the first-line treatment in AS. Short-term efficacy of NSAIDs in AS has been observed for most patients, but the correlation of NSAID intake with the long-term prognosis and its potential influence on the structural progression of the disease is still unknown [2]. One recent study demonstrated that continuous use of NSAIDs reduces radiographic progression [3]. Yet, the disease-modifying effects of NSAID and COX-2 inhibitors have been questioned and need further investigation.

Western medicine, especially NSAIDs and disease-modifying anti-rheumatic drugs (DMARDs), are standard mainstream therapies for patients with SpA and AS. However, patient compliance with these medications is poor due to the fear of side effects. In the Taiwan AS cohort study (James C Wei, PhD thesis, 2007), only 38% of AS patients were under

*Address correspondence to this author at the Division of Allergy, Immunology and Rheumatology, Veterans General Hospital, Taipei, Taiwan; E-mail: ctchou@vghtpe.gov.tw

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regular NSAID treatment and 28% was under regular DMARDs treatment.

In a study of osteoarthritis (OA) patients, the most worrying finding was the lack of knowledge regarding analgesics and some aspects of non-steroidal anti-inflammatory drug (NSAID) therapy. Less than a third of patients knew that analgesics could be taken prophylactically and 70% did not know that they should be taken when pain starts to build: 34% did not know that NSAIDs should be taken with or following food intake [4].

ATTITUDE TO COMPLEMENTARY AND ALTERNATIVE MEDICINE

Complementary and alternative medicine (CAM), including traditional Chinese medicine (TCM), has been a topic of discussion for a long time, in both Asian and Western countries. Complementary and alternative medicine (CAM) use by US adults increased substantially between 1990 and 1997 [5]. The most commonly used CAM modalities in 2002 were herbal therapy (18.6%), followed by relaxation techniques (14.2%) and chiropractic (7.4%). Overall CAM use for the 15 therapies common to both surveys was similar between 1997 and 2002 (36.5%, *vs* 35.0%). The greatest relative increase in CAM use between 1997 and 2002 was seen for herbal medicine (12.1% *vs* 18.6%, respectively), and yoga (3.7% *vs* 5.1%, respectively), while the largest relative decrease occurred for chiropractic (9.9% to 7.4%, respectively) [6].

In fact, back/neck pain is the number one condition for which Americans seek complementary or alternative medical (CAM) care. During 1997, 30% of Americans with back problems visited CAM practitioners, especially chiropractors and massage therapists, for this condition, and another 18% used CAM self-care [5]. In a survey of rheumatology patients attending musculoskeletal disease clinics, 109 patients (63%) were satisfied with conventional medical treatment; 63 (38%) had considered the use of complementary therapies, and 47 (28%) had tried such therapy. For the CAM user, 26 of the 47 who had used complementary therapy said they had gained some benefit. Acupuncture, homoeopathy, osteopathy and herbal medicine were the most popular types of treatment to be considered [7].

In a UK survey of allergy patients, 26.5% of those with allergy used CAM. Compared to nonusers, the CAM users were significantly younger (median age 43 *vs* 47; p=0.004) and better educated (school education > 8 years *vs* ≤ 8 years; odds ratio (OR) 2.17, 1.28–3.67) and mostly motivated by the assumption of few side-effects (78.3%), by a wish to try everything (71.7%), and by unsatisfying results with conventional therapy (66.3%). Four procedures accounted for almost the entire CAM usage: homeopathy (35.3%), autologous blood injection (28.1%), acupuncture (16.6%), and bioresonance (10.0%) [8].

COMPLEMENTARY AND ALTERNATIVE MEDICINE IN ASIA

Traditional medicine is very popular in Asian countries like China, Korea, Japan, India and Taiwan. However, there is a paucity of data regarding the use of and attitudes toward complementary and alternative medicine (CAM) among arthritis patients in Asia. A Korean survey in university hospital rheumatology clinics showed that 155 patients (68.5%) reported using at least one form of CAM during the previous 12 months. Herbal remedies and acupuncture were the most frequently used categories of CAM [9].

Among prior users of specific CAM therapies for back pain, massage was rated most helpful. Most patients with chronic back pain were interested in trying therapeutic options that lie outside the conventional medical spectrum. This highlights the need for additional studies evaluating their effectiveness and suggests that researchers conducting clinical trials with these therapies may not have difficulties recruiting patients [10].

WHY COMPLEMENTARY AND ALTERNATIVE MEDICINE?

Compared to conventional Western treatments, CAM is seen to have advantages in terms of a lower incidence of adverse reactions, greater patient choice, psychological comfort and an increased quality of the patient/therapist relationship. The use of CT by patients with rheumatoid arthritis indicates a need for evidence-based information about its use and safety in order to direct practice within a rheumatology department [11].

Common symptoms treated by CAM were pain (80%), decreased functioning (43%), and lack of energy (24%). Common reasons for going to CAM practitioners included lifestyle choice (67%) and because they are perceived to be more effective than conventional medicine (44%). Evidence from the current survey suggests that a significant proportion of people with physical disabilities consult CAM practitioners. Many of those who use CAM do so because it fits their lifestyle and because they perceive it to be more effective than conventional medicine for treating common symptoms, including pain and decreased functioning [12].

CURRENT EVIDENCE OF CHINESE MEDICINE USE IN SPONDYLOARTHRITIS

Although some clinical trials of traditional Chinese medicine in patients with SpA and AS have been carried out in China and Taiwan, only a few of them were published in international peer-reviewed journals and can be searched in Pubmed.

A 12-week randomized controlled clinical trial of 24 AS patients in Taiwan revealed that 8.3% of patients receiving the TCM formula Guliu erxian glue and 25% of patients receiving the TCM formula Tso-kuei-wan achieved ASAS-20 response criteria. Patients with the TCM formula Tso-kuei-wan also had significant improvement in BASFI (p=0.018) and QOL scores (p=0.024). (JC Wei, unpublished data) [13].

Among these herbs, Tripterygium wilfordii Hook F. (Lei Gong Teng) is probably the one with the most potential [14]. It is available in the market in tablet form for the long-term treatment of rheumatoid arthritis and various skin disorders. Tripterygium wilfordii is a Chinese herb with immunosuppressive effects and an established history of use in the treatment of rheumatoid arthritis (RA). Triptolide is a purified component from the traditional Chinese herb Tripterygium wilfordii Hook F. It was suggested in a recent study that the Peyer's patch is one of the primary targets of the immunosuppressive activity of triptolide [15]. A systematic

review of T. wilfordii monopreparations in the treatment of RA concluded that T. wilfordii has beneficial effects in dealing with the symptoms of RA. However, the literature indicates that T. wilfordii is associated with serious adverse events which render the risk-benefit analysis for this herb unfavorable [16].

Tetrandrine (Tet), purified from the creeper Stephania tetrandra S Moore, is a bis-benzylisoquinoline alkaloid and has been used for decades in China to treat patients who have silicosis, autoimmune disorders, and hypertension. The accumulated studies both *in vitro* and *in vivo* reveal that Tet preserves a wide variety of immunosuppressive effects. Importantly, the Tet-mediated immunosuppressive mechanisms evidently differ from those of some known DMARDs. The synergistic effects between Tet and other DMARDs, like FK506 and cyclosporin, have also been demonstrated. These results highlight Tet as a very potential candidate to be considered as one of the DMARDs in the treatment of autoimmune diseases, especially rheumatoid arthritis [17].

Crude preparations of Fun-boi (Stephania tetrandra), a traditional antirheumatic herb, have been reported to have immunomodulatory effects on both cell-mediated and humoral immunity *in vitro*. Fun-boi therapy also exerts therapeutic effects in CIA mice, possibly by causing immunomodulatory effects at specific sites [18].

Herbal remedies are exempt from the usual drug safety requirements and may be a cause of both adverse effects and drug interactions. Data on interactions between herbal remedies and conventional antirheumatic medication is scarce. Reasons include a perception that herbal remedies are safe, a lack of reporting by patients and healthcare professionals, and a lack of knowledge about the pharmacology and composition of herbal remedies, as well as adulteration. Interactions are likely between herbal remedies with antiplatelet or nephrotoxic effects and NSAIDs, hepatotoxic herbal remedies and disease-modifying antirheumatic medication, and between St. John's Wort and cyclosporine [19].

Periploca sepium (PS) has traditionally been used in Asian medicine for the treatment of rheumatoid arthritis (RA). In cell culture studies, PS inhibited the growth and IL-6 production of the cells in dose-dependent manners. The extract of Glycyrrhiza glabra (GG), which has also been used to treat RA and was chosen as a reference here, slightly inhibited the growth of RA cells. A study of PSE fractionation indicated that the active material inhibiting IL-6 production is filterable by ultrafiltration, suggesting that substances with low molecular weight might be involved in an inhibition of IL-6 production [20].

There is no data about tai chi in SpA. However, two randomized clinical trials (RCTs) and three non-randomized controlled clinical trials reported some positive findings for tai chi on the disability index and in quality of life, depression and mood for RA patients. Pain outcomes were assessed in two RCTs, in which no effectiveness in pain reduction was found, compared with education plus stretching exercise and usual activity control [21]. So far, the effectiveness of tai chi in treating arthritis remains unproven.

CONCLUSIONS

For a chronic inflammatory disease like spondyloarthritis, it is always the patient's hope to integrate mainstream Western medicine and CAM for better efficacy and safety. CAM usage is a worldwide trend and very common among Asian arthritis patients. CAM may be potentially useful for patients with spondyloarthritis, but further study, including basic research and well-designed clinical trials, are warranted. Physicians and investigators should be open-minded toward CAM, in terms of evidence-based medicine. In fact, the WHO has issued guidelines on the principles of evidence-based traditional medicine and tried to promote the integration of traditional medicine with modern medicine for the benefit of mankind [22]. Patients should be instructed to discuss treatment strategies for their disease, and the use of CAM with their rheumatologists.

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