CLINICAL EXPERIENCE

Effect of Treatment Based on Syndrome Differentiation by Chinese Medicine on Post-traumatic Elbow Arthritis

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ABSTRACT Objective: To compare the clinical efficacy of treatment based on syndrome differentiation of Chinese medicine and modern conservative therapeutic program on post-traumatic elbow arthritis (PTEA) in order to provide the guidance in clinical practice. Methods: Seventy-six patients with PTEA requesting the conservative therapy were equally assigned to two groups randomly. The 38 patients in the treated group were administered with Chinese herbal medicines according to their syndrome typing for oral intake and external washing; while the other 38 patients in the control group were treated orally with glucosamine hydrochloride and Celecoxib, combined with intra-articular injection of sodium hyaluronate and peri-articular pain spot blocking with Triamcinolone Acetonaide Acetate injection. All were followed-up for six months with the therapeutic efficacy assessed by Japanese Orthopaedic Association (JOA) and the Hospital for Special Surgery (HSS) Scale scoring. Results: All the 76 patients completed the trial. The JOA and HSS scores in the two groups were not significantly different before treatment (P>0.05), but they did show significant difference after treatment in terms of total score, joint pain, range of motion, and daily activity (P<0.05). However, there was no difference between the two groups in the improvement of joint stability and deformity (P>0.05). Conclusion: Both the Chinese drug therapy according to syndrome differentiation and modern conservative therapy are effective in treating PTEA, but the former shows more superiority, and so it is worthy of clinical spreading.

KEYWORDS arthritis, elbow, Chinese medicine, diagnosis, syndrome differentiation

Post-traumatic elbow arthritis (PTEA) is a common disease. There has been no effective and uniform therapeutic scheme so far, and patients sometimes refuse to take surgical therapy due to their previous operation experience or cognition discrepancy. In the comparative study, the efficacy of Chinese medicine therapy and modern conservative therapy of PTEA was assessed by scales issued by the Japanese Orthopaedic Association (JOA) and Hospital for Special Surgery (HSS), and the quantitative efficacy of Chinese medicine therapy on PTEA was analyzed as well, hoping to provide a basis for laying out a safe and reliable comprehensive therapeutic program with actual efficacy.

METHODS

Standard for Diagnosis, Inclusion and Exclusion

Those patients included were as follows: (1) those who had the history of elbow joint traumatic fracture, with the fracture healing confirmed by imaging diagnostic methods, no existence of heterotopic ossification affecting the range of motion, but with remaining symptoms of elbow joint pain/discomfort and dysfunction; (2) those who refused to receive surgical treatment; (3) those matching the Western and Chinese standards for PTEA diagnosis and typing; (4) Written consent for this study was obtained from each patient, they were ensured to receive the outpatient treatment according to the treatment course and complete the six-month follow-up study; (5) those with no critical primary disease or mental disease; (6) having not received any other related treatment; (7) patients with other arthropathies, such as rheumatoid, infectious disease, responsive, metabolic arthritis, articular tumor; or other special arthropathy, were excluded.

Clinical Data

The 76 patients of PTEA, willing to receive the conservative therapy, were recruited from the authors’ clinics from July 2006 to July 2007. They were 42
males and 34 females, 38 to 70 years old, 46.5 years on average, with the course of illness being 1-20 years. According to Doll’s sampling method\(^3\), they were randomly assigned to two groups. The 38 patients in the treated group were of the mean age of 48.5 years, 22 males and 16 females, and their mean duration of illness was 14.3 years. Whereas the 38 in the control group were of the mean age of 45.5 years, 20 males and 18 females, and their mean course of illness was 12.7 years. Joint X-ray film showed no significant abnormality in all patients. The two groups were not significantly different in sex, age, and the mean duration of illness, and so they were comparable.

Patients in the treated group were differentiated into three syndrome types with reference to the “Guiding Principle of Clinical Research on New Drugs of Chinese Medicine,”\(^4\) namely, Type 1, the syndrome of Gan（肝）-Shen（肾） insufficiency with stasis in tendon (9 patients); Type 2, the syndrome of Pi（脾）-Shen deficiency with dampness in joint (13 patients); and Type 3, the syndrome of Gan-Shen deficiency with phlegm-stasis blocking (16 patients).

Treatment

All patients in the treated group were orally administered with a Chinese patent drug in the granule form made by Jiangyin Pharmaceutical Co., Jiangsu Province (batch no. 0602311), one dose a day for three months.

A different Chinese herbal decoction was given orally to patients of different syndrome types, one dose every day for three months as follows: (1) for Type 1 drugs for supplementing Gan-Shen, activating blood and dredging collaterals to relieve pain, Liuwei Dihuang Decoction (六味地黄汤), consisting of Radix Rehmanniae Preparata 25 g, Dioscorea opposite 12 g, Poria cocos 10 g, Rhizoma Alismatis 10 g, Cornus officinalis Sieb. et Zucc.12 g, and Cortex Moutan 10 g was given; (2) for Type 2, Chushi Tongbi Decoction (除湿通痹汤) for reinforcing Shen and strengthening Pi to remove water, eliminate dampness, dredge collaterals, and alleviate blockage, consisting of Radix Clematidis 12 g, Miltettia Reticulate 12 g, Semen Coicis 12 g, atractyloides lancea Thunb. 12 g, Atractyloides macrocephala Koidz 12 g, Menispermaceae 12 g, Phellodendron amurense 9 g, Fructus Chaenomelis 9 g, Poria Cocos 10 g, Cortex Acanthopanacis 9 g, Zingiber officinale Rosc 6 g, and Radix Glycyrrhizae 4 g was given; (3) for Type 3, Zuogui Decoction (左归汤) for supplementing Gan-Shen, dissolving phlegm and removing stasis, consisting of Radix Rehmanniae Preparata 20 g, Dioscorea opposite 10 g, Cornus officinalis Sieb. et Zucc.10 g, Lycium barbarum L 10 g, Cuscuta chinensis Lam 10 g, Colla Comus Cervi 10 g, Carapax et Plastrum Testudinis 10 g, and Cyathula officinalis Kuau 10 g was given.

Besides, the local external washing with Haitongpi Decoction (海桐皮汤) (prepared by Jiangyin Pharmaceutical Co., Jiangsu Province, batch no. 0602311) was applied to all the patients in this group for smoothening tendons and dredging collaterals, one dose consisting of Cortex Erythrinae 18 g, Phryma leptostachya Linn. subsp. asiatica (Hara) Kitamura 18 g, Boswellia carteri 18 g, Commiphora myrrha 18 g, Angelica sinensis 15 g, Zanthoxylum bungeanum 20 g, Rhizoma Chuanxiong 9 g, Carthamus tinctorius 9 g, Radix clematidis 9 g, Radix Glycyrrhizae 9 g, Saposhnikovia divaricata 9 g, and Radix Angelicae Dahuricae 6 g. Washing and hot compress was also applied on the affected elbow with towel bedewed with the warm concentrated decoction under proper temperature for 20 min, twice daily. After then, active and passive elbow functional exercise was implemented.

To all patients in the control group, Celecoxib 200 mg once a day and glucosamine hydrochloride 480 mg thrice a day were administered orally for six months and also six times of articular injection with sodium hyaluronate and four times of peri-articular pain spot blocking with Triamcinolone Acetonaide Acetate Injection were applied respectively with an interval of four weeks. Active and passive elbow functional exercise was implemented also.

Abnormal movement of the affected elbow should be avoided in all patients.

Observation and Follow-up

The X-ray image, blood routine tests, and function of liver and kidney were detected. According to the JOA scale (1992) and HSS scale (1980 by Inglis AE), the elbow joint function of all patients were scored for efficacy evaluation before