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Clinical Research on TainshanJiangu Recipe(泰 山 健 骨 方) Plus Herbal Washing Used to Treat Knee Osteoarthritis

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Abstract: Objective: To observe the curative effect of TainshanJiangu Recipe (TSJGR)plus herbal washing used to treat knee osteoarthritis(KOA).Methods: Forty patients with osteoarthritis between 40 and 80 years referred to an outpatients clinical, were enrolled in the study and randomly assigned into a control group of 20 cases treated with Meloxicam Capsules and vitamin Cand a experiment group of 20 cases treated with TainshanJiangu Recipe(泰山健骨方) plus herbal washing. After 3 courses of treatment with 7 days as a course, the curative effects in the two groups were evaluated and their clinical symptoms were compared. Lysholm knee scoring scale was used to score the functions before and after treatment. Results:There were no obvious difference before treatment between two groups. After 3 courses of treatment, in control group, among which the remarkably relieved, markably relieved, improved, failed were 0,4,10,6, while 5,10,5,0, in the experiment group, respectively. The curative effect was very difference in the two groups after treatment.(P□0.05).Conclusion: TainshanJiangu Recipe(□山健骨方) plus herbal washing with obvious curative effect in the treatment of osteoarthritis.

Keywords: TainshanJiangu Recipe(泰山健骨方); Herbal washing; Clinicalresearch; Knee osteoarthritis

Knee osteoarthritis (KOA)is a degeneration disorder that result in pain, swell, malformation of knee joint as the main symptoms. it caused by interplay of genetic, metabolic, biochemical, and biomechanical factors. Studies have shown that knee OA greatly diminishes health status in the elderly[1-2]. Many drugs have arisen in an attempt to alleviate painand disability, including acetaminophen, nonsteroidalanti-inflammatory drugs (NSAIDs),but curative effect is not well[3-4].

Traditional Chinese Medicine and herbal washing were gradually popularized for clinical treatment, and curative effect was confirmed.

METHODS

Clinical materials

40 outpatients were enrolled in Taian TCM hospital, 30 female, 10 male(age from 50 to 80),were randomly divided into two groups, a positive group and a experiment group, each 20 cases.

Inclusion criteria

Eligibility was defined as symptomatic knee OA for at least 6 months according to the clinical criteria of the American College of Rheumatology (ACR)[5] and radiographic confirmed knee OA according to the Kellgren& Lawrence scale [6], with radiographic confirmation (Kellgren–Lawrence grade 2 or higher, on a scale of 0 to 4, with higher numbers indicating more severe signs of osteoarthritis),and confirmed by a specialist.

Exclusion criteria

The exclusion criteria were pregnancy, a history of or current symptoms of an autoimmune disorder, cancer within the previous 5 years except forcutaneous basal-cell or squamous-cell cancer resolved by excision, allergic reaction to monoclonal antibodies or IgG-fusion proteins, infection with hepatitis B or hepatitis C virus or the human immunodeficiency virus, drug abuse, fibromyalgia, clinically significant cardiac disease, diabetes mellitus requiring oral treatment or insulin, clinically significant neurologic disease, or a clinically significant psychiatric disorder. All participants provided written informed consent.

Testing drugs

TainshanJiangu Recipe for experiment group is Chinese herbal preparation which came from experience clinical practice in Taian TCM hospital.

The TSJGR is composed of Rhizoma Drynariae（骨碎补）12g, parasitic loranthus（桑寄生）12g,radix cyathulae（木瓜）9g, fructus chaenomelis lagenariae(独活）6g,cassiatwig（桂枝）15g, PolyphagaSp（地鳖虫）3g, radix clematidis(威灵仙)12g,and The decoction was orally taken twice a day, one day a dose for 3 course, and a 2-day interval between a courses, A course of treatment contains seven days.

Herbal washing of one dose for experiment group was composed by Processed Cortex Erythrinae（海桐皮）25g, lycopodiumclavatum（伸筋草）25g, phryma leptostachya（透骨草）25g, moxa（艾绒）25g, cassiatwig（桂枝）15g, radix clematidis(威灵仙)12g,The decoction was washing the joint once a day, for 3 course, and 2-day for one dose. A course of treatment contains seven days.

The experiment group of 20 cases was treated with TSJGR plus herbal washing. TSJGR, one day a dose, twice a day. Herbal washing, two day a dose,twice a day.

The control group of 20 cases was treated with Meloxicam Capsulesand vitamin C. Meloxicam Capsules 7.5mg,po,qd, and vitamin C 2 Tablets,tid.

After 3 courses of treatment with 7 days as a course, therapeutic effect was compared.

Statistical method

All results were used SPSS22.0 software to process the date.x^2 test used to compare enumeration date and T test was used to compare measurement date. $P < 0.05$ indicated a significant difference.

RESULTS

The function of knee joint was scored by Lysholm knee scoring scale before and after treatment. the therapeutic effect was evaluated with different of total scales, remarkably relieved: difference ≥30 scores， relieved: 11-29 scores, improved: 6-10 scores, failed:≤5 scores[7].

The comparision of ages and Lysholm knee scoring scale before and after treatment between table 1, while in-group comparision of therapeutic effects after treatment between the two groups in table 2.

Table 1. The comparision of ages and Lysholm knee scoring scale before and after treatment among 2 groups(χ±s)

Group	n	age	Before treatment	After treatment
Experiment group	20	59.2±1.64 △	60.3±6.13 △	82±3.72※
Control group	20	58.4±1.48 △	60.1±5.79 △	72±3.76※

Notes: in-group comparision of ages and before treatment, △ $p > 0.05$. comparision of the two groups after treatment ※$p < 0.01$

Table 2. The comparision of therapeutic effects after treatment between 2 groups (x^2 test)

Group	Reremarkably relived	relived	Improvement	Failed effective rate
Experiment group	10	8	2	095%※
Control group	0	8	6	670%※

Notes: in-group comparision of therapeutic effects after treatment between the two groups※$p < 0.01$

Table 1 shows no obvious difference in the ages and in the scores before treatment between the two groups($p > 0.05$). and a very significant difference in the scores after treatment between the Experiment group and Control group($p < 0.01$ ）. table 2 shows significant difference of the comparision of therapeutic effects after treatment between the two groups($p < 0.01$ ）.

DISCUSSION

Traditional Chinese Medicines were used to clinical practice to treat osteoarthritis has increased substantially, This report described the therapeutic efficacy of TSJGR and HWR.

In Chinese Medicine, KOA is considered to be originated from tendon and bone but manifested as Gan-Shen insufficiency and Biao-branch excess. The invasion evil pathogens of wind-cold-dampness and importantly linked to blood stasis, all of which leaded to BIZHENG(痹 症)[8], the author believed that the pathogenesis of KOA is rooted form WEIZHENG(痿 证) but appeared as BiZheng. MengXQ[9] held that KOA belongs to deficiency in origin and excess of phlegm and stasis in superficiality.So the treatment of WeiZheng was reinforcing Shen and smoothing Gan and the treatment of BiZheng was purging wind-cold-dampness and activating blood. Chinese medicines are effective for treatment KOA.

In this research, patients mentioned with KOA always aged and had chronic pain for a long time, in aged people, the liver and kidney gradually became weaken, The evil pathogens of wind-cold-dampness invaded tendon, blood and joint of the knee, which leaded to pain, stiff and deformity of knee joint. Therefore, the origin pathogens could be manifested as Gan-Shen insufficiency and wind-cold-dampness excess, we used Chinese herbs to reinforce liver and kidney and to dispel wind-cold-dampness.

TSJGR and HWR have been effectively used to clinical practice, in this prescription, TSJGR: parasitic loranthus（桑寄生）, Rhizoma Drynariae（骨碎补）are being used for reinforcing Gan-Shen and targeting the root of the illness. The fouctions of the ingredient of radix cyathulae（木瓜）and fructus chaenomelis lagenariae（独活）are being used to removing wind, The fouction of the PolyphagaSp（地鳖虫）is being used to strength bone, The fouction of the radix clematidis(威灵仙)is being used to removing dampness, The fouction of the cassiatwig（桂枝）is being used to removing cold. Through reinforcing Gan-Shen and removing wind-cold-dampness to activate blood circulation and stop pain, This Chinese Medicine formula has therapeutic effect on treating KOA.

HWR: the ingredient of Cortex Erythrinae（海桐皮）, lycopodiumclavatum（伸筋草）, phryma leptostachya（透骨草）were used as the key ingredient for activating blood circulation to stop pain.moxa（艾绒）was used to warming yang as the secondary ingredient ,cassiatwig（桂枝）, radix clematidis(威灵仙),removing wind-cold-

dampness.

This experiment indicated that clinical index of experiment group have had obvious curative effect after the treatment of TSJGR and HWR. In this report, Lysholm knee scoring scale which was one kind of score scales is used to score the functions before and after treatment of KOA, the author advised that Lysholm knee scoring scale is suited for score the functions before and after treating disease using traditional Chinese Medicine.

Attach:

LYSHOLM KNEE SCORING SCALE

Instructions: Below are common complaints which people frequently have with their knee problems.

Please check the statement which best describes your condition.

I. LIMP:

_____ I have no limp when I walk. (5)

_____ I have a slight or periodical limp when I walk. (3)

_____ I have a severe and constant limp when I walk. (0)

II. USING CANE OR CRUTCHES

_____ I do not use a cane or crutches. (5)

_____ I use a cane or crutches with someweight-bearing. (2)

_____ Putting weight on my hurt leg is impossible. (0)

III. LOCKING SENSATION IN THE KNEE

_____ I have no locking and no catchingsensations in my knee. (15)

_____ I have catching sensation but nolocking sensation in my knee. (10)

_____ My knee locks occasionally. (6)

_____ My knee locks frequently. (2)

_____ My knee feels locked at this moment. (0)

IV. GIVING WAY SENSATION FROM THE KNEE

____ My knee never gives way. (25)

____ My knee rarely gives way, only during athletics orother vigorous activities. (20)

____ My knee frequently gives way during athletics or other vigorous activities, in turn I am unable to participate in these activities. (15)

____ My knee occasionally gives way during daily activities. (10)

____ My knee often gives way during daily activities. (5)

____ My knee gives way every step I take. (0)

V. PAIN:

____ I have no pain in my knee. (25)

____ I have intermittent or slight pain in my kneeduring vigorous activities. (20)

____ I have marked pain in my knee during vigorousactivities. (15)

____ I have marked pain in my knee during or afterwalking more than 1 mile. (10)

____ I have marked pain in my knee during or afterwalking less than 1 mile. (5)

____ I have constant pain in my knee. (0)

VI. SWELLING

____ I have no swelling in my knee. (10)

____ I have swelling in my knee only after vigorousactivities. (6)

____ I have swelling in my knee after ordinaryactivities. (2)

____ I have swelling constantly in my knee. (0)

VII. CLIMBING STAIRS:

____ I have no problems climbing stairs. (10)

____ I have slight problems climbing stairs. (6)

____ I can climb stairs only one at a time. (2)

____ Climbing stairs is impossible for me. (0)

VIII. SQUATTING

____ I have no problems squatting. (5)

____ I have slight problems squatting. (4)

____ I can not squat beyond a 90 degree bend in my

knee. (2)

____ Squatting is impossible because of my knee. (0)

TOTAL_____/100

INSTRUCTIONS: Please place an X on the line to indicate the amount of pain you have had in your knee(s) the past 24 hours. Thes-

cale ranges from “no pain at all” to the “worst possible pain”.

RIGHT KNEE

no pain _____worst possible pain

LEFT KNEE

no pain _____worst possible pain

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