

Role of Acupuncture in management of Rheumatoid Arthritis – A Case Report

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ABSTRACT:

Rheumatoid arthritis (RA) is an autoimmune disorder characterised by swelling, pain, and stiffness in multiple joints of the body, affecting mobility and making the person less functional. We present the case of a 53-year-old female with complaints of joint stiffness and pain affecting her daily routine. The patient was given an acupuncture intervention for 10 days and then followed up for three months. RA factor and ASO titer were assessed before and after treatment, which showed a reduction in RA and ASO titer values post-intervention and also a decrease in pain. The results indicate that acupuncture treatment is effective in treating rheumatoid arthritis.

KEYWORDS: Acupuncture, Naturopathy, Pain management, Rheumatoid arthritis.

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INTRODUCTION:

Rheumatoid arthritis is an auto-immune disorder that affects the joints in the body and can lead to structural and functional deformities, reduced quality of life, and increased mortality. [1]. RA is known to affect approximately 1% of the total world population. [2] The incidence of the disease is three times higher in women than men. [3] The pathogenesis of RA has been implicated in the role of autoantibodies and immune complexes. T-cell-mediated antigen-specific responses, T-cell independent cytokine

networks, and aggressive tumour-like behaviour of rheumatoid synovium have also been recorded. [4] The characteristic symptoms of RA are symmetrical pain, swelling, and stiffness affecting all the small joints of the hands and legs, which are associated with elevated C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR). Long-term RA can also cause systemic involvement. [5] The conventional treatment of RA includes the administration of NSAIDs (non-steroidal anti-inflammatory drugs like naproxen and ibuprofen), which

are used in the acute condition to reduce pain and inflammation by inhibiting cyclooxygenase and thereby reducing prostaglandin. Glucocorticoids (GC) such as prednisolone and hydrocortisone are also administered for their anti-inflammatory and immunosuppressive effects. Disease-modifying anti-rheumatic drugs (DMARDs such as methotrexate and hydroxychloroquine) are used to suppress the immune system and prevent joint degeneration. The possible side effects of NSAIDs are bleeding, ulceration, renal failure, etc. due to inhibition of prostaglandins, and the possible side effects of GC are weight gain, muscle weakness, diabetes, etc. [6] Recently, many chronically ill RA patients have been turning to complementary and alternative medicine due to the side effects of the medications, no response to conventional treatments in terms of pain, and as a last resort in addition to the medications to control pain. [7] Studies have shown that acupuncture, massage, mud therapy, sauna, etc. have been effective in managing pain and reducing anxiety and depression associated with the disease [8].

CASE REPORT:

A 53-year-old married woman with a pre-diagnosed case of RA visited the outpatient department of the Government Yoga and Naturopathy Medical College and Hospital. She presented with the complaint of bilateral joint pain, stiffness, and swelling in the finger joints, wrists, and knees, which gets aggravated in the early mornings and on exposure to cold weather. She also admitted that her pain is severe in her right

hand and wrist, making it decapitating for her to do day-to-day activities. Her height is 150cm, her weight is 67 kg, and her BMI is 29.8 kg/m² (obesity grade-1). On general physical examination, there is no pallor, icterus, or cyanosis. On examination of the musculoskeletal system, stiffness and swelling are present in the interphalangeal joints of all the fingers and the wrist. Swelling, restricted movement, and severe tenderness were present over the knee joints. She personally had no interest in consuming medication for the management of pain; she has managed without medication for the past 15 years. As the disease progressed, she was unable to tolerate her pain. She visited a rheumatologist in January 2021 and was on medication for three months. Due to burning sensation in the stomach and an unsatisfactory reduction in pain, she discontinued her medication by herself and approached the outpatient department. She had only a medication prescription at the time of her visit, and she had lost her laboratory investigation reports.

INTERVENTION

The patient underwent yoga and naturopathic intervention at the outpatient department (Table: 1). A unique acupuncture treatment protocol was formulated. Bilateral needling of the chosen acupuncture points was given to the patient in a sitting position for 20 minutes. ASO titre and rheumatoid factor (RA) were assessed before and after the intervention (10 days). Further, the patient was under three months of follow-up, and the data was assessed again.

Table:1. Intervention details

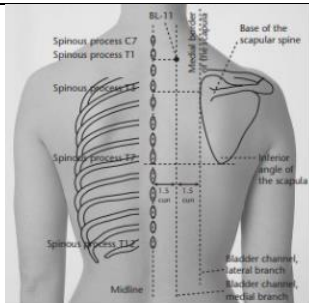

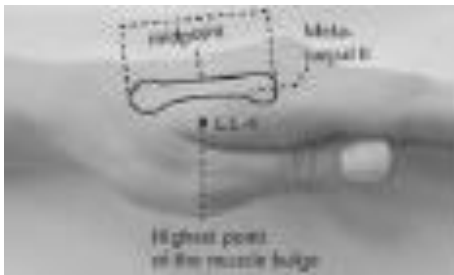

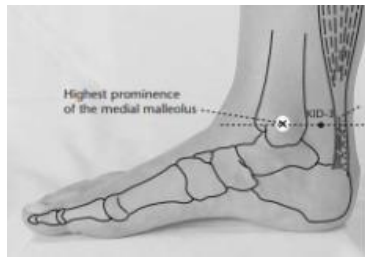
Acupuncture point	Description	Location
Urinary bladder -11	1.5cun lateral to the posterior midline, on the level of the lower border of the Spinous process of the 1 st thoracic vertebrae	
Gall bladder -39	3-cun proximal to the highest prominence of lateral malleolus , on the anterior border of the fibula	
Large intestine - 4	On the radial aspect of the hand, between the 1 st and 2 nd metacarpal bones. Closer to the 2 nd metacarpal bone and approximately at its midpoint	
Stomach – 44	Between the 2 nd and the 3 rd toes, proximal to the interdigital fold	
Kidney -3	In the depression between the highest prominence of medial malleolus and Achilles tendon	

Table:2. Outcome variables after ten days of Yoga and Naturopathy intervention

Variable	Baseline assessment	Post assessment	After 3 months
Height (cm)	150	150	150
Weight (kg)	67	66.2	63
BMI (kg/m ²)	29.8	29.4	28
RA factor (IU/ml)	153.7	141.6	27.6
ASO (IU/ml)	112.0	105.0	3.71

RESULTS AND DISCUSSION:

After 10 days of treatment, RA factor reduced from 153.7 IU/ml to 141.6 IU/ml and ASO (quantitative) decreased from 112 IU/ml to 105 IU/ml. After a follow up of three months, patient had very rare occurrence of pain and the RA factor found to be 27.6 IU/ml and ASO value was 3.71 IU/ml (Table: 2).

The unique feature of the present case study is that it is the first ever case report to document the changes in RA factor and ASO titre with subsequent follow-up for three months. Previous studies used integrated yoga and naturopathic intervention; thus, we decided to determine the effect of acupuncture in patients with rheumatoid arthritis. [9] In addition, a pilot study was conducted on the efficacy of acupuncture in RA as an adjuvant therapy, which showed 90% improvement in terms of pain and scores on the global assessment scale but no significant changes with respect to inflammation. [10]

A randomised control trial involving 105 participants showed improvements in self-reported pain, tender joint count, and hand grip strength. [11] Acupuncture points were selected on the basis of the following: LI-4, ST-44—analgesic points for pain; UB-11—an influential point for bones; GB-39—an influential point for bone marrow; and K-3—the source point of the kidney meridian. [12] Changes in the local environment and systemic immunity after acupuncture are well documented. insertion of the needle results in inflammation without infection. [13] Acupuncture down-regulates the toll-

like receptor (TLR)-initiated inflammatory signalling pathway in various inflammatory disease models and up-regulates anti-inflammatory cytokines, particularly interleukin (IL)-10 through M1-M2 macrophage transformation, resulting in inflammation resolution. [14] Acupuncture balances the helper T cell (Th)1/Th2 population to treat immune malfunction. [15] Acupuncture also influences the hypothalamic-pituitary-adrenal (HPA) axis, a neural pathway mediating systemic immunity. [16] Acupuncture produces anti-inflammatory responses, thereby reducing pain and swelling.

Strengths of this study:

This is a single case of RA treated with acupuncture, which has been well tolerated with no side effects and produced pain relief and reduced joint swelling. It also showed a reduction in the RA factor and ASO titer.

Limitations of this study:

Inflammatory markers like CRP and ESR were not assessed in this study, and the results were obtained only with a single case and may vary when a larger sample size is taken. Thus, the results of this study can be validated by using a larger sample size.

CONCLUSION:

This single case study showed improvement in terms of pain and the RA factor with acupuncture intervention for 10 days and even better results with subsequent follow-up and can be used as an adjuvant treatment for RA patients. In order to produce more substantive results, this data can also serve as a base for larger studies.

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