



UNIQUE JOURNAL OF AYURVEDIC AND HERBAL MEDICINES

Available online: www.ujconline.net

Research Article

EFFECT OF ERANDA TAILA & RUKSHA (BALUKA) SWEDA ON BIOCHEMICAL MEDIATORS IN RHEUMATOID ARTHRITIS

Mishra Pramod Kumar*, Rai NP

Department of Kayachikitsa, Faculty of Ayurveda, IMS, BHU, Varanasi, India (221005)

Received 09-11-2013; Revised 29-12-2013; Accepted 11-01-2014

*Corresponding Author: **Mishra Pramod (MD)**

Kayachikitsa, Faculty of Ayurveda Institute of Medical Sciences, BHU Varanasi- 221005 E-mail: shandilyapk11@gmail.com

ABSTRACT

Rheumatoid arthritis (RA) is a crippling disorder with multi-system effect if not managed properly. In ayurveda amavata is a similar disease. There are some biochemical mediators which become elevated during the pathogenesis of RA like anti-cyclic citrullinated peptide antibodies (anti-CCPab), rheumatoid factor (RF), C-reactive proteins, erythrocyte sedimentation rate (ESR). In spite of very effective anti-inflammatory drugs & immune-suppressive agents it is very difficult to treat RA. Ayurvedic medicines have no or minimal side effects on prolong use & there is also improvement in quality of life too. In present study 16 patients were selected randomly from OPD & IPD of Sir Sunder Lal Hospital, BHU, Varanasi, India to study the effect of eranda taila & baluka sweda. There was quite improvement in the titre of these biochemical mediators.

Keywords: Rheumatoid Arthritis, Amavata, Anti-CCPab, RF, Eranda Taila, Baluka Sweda.

INTRODUCTION

RA is the most common inflammatory arthritis and hence an important cause of potentially preventable disability. The typical clinical phenotype of RA is a symmetrical deforming small & large joint polyarthritis often associated with systemic disturbance & extra-articular disease. In Ayurveda, amavata is a disease which keeps clinical correlation with rheumatoid arthritis.¹Amavata has similar presentation like RA.²During the pathogenesis of disease some acute phase reactants are elevated in blood like C-reactive protein (CRP) & erythrocyte sedimentation rate (ESR). These proteins react to inflammation process. There are some auto-antibodies which act as diagnostic & prognostic marker of the disease like rheumatoid factor (RF), anti-CCPab.

Principal use of RF is as a prognostic marker; a high titre at presentation associates with a poorer prognosis. Serum antibody to cyclic-citrullinated peptides are now recognised to be a valuable biomarker of diagnostic and prognostic significance.

As far as treatment is concerned ayurveda has different view regarding RA (~amavata). Loss in the potency of digestive & metabolic fire inside the body to digest and assimilate the available food cause the disease. This gastro-intestinal affection of the disease paves the treatment principle. There are 6 procedures said by Chakradutta³ for the treatment of

amavata. For this clinical study mainly virechana and swedana procedures are taken in account.

MATERIALS AND METHODS

The patients were selected after their fulfilment of diagnostic criteria of amavata (RA). Patients were thoroughly examined and questioned on both subjective & objective parameters. Ethical clearance and informed consent was obtained before conducting the clinical trial (Dean/2011-12/169 on 14/18-5-2011).

Selection of Drug:

Eranda taila is a well known prescribed medicine for amavata by Bhaishajyaratnavali.⁴It was purchased from the market (Dabur company). Ruksha sweda (dry fomentation) of sand bag was prepared by heating the sand & making a cloth bag (pottali) for application.

Dose:

Eranda oil-10 ml twice a day (12 hrly).

Ruksha sweda- Intermittent application for 5-10 minutes.

Selection of Cases:

A total 20 patients of RA were randomly selected for this study from the Kayachikitsa OPD & IPD, Sir Sunder Lal Hospital, BHU, Varanasi, India of which 16 patients completed 3 month follow-up at 1 month interval. The case selection was regardless of sex, occupation, socio-economic, seropositive & seronegative condition. Both acute & chronic

cases of RA were taken under consideration following the EULAR-2010⁵ criteria & the clinical feature of amavata described in Madhava Nidana.

Inclusion Criteria:

- Diagnosed cases of Amavata and RA.
- Age between 20 & 60 yr.
- Patients willing to participate in the above trial.

Exclusion Criteria:

- Patients with deformities and systemic complications.
- Patients suffering from diabetes, hypertension, tuberculosis, asthma or other disease.
- Pregnant and lactating women.
- Patients discontinuing the trial drug and non-willing patients.

Calculation of Data:

Statistical calculation was done by using Wilcoxon signed rank test.

Investigation:

All patients were subjected for the following blood investigations- haemoglobin, total leucocyte count, blood sugar, liver function test, renal function test, anti-streptolysin O titre (to exclude rheumatic disease), HLA B-27 & ANA to exclude other auto-immune disease. Only patients having normal levels were included in the study. CRP, ESR, RF, anti-CCPab were done before initiation of treatment & after completion of the therapy.

OBSERVATION AND RESULTS

Selected patients were allowed to take 10 ml of eranda oil twice daily & dry fomentation by hot sand bag 1-2 time daily on affected joints (especially big joints). There was significant relief in symptoms of RA along with marked improvement in blood titre of biochemical mediators as shown in the table.

Table 1: Changes in blood level of inflammatory mediators

	Mean ± S.D.		Wilcoxon signed rank test
	BT	AT	
RP	41.75±35.19	27.34±21.74	13.72±19.66 z=3.24, p<0.01
ESR	27.00±12.09	21.19±10.74	5.06±5.32 z=3.306 p<0.01
RF	62.0±43.43	56.25±35.05	9.44 ±13.70 z=2.433 p<0.05
Anti CCPab	51.85±29.01	40.25±22.49	10.44±13.25 z=2.87 p<0.01

DISCUSSION

As shown in the observation table there is significant improvement in CRP, RF & anti-CCP ab values. Mean decrease in CRP was 13.72 being highly significant (p<0.01) likewise 5.06, 9.44 & 10.44 in ESR, RF & anti-CCP ab respectively also being highly significant. So in this study

eranda oil & ruksha sweda have been proved to be a good remedy for RA (amavata).

Eranda Oil:

Eranda oil is prepared from the seeds of castor plant (*Ricinus communis Linn.*), a member of family Euphorbiaceae. Eranda oil by virtue of its different pharmacological property overcomes the pathology of amavata like ushna virya & vata pacifying property helps in improving pain and inflammation. Ushna property also acts as deepana and potentiates agni thus checking ama formation.

Castor oil is very effective natural anti-inflammatory. High vitamin E content contributes significantly to the anti-inflammatory properties of castor oil. The natural vitamin E present in castor oil has a number of tocopherol specific moisturizing, anti-inflammatory & anti-oxidant property. Also vitamin E contributes to improve microcirculation and UV protection. Castor beans have a total tocopherol 291µg/g.⁶ Vitamin E found in castor oil has anti-inflammatory effect. γ -tocopherol & γ -CEHC {2,7,8-trimethyl-2- (β - carboxy ethyl) - 6- hydroxyl chroman}, inhibit cyclo-oxygenase activity & thus possess anti-inflammatory properties.⁷ In 2000 it was proved that topical application of ricinoleic acid, the main component of castor oil, exerts remarkable analgesic and anti-inflammatory effects.⁸ Pharmacological characterisation has shown similarities between the effects of ricinoleic acid & those of capsaicin (a potent analgesic), suggesting a potential interaction of this drug on sensory neuro-peptide mediated neurogenic inflammation.⁹

Ruksha Sweda:

Swedana (fomentation) is the process by which perspiration is produced in the body by using various methods. It is the procedure which relieves stiffness, heaviness & coldness of the body and produces sweating.¹⁰ Swedana increases dhatwagni at the level of joint, thereby improving joint function and its mobility.¹¹ Baluka sweda is a dry or ruksha type of sweda used in kaphaja disorders as well as in the disease originated out of ama especially indicated in amavata by almost all the authors who have dealt with it. Being dry in nature it does pachana kriya i.e. digestion of ama and it also cleans the microchannels. It also removes stiffness of joints and alleviates the pain. In amavata stambha, gaurava, and shula are the chief symptoms so swedana gives relief in these symptoms¹² and helpful in the treatment of amavata. Acharya also gives other benefit of the swedana karma - swedana removes the sankocha (contraction), supti (numbness) from the body and also helpful in the disease which affects the whole body.¹³ Amavata affects the whole body and has an upadrava like sankocha, khanja, supti etc. So swedana is very helpful in the Amavata.

CONCLUSION

Rheumatoid arthritis a joint disorder, has multisystem effect. There is no any effective treatment for RA still today, but ayurveda can give appropriate solution of this problem. To see the above fact, we realize that the ayurveda has a good basic principle of medicine to treat the disease. The disease amavata is diagnosed on symptomatology, specific laboratory tests like anti CCP help in diagnostic and RF & ESR help in prognosis

of the disease. As the disease is genetic and autoimmune in origin the permanent complete remission is not possible. But ayurvedic management can help to decrease the symptoms of amavata.

The specific ayurvedic line of management and drugs help in decreasing the autoantigens and may act as modified immune response to autoantigens. At the same time the drugs are safe can be given for longer duration without any adverse effects. On the basis of observation and the result of this present study it can be concluded that effect of the trial drug i.e. eranda taila along with ruksha sweda are effective in majority of symptoms with a good prognostic result as shown by biochemical mediators.

The general digestion was found to be good with the trial drug & simultaneously quality of life was also improved.

Hence, the ayurvedic drug i.e. eranda taila along with ruksha sweda can be used in the chronic as well as acute patients of amavata with good hope and wish that the present study would prove a boon for humanity.

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Source of support: Nil, Conflict of interest: None Declared