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Review Article

COMPARATIVE STUDY OF AGNIKARMA THERAPY AND PHYSIOTHERAPY TREATMENT SHORT WAVE DIATHERMY WITH SPECIAL REFERENCE TO JANUSANDHI SHOOLA (Knee Arthritis)

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ABSTRACT

Ayurveda is a marvelous science of life, exhibits the living as well as curative aspects. It is propagated in all branches of present scenario, but explained in a very critical manner. Janugata Shoola is correlated with OA, which is second only to ischemic heart disease(1). Knee replacement is nowadays considered as a last resort for OA (2)but it is very costly and every patient can not afford it. So, there is an urgent need for a good symptomatic therapy in case of Osteoarthritis, which is easily available, affordable and with lesser side effects. Agnikarma is instant therapy and as well as economical. There is very less scientific research work carried out on effect of Agnikarma on Janusandhishoola(6). Short Wave Diathermy is a technique which helps to reduce pain, swelling and spasm in arthritis.(4) It is routinely used and gives good results. Like in Short Wave Diathermy, Agnikarma is also a procedure related with heat transmission.(3) Hence, it becomes very rational to explore the comparative management of Agnikarma therapy with most popular Short Wave Diathermy therapy.

INTRODUCTION

Ayurveda is a complete life science with divine origin. Ayurveda treats the patient in a holistic way by considering the physical, mental and even spiritual statuses with equal importance. Biological humors are the same in every individual and Ayurveda throws its attention to these body sustaining biological principles, and gives much relief to even the incurable disease of modern science. More than a medical system, a culture or lifestyle of millions of people it always give due importance to preventive aspects than curative. With the march of time, most of the dietary habits (Virrudhahara), social structure, life style, and environment have been changing. Occurrence of sandhi vata on large scale is one of the outcomes of this modification. Sandhivata is mentioned under Vatavyadhi(5) by all the Acharyas. Acharya Charaka has mentioned Nanatmaja Vyadhi of Vata, Pitta and Kapha but a separate chapter has been contributed to only Vatavyadhi. (7) Acharya Vagbhata has said Vatavyadhi as “Maharoga”. This shows that the Acharya have given importance to Vata as it dominates in the function and is supposed to be the leader of the remaining two Doshas.

The symptoms of OA correlate with *Sandhigata Vata* explained under *Vatavyadhi*. *Sandhivata* is first described by Acharya Charaka as *Sandhigata Anila* with symptoms of *Shotha* (swelling) which on palpation feels like a bag filled with air and *Shula* (pain) on *Prasarana* and *Akunchana* (pain on flexion and extension of the joints).(14) Acharya Sushruta also mentioned *Shula* and *Shotha* in this disease leading to the diminution (*Hanti*) of the movement at joint involved.(15) Madhavakara adds *Atopa* (crepitus in joint)(16) as additional feature of it. The pathologic underpinnings of this disease are attributing to the aberration of *Vata* and *Kapha* *Dosha*, affecting the *Asthi* (bone), *Sandhi* (joint), *Mamsa* (muscle), and *Snayu* (ligament). Comprehensive management of this condition in Ayurveda includes a judicious combination of external therapies (*Bahya Chikitsa*) and internal medication (*Abhyantara Chikitsa*). The *Bahya Chikitsa* include *Janu Basti*, *Abhyanga* (massage), *Jalaukavacharana* (application of leech), *Agnikarma* (cautery), *Basti* (medicated enema), etc. *Abhyantara Chikitsa* include the internal medications in the form of *Churna* (powder of a single herb/combination of herbs), *Kashaya* (decoction), *Vati* (pills), etc.

The world faces so many challenges; it becomes our duty to contribute from our side in preventing and explaining the real fact about the philosophy. This is an era where there is an urgent need of exploring of the hidden aspects of the traditional science. In ancient science, Agnikarma is very known therapy from the Vedic period. It is also used in various diseases described in Samhita period and medieval period.(11) The procedure is carried out with various materials according to the disease condition in different shape format. It is instant therapy and as well as economical. There is very less scientific research work carried out till date. Hence, there is need of much more exploration of its therapeutic value. In modern medical treatment, Physiotherapy

is a part, to treat Osteo-arthritic condition(12). In Physiotherapy, there are various methods like Inter-Ferential Therapy (IFT), Ultra Sound Therapy (US), Short Wave Diathermy (SWD)(9) etc. are used to manage the disease.

Multimodal treatment such as *Shodhana* or *Shamana* combined with *Bahirparimarjana* therapies such as *Snehana* and *Swedana/Patra Pinda Sweda* with *Vatahara* (pacifying *Vata*) herbs enhanced the therapeutic effect.(13) In several remedies, analgesic and anti inflammatory medications are given for relief but they give temporary relief. (10)These medicines on other hand create hyperacidity as a side effect. Such types of complications are difficult to overcome. Knee replacement is nowadays considered as a last remedy for OA but it is very pricey.

So there is an urgent need for a good alternative therapy in case of Osteoarthritis, which is compatible to poor and utilizes in the developing country like India.

Till date, there is no standardization of Agnikarma especially on Janusandhishoola, like - on which site, how much temperature, which dagdha, type of Agnikarma instrument. Hence the selection of Agnikarma was undertaken for the study entitled “Comparative study of Agnikarma therapy and Physio therapy (Short wave diathermy) w.s.r to Janusandhishoola (Knee Arthritis).

The present study was designed to achieve the effect of Agnikarma with the following aims and objects. Comparative assessment of efficacy of Agnikarma to Physio-therapy (S.W.D) in Janusandhi shola.

To establish an economical treatment, this can give instant symptomatic relief in the pain of Janusandhi shoola. To Standardize the Agnikarma procedure in Janusandhi shoola.

CLINICAL STUDY

Material and methods:

100 completed Patients of *Janusandhi shoola* had taken from O.P.D. and I.P.D. of *Shalya* department of S. G. Patel Ayurveda Hospital (Connected to G. J. Patel Ayurveda College and research centre), New V. V. Nagar, Anand, Gujarat and T.A.M.V.'s Tarachand Hospital, Pune, Maharashtra. 30% patients' clinical trial had conducted in T.A.M.V.'s Tarachand Hospital, Pune.

Patients were categorized on a Computerized Random Chart into Group A and Group B.

Randomized, controlled, prospective, open labeled, parallel designed clinical trial had conducted. 103 patients of *Janusandhi shoola* were enrolled under following groups irrespective of sex and religion.

Group A: 51 patients were treated by *Agnikarma* therapy.

Group B: 52 patients were treated by Physiotherapy

Criteria for selection

1. Inclusion criteria:

Diagnosed patients of *Janusandhi shoola* having following

- Pain
- Stiffness
- Stability loss
- Function loss
- Swelling
- Willing to participate in clinical trial
- Wt \leq 80kg

2. Exclusion criteria:

- Obese patient wt $>$ 80 kg
- Age group $>$ 80 & $<$ 20 years
- *Pitta Prakruti*
- Any systemic Diseases involving Knee joint complaints such as Tuberculosis, Rheumatoid Arthritis, Diabetes, Gout, SLE etc.
- Unwilling to participate in the study

REJECTION CRITERIA

Following patient was considered as dropped out (proper consultation advised)

- (ii) Did not follow the advices of the investigators
- (iii) Not come for regular follow up
- (iv) Not performing the investigation
- (v) Develop complication
- (vi) Investigation turn out positive for any systemic disease
- (vii) Any positive exclusion criteria

Criteria of assessment

Objective:

Laboratory investigations :

Blood : Hb: TC: DC ESR:

FBS, RA, uric acid, VDRL

Urine : Routine and micro

Stool : Routine and micro

Mantoux test

Radiological investigation

X-ray knee joint, standing

Subjective:

Neurological examination for Knee

Assessment of Pain, Stiffness, Stability, Loss of function, Swelling were monitored by questionnaires and these questionnaires had categorized under different grades according to Knee society Knee Score.

In group A,

Pre-operative preparation : Give proper lying down position, painting and draping done, All the instruments are kept ready with all aseptic precaution. (*Loha Shalaka* (2mm diameter), Gas stove, *Suddha Ghee*, Cotton, Gauze, Adhesive plast)

Operative procedure : *Shalaka* is heated on gas stove up to it become 'Red Hot', it's temperature is recorded, then applied in bindu shaped 2mm in diameter where tenderness is maximum in 1cm surrounding of 6 fix points* till *Twakdagdha* symptoms will appear.

* 6 Points :

- (1) On Tibial Tubercosity
- (2) 1 inch lateral & ½ inch above the 1st point
- (3) 1 inch medial & ½ inch above the 1st point
- (4) 1 cm lateral to lateral border on transverse line passing from patella's midpoint
- (5) 1 cm medial to medial border on transverse line passing from patella's midpoint
- (6) 1cm above upper border of patella in midline

Post operative procedure: *Suddha Ghee* was applied on *Twakdagdha* area.

In group B,

Two electrodes were placed antero-posteriorly at knee joint (a thin cloth can be placed over skin) and electromagnetic field is generated with 250w DC and tolerance / intensity power 2 for 10 minute daily for 15 days.

Follow up assessment according to Knee Society Knee Score:

(From Insall JN, Dorr LD, Scott RD, Scott WN :*Clin Orthop* 248:13, 1989)

Total Effect of Therapy

Complete Remission	≥ 75%
Marked Improvement	≥ 50%
Moderate Improvement	≥ 25%
No Improvement	< 25%

Treatment schedule:

In the Group A, *Agnikarma* was done on the affected site by *Loha Shalaka* in 2 sittings. 1st sitting on 1st day & 2nd on 15th day.

In Group B, Physiotherapy had carried out by S.W.D. Method for 10 minutes regularly up to 15 days.

The total therapy was 15 days for both the groups.

FOLLOW UP STUDY

Patients were followed up every week for 3 months to assess the variations and recurrence in symptoms during and after completion of the therapy.

RESCUE THERAPY:

In the clinical trials, if any adverse or untoward effect happened, this was tackled by any proved therapy including modern medicines / therapy. If Irritation and Burning pain occur then *Jatyadi tail* was applied locally for 3 days. If not subsided after 3 days then we give *Triphala Guggulu* 2 tab Three times a day for 3 days.

DISCUSSION

In the present study, the available data depicts that maximum numbers of (46.60%) patients were having 61-70kgm weight and (58.25%) were having obese(17) In this study, maximum (51.46%) patients were having Early OA changes. We can say, this may be due to awareness of health, so patients come to us in early stage. In this study, all the patients (100%) were having Pain, Stiffness, Stability loss, Function loss. Swelling was present in 14.56% patients. It may be due to only Osteo-arthritis knee joint pain was taken for the study. Pain, stiffness, stability loss, function loss are the main symptoms of OA. But some cases the swelling was found.

The present clinical study shows that majority of the patients i.e. 32.04% were reported having chronicity of pain 0-1 year followed by 25.24% having chronicity of pain 1-2 years, 29.13% having chronicity of pain more than 2-4 years, 8.74% having 4-5 years chronicity of pain and 3.88% patients were having chronicity of pain more than 5 years. It may be due to in OA, first pain is starts, and then stiffness, stability loss, and function loss etc. gradually starts. In this clinical trial, total 128 patients were recruited in two groups out of which 62 in group A, 63 in Group B.

Total 103 patients have completed the clinical trial. In Group A, 51 patients had completed the clinical trial.

12 patients were in dropped out criteria (1-neuritis, 1-RA+Ve, 1-MT+Ve, 7- not investigated, 2-not came for regular follow-up). In Group B, 52 patients had completed the clinical trial.

13 patients were in dropped out criteria (1-neuritis, 2-RA+Ve, 6- not investigated, 4-not came for regular follow-up). In both groups dropped out cases were due to unwillingness to perform regular follow-up due to time consuming method, coming under exclusion criteria and not performing the investigation.

Result

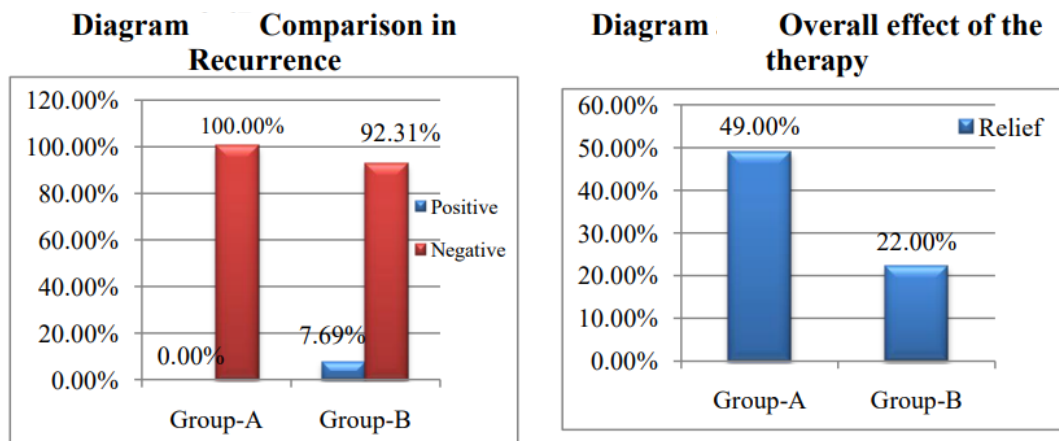
Comparative Relief in Both Groups

Younger age group got better relief. In all the age groups, Agnikarma therapy had shown better result than Short wave diathermy. In younger age, fast relief is possible because of, increased cellularity of cartilage and metabolic activity. In both the sex, there was not remarkable difference. So, both the sex was improved by both the therapies. Due to less deformity, the improvement was better in lean built patient in both the groups. In Advance OA changes, feeling of pain is severe. That is why patient felt immediate relief by Agnikarma therapy but not from Short wave diathermy. Where as, short wave diathermy has shown better relief in early changes of OA. The percentage of response of the therapy is better in Group A than Group B. So, it seems Agnikarma is more effective than short wave diathermy in patient of Janusandhishoola. The recurrence rate is less in Agnikarma therapy than short wave diathermy. And the effect of Agnikarma is long-lasting then short wave diathermy. Comparison in Results The difference of mean scores of all the symptoms is higher in Agnikarma group than Short wave diathermy group. And the improvement in mean score in pain and function loss are better than other symptoms. The percentage of relief was observed better for pain and function loss in both the groups than other symptoms, But Agnikarma group had shown better improvement than Short wave diathermy group.

OA Changes wise comparative relief

OA changes	Group A	Group B

Early	47.80%	25.74%
Marked	44.80%	13.22%
Advanced	53.16%	21.94%



It suggests that, Agnikarma is very effective therapy in pain and function loss. In Group A, percentage of relief of Knee score (Primary end point) and function score (Secondary end point) is better than Group B. It suggests that, Agnikarma therapy is better for improvement of Janusandhishoola and also that much effective in knee functions than short wave diathermy

CONCLUSION

Pain, Stiffness and Function loss were reduced with both therapies but total relief is better by Agnikarma therapy than short wave diathermy. Agnikarma is more effective, economical; in stability restoration ,with lesser complications and recurrence as compared to short wave diathermy.

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