ASSESSMENT OF KSHEERABALA TAILA ANUVASANA BASTI IN THE MANAGEMENT OF TRIKA PRUSHTHA GRAHA-SHOOLA WITH SPECIAL REFERENCE TO LUMBAR SPONDYLOSIS

[1]Patil Dinesh Bansilal

[1]Asst.Professor, Dept. of Panchkarma, Shubhdeep Ayurved Medical College, Indore, M.P.

ABSTRACT:

Lumbar spondylosis is one of the commonest disorders of present world. *Trika Prushtha Graha-Shoola* is found in patients of lumbar spondylosis which causes due the vitiation of *Vata Dosha.* *Panchakarma* is most effective and confirmatory therapy that ensures the long lasting effect of treatment. Out of *Panchakarma*s," *Basti Karma*" is the most perfect remedy, as it radically eliminates the morbid *vata.* Hence, the above mentioned researcher have conducted clinical study of *Ksheerabala taila anuvasana basti* in the management of *Trika Prishtha Graha* in lumbar spondylosis in 30 patients while studying M.D.(*Panchakarma)* in Tilak Ayurved College, Pune observed significant reduction in *Trik Prishtha Shoola and Graha* in lumbar spondylosis. *Ksheerabala taila anuvasana basti* in *Trika Prishtha Graha-Shoola* with special reference to Lumbar spondylosis was found statistically highly significant.

Keywords: Ayurveda, *Panchkarma,* Lumbar spondylosis, *Basti Karma, Trik-prishtha graha*.

INTRODUCTION: *Charakacharya* have explained certain *nanatmaja vyadhis* .And the *trika and prushtha graha* is among the eighty independent (*Nanatmaja)* diseases caused by *vata*[1]. The *Trika Prushtha Graha* is found in patients of lumbar spondylosis. "*Basti Karma*" is the most efficient remedy for *vatavyadhis*, as it radically eliminates the morbid vata[2].The *Ksheerbala Taila Anuvasana basti*[3], plays big role in management of above considered disorder.The *Ksheerbala Taila* and its contents are found to decrease the vitiated *vata dosha* as well as provide strength to '*trika-prushtha'*, thus helping in prevention of further disorder. Hence, it is well worthy to assess *Ksheerabala taila anuvasana basti* in the management of *Trika Prishtha Graha-Shoola* in lumbar spondylosis.

REVIEW OF LITERATURE:

- *Trika-Prishtha graha* is a *vata vyadhi*. The region between *gudasthi* and upper margin of *katikapala* is considered as *Trika*[4].

SAMPRAPTI OF *TRIKA PRISHTHA GRAHA*:*Trika Prishtha Graha* has no specific *samprapti* as per the text available. It is classified under the heading of *vata vyadhi,* where the *Dushita vata* get accumulated at *trika-prushtha* region.

Nowadays, *Asthikshaya* at lumbar region is prevalent commonly. Due to these degenerative changes at lumbar region '*Trika Prishtha Graha'* is found predominantly.

LUMBAR SPONDYLOSIS: Nowadays, large majority of individuals are suffering from disorders related to spine like Spondylosis, degenerative disc disease, intervertebral osteochondritis etc. Among these Lumbar spondylosis is most common.Spondylosis is considered mechanistically, as the hypertrophic response of adjacent vertebral bone to disc degeneration. Spondylosis may be applied nonspecifically to any and all degenerative

conditions affecting the discs, vertebral bodies and associated joints of the lumbar spine. Degenerative disc disease is attributable to intervertebral disc degeneration. Such pathogenic changes include disc desiccation, fibrosis, and narrowing. The annulus may bulge or undergo mucinous degeneration.

PATHOGENESIS: The high incidence of simultaneous degenerative changes to the intervertebral disc, vertebral bodies and associated joints suggests a progressive and dynamic mechanism and these occurs secondary to disc space narrowing.

Intervertebral discs are believed to undergo 'degenerative cascade' of 3 overlapping phases that may occurs over the course of decades.

PHASE I :- (Dysfunction phase)

It describes the initial effects of repitative micro trauma with the development of circumferential painful tears of the outer innervated annulas and associated end-plate separation that may compromise disc nutrition supply and waste removal.

PHASE II :- (Instability Phase)

It's characterized by the loss of mechanical integrity, with progressive disc changes of resorption, internal disruption and additional annular tears, combined with further facet degeneration that may induce subluxation and instability.

PHASE III :- (Stabilization Phase)

Continued disc space narrowing and fibrosis occurs along with formation of osteophytes and transdiscal bridging.These degenerative changes may culminate in presentation of spinal stenosis or narrowing within spinal canal through progressive ingrowth of osteophytes, hypertrophy of inferior articular process, disc herniation, bulging of ligamentum flavum or spondilolysthesis.

Nerve impingement is also an important factor in pathology. Disc bulging may affect descending rootlets of cauda equina, nerve roots exiting at the next lower intervertebral canal or spinal nerve within its ventral ramus. Osteophytes lipping along the posterior aspect of vertebral bodies, may similarly impinge upon same neural structures as that of bulging discs[5].

CLINICAL PRESENTATION: Low back pain, Limitations of movement, Leg pain, Weakness of lower extremities may be present in some cases.The clinical presentation of lumbar spondylosis resembles with vatavyadhi " *Trik-prishtha graha*". So we can correlate " *Trik-prishtha graha*". with Lumbar spondylosis.

TREATMENT:*Basti* is said to be the half of the whole treatment[6] and sometimes a complete treatment. *Ksheerbala taila Anuvasan Basti* seems the best treatment for *trik-prishtha graha*.There is *dhatukshayajanya vataprakopa* in *Trika Prishtha Graha* in Lumbar Spondylosis. And *Ksheerbala tail anuvasana* acted as *Brumhana* thus ultimately *Dhatukshaya* was reduced.Because of these properties of *Ksheerabala taila,* the symptoms like *Graha, shoola* get reduced.

AIMS AND OBJECTIVES:

AIM: To Assess *Ksheerbala taila anuvasana basti* in the management of 'trika prushtha graha-shoola' with special reference to lumbar spondylosis."

OBJECTIVES:

1. To study the concepts of *Trika Prushtha Graha,shoola* and lumbar spodylosis.
2. To study the concepts of *basti-karma.*
3. To study the standardization of ingredients.

 MATERIALS & METHODS:

The materials and methods used in this project are as follows –

Standardization and Authentification:

Standardization and authetification of ingredients of *Ksheerabala taila* was done.

Clinical study: Clinical trial was conducted on thirty patients of *Trika Prishtha Graha-shoola* having lumbar spondylosis who fulfilled criteria for inclusion in this study. Patients under trial were in a single group. Clinical Data obtained from the trial was analyzed with proper statistical method & the results are presented. The clinical trial was conducted on the inpatient and outpatient sections of Department of *Panchakarma* at hospital of Tilak Ayurveda College, Pune (Tarachand Ayurvedic Hospital, Pune)

SELECTION CRITERIA:

Total 30 patients suffering from *trika prushtha-graha-shoola* and having lumbar spondylosis were selected irrespective of sex, religion, education, occupation, economical status etc.

A) INCLUSION CRITIERIA:

1) Patient suffering from lumbar spodylosis with *trika prushtha graha-shoola*

2) Age – 20 to 70 years.

3) Patient ready to give written consent.

B) EXCLUSION CRITERIA:

1) Patients of *trika prushtha-graha* having any structural deformities and who needs surgical care were excluded.

2) Conditions related to spine other than spondylosis excluded.

3) Patients having major illness for a longer period and systemic pathogenesis eg. cardiac disorders, chronic renal failure were excluded.

4) Patients not willing for clinical trial.

METHODS OF ADMINISTRATION OF BASTI :-

1)Form: *Ksheerbala tail Anuvasana Basti.*

2) Dose- 120 ml

3)Kala: Just after breakfast in the morning.

4) Duration of therapy-7 days

5) Number of patients – 30

6) Route of administration – per Rectum.

7) Follow up – 7,14,21st day.

METHODS OF ASSESSMENT:

Patient was assessed according to the following criteria.

1)ASSESSMENT OF *GRAHA*:

When a patient moves, walks or bends to a certain limit; further movement is not possible because of the stiffness. Stiffness is a subjective parameter which can be converted to objective. So to avoid the fallacies and to make it an objective criteria following gradation was adopted-

Grade	Assessment criteria
00	Easy Bending movement with no limitation
01	Bends with mild limitation.
02	Bends with moderate limitation
03	Marked limitation while bending – assistant require
04	Can't bend at all

Patients were grouped accordingly before & after treatment. Proper calculations were done as per that of pain chart and assessment of efficacy was done.

Further, its important to consider that, limitations of the movements *(Graha)* can also be assessed with following criterias.

2) VISUAL ANALOG SCALE:

VAS in 10cm point scale.

0 cm_____ 10 cm

"0" indicates absolutely no pain. "10" indicates severe pain. Each cm. indicates digits from "0" to "10". Patients were called and asked to grade their pain and define accordingly in number. Relief in pain for VAS is calculated as per following formula -

$$= \frac{IP0 - IP21}{IP0} \times 100$$

Where, - IP0 is intensity of Pain on 0th day of assessment i.e. before treatment

- IP21 is intensity of Pain on the final day of assessment.

5] SLR Test:

Grades	90^0	0%	(0)
I	89^0-71^0	1-25%	+
II	70^0-52^0	26-50%	++
III	51^0-33^0	51-75%	+++
IV	32^0-0^0	76-100%	++++

3)WALKING TIME:

Walking time of Patient for the distance of 10 meters recorded on 0th, 7th, 14th, 21st day.

These are different methods important for the assessment of *graha.*

4) COIN TEST:

Patient was asked to pick up the coin from ground. According to severity of pain, gradations were done-

Grades

1.Can easily pick up the coin.

2.Can pick up the coin with minimum pain.

3.Can pick the coin with moderate pain.

4.Can't Pick.

OBSERVATIONS AND RESULTS:

1. Changes after treatment

Criteria	BT	AT
Graha	2.66	0.86
VAS	7.06	2.16
Walking time	18.3	14.36
Coin Test	3.13	1.46
SLR	3.16	1.4
SLR (Lt)	3.1	1.43

After considering different criterias, the graph depicts the significant reduction in *Trika Prishtha Graha* after treatment.

STATISTICAL ANALYSIS

Statistical analysis: To establish absolute efficacy of *Ksheerabala taila anuvasana basti* in *Trika Prishtha Graha* w.s.r.to lumbar spondylosis.

1.   Null hypothesis (Ho) – it nullifies the claim that the experimental result is different from or better than the one observed already.

 i.e. Ho-There is no effect of *Ksheerabala taila anuvasana basti* in *Trika Prishtha Graha* w.s.r.to lumbar spondylosis.   i.e. Ux =0

2. Alternative hypothesis (H1) - This states that the sample result is different, greater or smaller than hypothetical level of population.

i.e. H1 - *Ksheerabala taila anuvasana basti* effective in *Trika Prishtha Graha* i.e. Ux > 0

Students 't' test[7]:

1. Paired 't' test- It is applied to paired data of independent observations from one sample only when each individual gives a pair of observation.

As present study is randomization and uncontrolled with paired data of independent observation from one sample, paired 't' test is applied.

Test procedure –Significance is establish, If tcal > t table

This test was applied for each of the symptom and result obtained

STATISTICAL ANALYSIS TABLE
1)Effect of therapy on *Graha:*

Parameter	*Graha* Mean ± SD (n=30)	t Value	P Value
BT	2.66 ± 0.47	-	-
AT	0.86 ± 0.57	24.23	<0.0001

(Where, BT = Before Treatment and AT = After Treatment)

Since P value is less than 0.0001, we reject Ho. Hence the treatment is significantly effective on *Trika Prishtha Graha*.

2)Effect of therapy on VAS:

Parameter	VAS Mean ± SD (n=30)	t Value	P Value
BT	7.06± 0.78	-	-
AT	2.16 ± 0.98	29.08	<0.0001

Since P value is less than 0.0001, we reject Ho. Hence the treatment is significantly effective on this disorder.

3)Effect of therapy on walking time:

Parameter	Walking Time Mean ± SD (n=30)	t Value	P Value
BT	18.30± 1.23	-	-
AT	14.36 ± 1.21	19.93	<0.0001

There is significant reduction in walking time. Since P value is less than 0.0001, we reject Ho. Hence the treatment is significantly effective on this.

4)Effect of therapy on Coin Test:

Parameter	Coin Test Mean ± SD (n=30)	t Value	P Value
BT	3.13± 0.43	-	-
AT	1.46 ± 0.50	19.03	<0.0001

Since P value is less than 0.0001, we reject Ho. Hence the treatment is significantly effective on this.

5)Effect of therapy on Right SLR test:

Parameter	SLR Test(Rt) Mean ± SD (n=30)	t Value	P Value
BT	3.16± 0.53	-	-
AT	1.40 ± 0.49	22.49	<0.0001

In present study according to SLR test of right leg it is found that there is significant reduction of *GRAHA* on day 7th,14th,21th day i.e. p<0.0001. Since P value is less than 0.0001, we reject Ho. Hence the treatment is significantly effective on this.

6)Effect of therapy on Left SLR test:-

Parameter	SLR Test(Lt) Mean ± SD (n=30)	t Value	P Value
BT	3.10± 0.54	-	-
AT	1.43 ± 0.50	19.03	<0.0001

Here also in SLR test of left leg it is found that there is significant reduction of *GRAHA* on day 7th,14th,21th day i.e. p<0.0001. Since P value is less than 0.0001, we reject Ho. Hence the treatment is significantly effective on this.

DISCUSSION: In this clinical study 30 patients were registered. Clinical trials were carried methodically and proper records of the observations were maintained. All the observations were observed thoroughly. The data is discussed as follows.

- **AGE:** Maximum number of patients i.e. 33 % belonged to the age group of 41-50 yrs which show its predominance in middle age group. And minimum number of patients found in age group 20-30 yrs(7%). It indicares that degenerative process starts at this age(i.e. 40-70yr).

- **SEX:** Majority of patients i.e. 60% were female and 20% were male. This shows the predominance of *Trika Prishtha Graha* in females, as they are naturally subjected to cyclical changes in body at different phases that include menstruation, hormonal changes during pregnancy and labour, process of labour, purpureal stage, and menopause. In women, *Apanapradesha i.e. trika, prushtha, kati* region is subjected to maximum stress. So, the vitiated *vata* stations at *Trika-Prushtha* region and manifests itself as '*Trika Prishtha Graha*'.

- **OCCUPATION:** Out of 30 patients, maximum number i.e. 12(40%) patients were found to be housewives, 11(37%) patients were in service and 4(13%) patients were workers. They daily expose to *vataprakopaka hetus like ativyayama, vishamacheshta, vegadharana, ati yanasevana,* excess walking, *aatapaseva* etc. All these collectively vitiate *vata dosha* and degenerate the quality of *mamsa, asthi and majja dhatus* leading to *Trika Prishtha Graha*.

- **TYPE OF FOOD:** 12 (40%) patients had habit of taking vegeterion food, while 18 (60%) patients had habit of mixed food. Furthermore, in the study it is found that the *aaharaj hetus in this group include rooksha, sheeta, laghu gunapradhana and katu rasapradhana aahara* which leads to *vataprakopa.* Excessive *katu rasa* in diet leads to depletion of *snigdha guna in* body tissues owing to its *rooksha guna.*

PRAKRUTI: All the patients in this study were having *Dwandwaja prakruti*. Maximum number of patients i.e. 11 (36%) were having *vata pittaja* while 9(30%) having *Pitta vataja prakruti*, & 5 (17%) were having *vata kaphaja prakruti*. Thus it can be concluded that *vata* dominant patients suffer more from *Trika Prishtha Graham.Trika-Prushtha Graha-shoola* is *Madhyama Roga Margagata Vatavyadhi* . And as per pathogenesis, there is *dhatukshayajanya vataprakopa in Trika-Prushtha Graha-shoola* in Lumbar Spondylosis. Here *Vata* gets vitiated by *Laghu, Ruksha, Sheeta and chala Gunas. Graha and shoola* occures due to increased *laghu, ruksha, sheeta, chala properties of vata. Ksheerabala taila* decreases all above *gunas with its Guru, Snigdha,ushna gunas* & pacifies *Vata.* And *Madhura rasa & Madhura Vipaka* acts as *Brumhana* thus ultimately *Dhatukshaya* was reduced due to its *Ksheerpaki* nature it acts as *kapha Vardhaka, balya and Brumhana*. Because of these properties of *Ksheerabala taila*, the symptoms like *Graha, shoola* were reduced.

CONCLUSION: At the end of the study, It can be concluded that,*Trika Prishtha Shoola and Graha* closely resembles with the symptomatology of Lumbar Spondylosis. *Ksheerabala taila anuvasana basti* in *Trika Prishtha Graha* with special reference to Lumbar spondylosis was found statistically highly significant. In this study, I observed more females were suffering from *Trika Prishtha Graha* than males. And no any adverse effects were found during or after treatment.

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Corresponding Author: Dr.Dinesh Bansilal Patil,Asst.Professor, Dept. of Panchkarma, Shubhdeep Ayurved Medical College, Indore, M.P.
Email:dr.dineshpatil3@gmail.com