

AN ANALYSIS OF SAMPRAPTI BIGHATAN OF INTER VERTEBRAL DISC PROLAPSE WITH THE HELP OF MADANA TAILA MATRA BASTI

Nibedita Sarmah¹, Anup Baishya²

¹PG Scholar, ²Associate Professor

Dept. of Roga Nidan, Govt. Ayurvedic College & Hospital, Guwahati-14, Assam, India

Email: drsarmahnibedita@gmail.com

ABSTRACT

Objective: To study the *samprapti* of Intervertebral disc prolapse as *marga avaranaja vatavyadhi*, clinical study of the effect of *Madanataila matrabasti* in the *sampraptibighatan* of Intervertebral disc prolapse. **Methods:** The selection of patient for the study was done in a randomized design. Subject- 15 patients. Selection- Diagnosed patients of Intervertebral disc prolapse were randomly selected from OPD and IPD of GACH, Guwahati, Assam. Treatment- *Madanataila* which is *kaphasamak an-vasanbasti* was used in 15 patients of Intervertebral disc prolapse with 60ml doses as *matrabasti* for 14 days. The patients were assessed by the subjective and objective parameter and data obtained were converted to quantitative data and they were graded as 0,1,2,3 depending upon the severity. The data were analysed by statistical tools such as arithmetic mean, SD, SE and paired 't' test of significance. **Results:** The therapy was very effective for all the subjective and objective parameters where 'p' value was <0.001. **Conclusion:** On the basis of observation it can be concluded that IVDP can be considered as *margaavaranaja vata vyadhi* where *kapha vata samak* measures are helpful.

Keywords: Inter vertebral disc prolapse, *marga avaran*, *Madana taila*, *matrabasti*.

INTRODUCTION

Back pain is a very common symptom and it affects 60-80% of people. Low back pain is more common in heavy manual workers, particularly those in occupations that involve heavy lifting and twisting, psychological factors (job dissatisfaction, depression, anxiety) are important risk factors for both acute and

chronic back pain. One of the specific causes of low back pain is Inter vertebral disc prolapse.¹

The anterior portion of the spine consists of cylindrical vertebral bodies separated by Inter vertebral discs. The inter vertebral discs are composed of a central gelatinous nucleus

pulposus surrounded by a tough cartilaginous ring called annulus fibrosus.²

In Inter vertebral disc prolapse, the pain may be located in the low back only or referred to a leg, buttock, or hip. Sneeze, cough or trivial movement may cause the nucleus pulposus to prolapse, pushing the frayed and weakened annulus posteriorly. The nucleus may protrude through the annulus (herniation) or become extruded to lie as a free fragment in the spinal canal³

A ruptured disc may be asymptomatic or cause back pain, abnormal posture, limitation of spine motion (particularly flexion) a focal neurological deficit or radicular pain.³

Similar symptoms with inter vertebral disc prolapse can be found in different *vata vyadhi* such as *Kati trik graha*, *Pristha graha*, *Gridhrashi*, *Asthimajja gata vata*, *Asthi majjavrit vata*, *Khanja*, *Pangulya* etc.⁴

Vata vyadhi is mostly precipitated by two factors— *Marga avaran*, (where flow of signals are obstructed somewhere.) and *Dhatu kshaya* (where tissue components are degenerated or destroyed or atrophied).⁵ Pathogenesis of all neurological diseases can be put into the above pathological aspect.

Prolapsed inter vertebral disc or protrusion of central gelatinous nucleus pulposus which is *kapha* in nature (soft, unctuous, slimy)⁶ causes obstruction to neural conduction which functions are similar with *vata* (to move and to become conscious).⁷ So we can consider it as *avarana* *vata vyadhi* and for the *samprapti bighatan*, *Kaphavata hara dravya* may use. In this present study we used *Madana taila matrabasti* (*Kaphasamak anvasan basti*).⁸

Keeping that view in mind, the present study was conducted with the following Aim and Objective,

- Clinical trial of *Madana taila matrabasti* in Inter vertebral disc prolapse.

AIM AND OBJECTIVE-

- Clinical trial of *Madana taila matrabasti* in Inter vertebral disc prolapse.

MATERIAL AND METHODS-

- Subject- 15 patients,
- Selection- Diagnosed patients of inter vertebral disc prolapse were randomly selected from OPD & IPD of GACH Jalukbari, Guwahati, Assam.

INCLUSION CRITERIA-

- Diagnosed case of inter vertebral disc prolapse.
- Age limit 18-70 years.

EXCLUSION CRITERIA-

- Patient who develop secondary complications such as stool and urine retention etc.
- Patient with other systemic diseases.
- Pregnant lady.

DRUG REVIEW-

- *Madataila* is a *kaphasamak taila preparation used as anvasan basti*.⁸
- Ingredients - *Madana phal kalka*, *Dasamool kwath*, (*Bilva*, *Agnimantha*, *syonak*, *patala*, *gambhari*, *Brihati*, *Kantakari*, *Salaparni*, *prishniparni*, *Goksura*) *Murchita tila taila*.

Table 1: Details about the herbs used for *Madana taila* preparation

NAME	BOTANICAL NAME	RASA	GUNA	VIRYA	VIPAK	DOSHAKARMA
<i>Tila</i>	<i>Sesamum indicum</i>	<i>Madhura</i>	<i>Guru, Snigdha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridosha samak</i>
<i>Madan Phal</i>	<i>Catunaregan spinosa (Thumb) Trivengadam</i>	<i>kasaya, madhura, tikta katu</i>	<i>Laghu, ruksha.</i>	<i>Ushna.</i>	<i>Katu.</i>	<i>kaphavatahara</i>
<i>Bilva</i>	<i>Aegle marmelos Corr.</i>	<i>Kasaya, tikta</i>	<i>Ruksa, laghu.</i>	<i>Ushna.</i>	<i>Katu.</i>	<i>Kaphavata samaka.</i>
<i>Agnimantha</i>	<i>Premna integrifolia Linn./ Clerodendrum phlomidis Linn.f</i>	<i>Tikta, Katu, Kasaya, Madhura.</i>	<i>Ruksa, Laghu.</i>	<i>Usna</i>	<i>Katu</i>	<i>Kaphavata-samaka.</i>
<i>Syonak</i>	<i>Oroxylum Indicum Vent</i>	<i>Madhura, tikta, kasaya</i>	<i>Laghu, ruksa</i>	<i>Ushna</i>	<i>Katu</i>	<i>kaphavata samaka</i>
<i>Gambhari</i>	<i>Gmelina arborea Roxb</i>	<i>Tikta, kasay, madhur</i>	<i>Guru</i>	<i>Ushna. Sheeta (phala)</i>	<i>Katu</i>	<i>Tridosha saamak</i>
<i>Patala</i>	<i>Stereospermum suaveolens Dc.</i>	<i>Tikta, kasaya (Flowers and fruits: kasaya madhura)</i>	<i>Laghu, ruksha.</i>	<i>Ushna. (flowers and fruits sheeta)</i>	<i>Katu</i>	<i>Tridoshaghna, (kapha vata samak (bark) vatapitta samak (flowers and fruits)).</i>
<i>Brihati</i>	<i>Solanum indicum Linn.</i>	<i>Katu, tikta</i>	<i>Laghu, ruksha, tikshna</i>	<i>Ushna</i>	<i>Katu.</i>	<i>Kaphavata-samaka</i>
<i>Kantakari</i>	<i>Solanum xanthocarpum Sebr. & wende.</i>	<i>Tikta, katu.</i>	<i>Laghu, tikshna, ruksha</i>	<i>Ushna</i>	<i>Katu</i>	<i>kaphavatasamak</i>
<i>Salaparni</i>	<i>Desmodium gangeticum Dc</i>	<i>Madhura, tikta</i>	<i>Guru, snigdha</i>	<i>Ushna</i>	<i>Madhur</i>	<i>Tridosha saamak</i>
<i>Prishni-parni</i>	<i>Uraria picta Desv</i>	<i>Madhura, tikta</i>	<i>Laghu, snigdha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridosha saamak</i>
<i>Gokshura</i>	<i>Tribulus terrestris Linn</i>	<i>Madhura</i>	<i>Guru, snigdha</i>	<i>Sita.</i>	<i>Madhura</i>	<i>vatapittasamaka</i>

ROUTINE EXAMINATION, ASSESSMENT AND FOLLOW UP-

- The full history of the patient was recorded as per specially designed proforma.
- Clinical assessment was done and recorded on '0' day, 15th day and 1month onwards.
- Duration of the treatment-14days.
- Dose- 60ml daily.

METHODS OF ASSESSMENT OF TREATMENT-

The changes in subjective and objective parameters before and after treatment were considered for assessment of the efficacy of the drug.

Clinical assessment was done and recorded on '0' day/ before treatment and on 15th day/after treatment.

The subjective and objective parameters were measured with the help of score and grade.

The subjective parameters are-

Pain, Radiation of pain, Stiffness, Numbness, Bending & weight lifting, Sitting, Standing, Sleeping.

The objective parameters are, SLR, Tenderness.

INVESTIGATIONS- Haemoglobin, Total WBC count, Differential leukocyte count, ESR, MRI Lumbosacral spine.

TRIAL METHODOLOGY: The modern methodology for trial and statistics design was suitably adopted for the present study.

SIMPLE RANDOM SAMPLING: The selection of patient for the study was done in a randomized design.

OBSERVATION AND RESULTS:
Demographic profile-

Clinical profile-

Table 2: Statistical analysis of *Madana taila matrasthi* in *samprapti bighatan* of Inter vertebral disc prolapse

Parameters	Mean of BT	Mean of AT	Mean BT-Mean AT	% of Relief	BT SD	AT SD	SE	't' at df=14	P
Subjective									
Pain	2.73	1.07	1.66	60.8%	0.46	0.59	0.13	13.23	<0.001
Radiation of pain	1.27	0.13	1.14	89.7%	0.46	0.35	0.10	12.47	<0.001
Numbness	0.80	0.13	0.67	83.75%	0.41	0.35	0.10	5.29	<0.001
Stiffness	3.40	1.07	2.33	68.52%	0.51	0.26	0.10	18.52	<0.001
Bending and weight lifting	2.53	1.27	1.26	49.80%	0.52	0.46	0.12	10.72	<0.001
Sitting	2.07	0.40	1.67	80.67%	0.46	0.51	0.12	8.92	<0.001
Standing	2.27	0.47	1.8	79.29%	0.70	0.52	0.15	16.84	<0.001
Sleeping	1.93	0.13	1.8	93.26%	0.70	0.35	0.13	10.31	<0.001
Objective									
SLR	2.00	0.20	1.8	90%	0.65	0.41	0.14	12.43	<0.001
Tenderness	1.73	0.07	1.66	95.95%	0.70	0.26	0.12	10.45	<0.001

Among the 15 patients of Inter vertebral disc prolapse, 33.33% belong to 31-40 years of age group, 26.67% belong to 51-60years, 20% belong to 41-50 years, 13.33% belong to 61-70 years and rest 6.67% belong to 18-30 years of age group. 66.67% patients were female and rest 33.33% patients were male. In case of occupation, 53.33% patients belong to household working group, 20% belong to heavy worker or hard working category, 13.33% belong to businessman, 6.67% belong to service (physical worker) and rest 6.67% belong to service (mental worker). The gait of 86.67% patients was abnormal and rest 13.33 % patients had normal gait. 53.33% patients had no past history of fall or trauma and in 46.66% patients had history of trauma. The study of *prakriti* in the 15 patients, 60% belong to *vata kapha prakriti*, followed by *vata pitta* i.e. 20% patients and then *pitta kapha* i.e. 20%.

In case of **Pain**, before treatment mean±SD was 2.73±0.46 and it declined to 1.07±0.59 after treatment. At 14 degree of freedom t=13.23, p<0.001, Hence the result was highly significant. There was 60.8% improvement in pain.

In case of **Radiation**, before treatment mean±SD was 1.27±0.46 and it declined to 0.13±0.35 after treatment. At 14 degree of freedom t=12.47, p<0.001, Hence the result was highly significant. There was 89.7% improvement in radiation of pain.

In case of **Numbness**, before treatment mean±SD was 0.80±0.41 and it declined to 0.13±0.35 after treatment. At 14 degree of freedom t=5.29, p<0.001, Hence the result was highly significant. There was 83.75% improvement in numbness.

In case of **Stiffness**, before treatment mean±SD was 3.40±0.51 and it declined to 1.07±0.26 after treatment. At 14 degree of freedom t=18.52, p<0.001, Hence the result was highly significant. There was 68.52% improvement in stiffness.

In case of **Bending & weight lifting**, before treatment mean±SD was 2.53±0.52 and it declined to 1.27 ±0.46 after treatment. At 14 degree of freedom t=10.72, p<0.001, Hence the result was highly significant. There was 49.8% improvement in bending & weight lifting,

In case of **Sitting**, before treatment mean±SD was 2.07±0.46 and it declined to 0.40±0.51 after treatment. At 14 degree of freedom t=8.92, p<0.001, Hence the result was highly significant. There was 80.67% improvement in sitting.

In case of **Standing**, before treatment mean±SD was 2.27±0.70 and it declined to 0.47±0.52 after treatment. At 14 degree of freedom t=16.84, p<0.001, Hence the result

was highly significant. There was 79.29% improvement in standing.

In case of **Sleeping**, before treatment mean±SD was 1.93±0.70 and it declined to 0.13±0.35 after treatment. At 14 degree of freedom t=10.31, p<0.001, Hence the result was highly significant. There was 93.26% improvement in sleeping.

In case of **S.L.R.**, before treatment mean±SD was 2±0.65 and it declined to 0.2±0.41 after treatment. At 14 degree of freedom t=12.43, p<0.001, Hence the result was highly significant. There was 90% improvement in S.L.R.

In case of **Tenderness**, before treatment mean±SD was 1.73±0.70 and it declined to 0.07±0.26 after treatment. At 14 degree of freedom t=10.45, p<0.001, Hence the result was highly significant. There was 95.95% improvement in tenderness.

LABORATORICAL CHANGES OF INTER VERTEBRAL DISC PROLAPSE AFTER TREATMENT:

- ❖ Haemoglobin, TC, DLC and ESR were done before and after treatment. But it didn't show any remarkable change after treatment.
- ❖ All the Inter vertebral disc prolapse patients were diagnosed on the basis of MRI report. Among them only 1 patient had done MRI after completion of treatment where some changes like absence of facet arthrosis, flaval prominence, end plate changes and disc desiccation which were present before treatment were noted. Other patient as they had got improvement after therapy so they refuse to do MRI as it is very expensive too.

DISCUSSION

Vata vyadhi is mostly precipitated by two factor– *Marga avaran*, (where flow of signals are obstructed somewhere.) and *Dhatu kshaya* (where tissue components are degenerated or destroyed or atrophied). Pathogenesis of all neurological diseases can be put into the above pathological aspect.

Low back pain is a very common symptom now a day. There are various causes for low back pain, among them Inter vertebral disc prolapse is very common. Prolapsed inter vertebral disc or protrusion of central gelatinous nucleus pulposus which is *kapha* in nature causes obstruction to neural conduction which functions are similar with *vata*. So we can consider it as *avarana ja vata vyadhi* and for the *samprapti bighatan*, *Kaphavata hara dravya* may use.

In this present study we used *Madana taila matrasti* (*Kaphasamak anvasan basti*). As per the principle of treatment of *avarana ja vatavyadhi*, *avarana* should remove first with controlling the normalcy of *vata*. Here *kapha hara basti* was used to remove *avarana*. *Basti* is the *ardha chikitsha* for *vata* and *taila* is best for *vata* so it helps to maintain the normalcy of *vata*.

Medicine was prepared at State Ayurvedic pharmacy, GACH, Guwahati, Assam. Medicine was also analysed at drug testing laboratory, GACH. *Madana taila* contains *Madan phal* (*Catunaregan spinosa* (Thunb) *Triven-gadam*) *kalka* which has the property like *kapha vatasamak*, *vatanulomak*, *kapha nihsarak*, *lekhan*, *vedanasthapan* etc and *Dasamool kwath* which is also *kaphavata samak*. Here *Tila taila* was used for *taila kal-pana*. As per *Bhavaprakash nighantu* *Tila taila* has both the quality of *brimhan* (nour-

ishment) and *lekhan* (depletion of tissues). Ultimately *Madana taila matrasti* can remove the *avarana* as well as it can maintain the normalcy of *vata*.

Symptoms of inter vertebral disc prolapse may appear in mild to severe form. Simply back pain is present in all the patient of inter vertebral disc prolapse with other nerve root symptom such as numbness, tingling, stiffness, weakness of muscle and paralysis. Rarely cauda equine syndrome may also present in case of inter vertebral disc prolapse where low back pain and problem to bowel and bladder function occurs.

Study of Demographic profile on 15 patients of inter vertebral disc prolapse includes age, gender, occupation, gait, *deha prakriti*. In case of Inter vertebral disc prolapse maximum numbers of patient belong to 31-40 years of age due to the work overload during this age group and it may be due to nutritional imbalance followed by pregnancy and lactation (because maximum patients were female). Bone decaying started in elderly people so Inter vertebral disc prolapse is common in elderly people. Female suffers more may be due to their abnormal posture of spine during house hold works. Bone density of female is less than male. After delivery, during lactation and after menopause level of calcium reduces which may leads to development of vertebral weakness. Housewives are more sufferers because of abnormal posture of spine during house hold works like excessive forward bending, lifting of heavy objects etc. Heavy workers are also suffering because of abnormal posture of spine during their works. In maximum number of Inter vertebral disc prolapse patient had abnormal gait. In Inter vertebral disc prolapse, prolapsed part of disc give pressure over nerve

root and patient develop radiating pain. During walking prolapsed part may give more pressure over nerve root. According to the assessment of *deha prakriti* maximum number of patients was *vata kapha prakriti*.

In the clinical trial the patients were assessed by the subjective and objective parameter and the data obtained were converted from qualitative to quantitative data and they were graded as 0,1,2,3 depending upon their severity as absence, mild, moderate and severe character.

Total 15 patients of Inter vertebral disc prolapse were taken for *samprapti bighatan*, keeping in mind the inclusion and exclusion criteria and an open trial was conducted on the patients visiting the Government Ayurvedic College & Hospital, Guwahati-14, in OPD and IPD basis. *Matrabasti* was given for duration of 14 days and a follow up study was done at 15th day and 1 month.

The assessment of the result was done depending upon the severity of the disease. Both the subjective and objective assessment of result was done and the obtained data were organized and summarized by using frequency distribution table. The data were then analyzed by appropriate statistical tools such as arithmetic mean, standard deviation, standard error and paired 't'-test of significance. For 15 patients of Inter vertebral disc prolapse, the subjective parameters pain, radiation, numbness, stiffness, bending, sitting, standing, sleeping had given the encouraging result which was statistically highly significant. The result was also highly significant in case of objective parameter like SLR and tenderness. In this study mean value of before treatment and mean value of after treatment has been calculated to find out SD, SE etc. As per calculated 't' value,

'p' is <0.001 for all parameter which is highly significant statistically.

Laboratorial changes were studied before and after treatment. There were no remarkable changes noted in case of Haemoglobin, TC, DLC and ESR. In the follow up less number of patient underwent repeat MRI study (only 1 patient), though all the patients were diagnosed on the basis of MRI study. As the investigation facility was not available in our institute and it is more expensive also patient faced difficulties to do repeat MRI from outside. MRI of 1 patient showed some changes like absence of facet arthrosis, flaval prominence, end plate changes and disc desiccation which were present before treatment were noted.

During the trial period no oral medication was allowed to the patients. Only *matrabasti* was given to the patients. *Samprapti bighatan* was done as per postulated *samprapti* of Inter vertebral disc prolapse which gives statistically highly significant improvement of the disease. So we can say that the postulated *samprapti* made for Inter vertebral disc prolapse was correct.

CONCLUSION

From the above observation it can be concluded that Inter vertebral disc prolapse can be considered as *marga avaranaja vatavyadhi* where *kapha vata samak* measures are helpful to treat the condition, *Madana taila* which is a *kaphavata samak aushadhi* when administered as *matrabasti* showed highly significant result statistically in all the subjective and objective parameters.

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