AYURVED MANAGEMENT OF LOW BACKACHE- A CASE STUDY

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ABSTRACT

Low back ache is a very common disorder having multiple causative factors. One of the major cause is degenerative disc problem which can be prolapse, herniation or annular tear of lumbo sacral intervertebral disc. The main symptoms are pain, muscle spasm, difficulty in movement, inability to stand for longer duration, numbness in legs etc. As the disease progresses patient is unable to do his routine activities which disturbs them mentally leading to anxiety, stress and sleeplessness. Various internal drugs for pain are available but, results are not satisfactory. The last available treatment is spinal surgery which is not much successful and therefore people with such disease are always in search of result oriented remedy. Classics of Ayurved have suggested some drugs and Panchakarma procedures through which correction of intervertebral disc can be obtained without surgery. Low back pain can be studied under Asthi Majjagata Vaata, disease mentioned under the chapter of diseases of Vaata and suggested line of treatment is Abhyanga, Swedana and Basti along with internal drugs which subsides the increased Vaata. Here, in the present case study patient had low back pain due to disc herniation at L3-L4-L5-S1 and she was treated with 2 courses of "Kaala Basti" along with Abhyanga and Swedana. Internal drugs were Yograj guggulu and Rasna Saptaka decoction. Patient recovered remarkably and had almost nil complain after two courses of Basti and could do all her routine activities.

KEYWORDS: Low backache, Basti, Panchakarma, Vaata, Abhyanga and Swedana.

INTRODUCTION

Low back pain or lumbago is a common disorder involving the muscles and bones of the back. It affects about 40% of people at some point in their lives.
Classification
There are three general types of low back pain by cause: mechanical back pain (including nonspecific musculoskeletal strains, herniated discs, compressed nerve roots, degenerative discs or joint disease, and broken vertebra) non-mechanical back pain (tumors, inflammatory conditions such as spondyloarthritis, and infections), and referred pain from internal organs (gallbladder disease, kidney stones, kidney infections, and aortic aneurysm, among others).[1]

CAUSES
Physical causes may include osteoarthritis, degeneration of the discs between the vertebrae or a spinal disc herniation, broken vertebra(e) (such as from osteoporosis) or, rarely, an infection or tumor of the spine.[2]

Symptoms of back pain may include
- Muscle ache
- Shooting or stabbing pain
- Pain that radiates down your leg
- Limited flexibility or range of motion of the back
- Inability to stand up straight

Back pain often develops without a specific cause that your doctor can identify with a test or imaging study. Conditions commonly linked to back pain include

- **Muscle or ligament strain.** Repeated heavy lifting or a sudden awkward movement may strain back muscles and spinal ligaments. If you're in poor physical condition, constant strain on your back may cause painful muscle spasms.

- **Bulging or ruptured disks.** Disks act as cushions between the individual bones (vertebrae) in your spine. Sometimes, the soft material inside a disk may bulge out of place or rupture and press on a nerve. The presence of a bulging or ruptured disk on an X-ray doesn't automatically equal back pain, though. Disk disease is often found incidentally; many people who don't have back pain turn out to have bulging or ruptured disks when they undergo spine X-rays for some other reason.

- **Arthritis.** Osteoarthritis can affect the lower back. In some cases, arthritis in the spine can lead to a narrowing of the space around the spinal cord, a condition called spinal stenosis.
• **Skeletal irregularities.** Back pain can occur if your spine curves in an abnormal way. Scoliosis, a condition in which your spine curves to the side, also may lead to back pain, but generally only if the scoliosis is quite severe.

• **Osteoporosis.**Compression fractures of your spine's vertebrae can occur if your bones become porous and brittle.[3]

The medication typically recommended first is acetaminophen (paracetamol) or NSAIDs (though not aspirin). Muscle relaxants may also be beneficial.[4]

Surgery may be useful in those with a herniated disc that is causing significant pain radiating into the leg, significant leg weakness, bladder problems, or loss of bowel control. It may also be useful in those with spinal stenosis. But results of surgery are not up to the mark.

In spite of so many options available people of back pain don't get much relief in pain and are always in search of some permanent cure. In Ayurved, low back pain can be studied under the topic of *Vaata Vyadhi* (diseases caused due to Vaata bio humor). Under this topic many Osteomuscular & neuromuscular diseases are described. Amongst them Low back pain can be studied under *Asthi-Majjagata Vaata*. The symptoms of *Asthi Majjagata Vaata* are pain in bones-phalanges and joints, decrease of muscle tone and power, sleep disturbances, continuous feeling of pain sensation.[5] Most of the symptoms are similar to low back pain.

Regarding the treatment of *Asthi-Majjagata Vaata* it is clearly mentioned that *Abhyanga* (Ayurved massage), *Swedana* (Fomentation) and *Basti* (Therapeutic enema) are the main line of treatment. *Basti* is said to be one of the most important and essential treatment for any joint pain.[6] Along with *Panchkarma* treatment internal *Vaata Shamana* drugs (drugs which pacifies the bio humor *Vaata*) can also be given.

**CASE PRESENTATION**

A 36yr old female with the complain of severe backache visited Shree Gulabkunverba Ayurved hospital, Jamnagar, Gujarat, India in the month of October 2011. She had unbearable back pain and it was radiating in both the legs. She couldn't do her routine movements like forward bending, sitting on floor, stairs climbing etc. There was heaviness and numbness present in both the legs, Sleep disturbances at night due to pain in back and legs, difficulty in walking and long standing, feeling tiredness due to pain, Appetite- urine and stool were normal.
Onset of disease was 6 months prior. Before 6 months she had just tolerable back pain which was neglected by patient, slowly the disease has progressed and now pain has aggravated and at present pain is unbearable disturbing her routine normal life. Patient has undergone MRI study which shows diffuse disc bulge with herniation noted involving L3-L4-L5-S1. Scanned copy of detailed report of MRI is attached herewith. She has visited many doctors and had tried many medications but there was no relief in pain. So, finally doctors have advised for surgery but, patient was not willing for surgery and has opted for Ayurved treatment.

On examination there was no swelling in back but, straight leg raising test was positive at 60 deg. in both the legs. Her blood pressure was 130/80 mmHg and pulse 74/min. As per Ayurved patient had Kapha-Vaata Prakruti (constitution) and mentally she was Madhyama Stava (moderate mental capacity). Body built was healthy. She was advised for admission in hospital for few days.

**TREATMENT PLAN**

According to Ayurved patient had Asthi-Majja-gata Vaata so, treatment was planned accordingly. Main line of treatment was Abhyanga (Ayurved massage) with Bala Tail on back and both the legs followed by Patra pind Swedana and Kaala Basti (therapeutic enema for 16 days). For internal medications Yograj gugglu and Rasanadi Kwatha were given. Total two courses of Basti schedule were planned with an interval of 3 months. After completion of one course of 16 Basti patient was re-admitted for second course of another 16 Basti after 3 months meanwhile she was advised to continue the internal drugs. The detail schedule of all the treatments are mentioned in tables.

**DIET AND REGIMEN**

Patient was strictly advised for simple food without red/green chills, any type of spices are not allowed. In pulses only green gram (Mung) were allowed and in vegetables (Taroi) Luffa acutangula/ Ridged gourd, (Dhamargava) Luffa cylindrica/Sponge gourd, (Patola) Trichosanthes dioica/Pointed gourd were permitted and all leafy vegetables were allowed. More emphasis was given for various gruel preparations, soups, green gram soup, rice and various rice recipes and Indian preparation made from rice and lentils (khichadi) because, during Basti treatment improper food may aggravata Vaata thereby disturbing the treatment. Patient can consume milk but not curd and buttermilk. Sour things like lime, tamarind etc should be avoided strictly. Fruits are not allowed during Basti treatment.
Patient was advised for complete bed rest to get maximum result of Basti. Any type of physical or mental exertion, walking, exercise, Gym, Yoga, sexual intercourse, exposure to cold-wind-dust, exposure to excessive sunlight etc should be avoided during Basti treatment.

DETAILS OF TREATMENT SCHEDULE

The Panchakarma treatment consists of Kaala Basti (therapeutic enema) along with Abhyanga (Ayurved massage) and Swedana (fomentation) and internal drug was Yogaraja guggulu and Rasanadi kwatha.

Abhyanga: Special Ayurved massage was done on back and both the legs with warm Bala Tail for 20mins.

Swedana (Fomentation): Swedana was given by using heated pack of fresh herbal leaves of Nirgundi (Vitex negundo) known as Patrapinda Sweda.

Basti (Therapeutic enema): Kaala Basti was planned which is for 16 days. It consists of two different types of Basti, Anuvaasana (oil enema) and Niruha Basti (decoction enema). Schedule is mentioned in table 1.

Table 1: Kaala Basti schedule

<table>
<thead>
<tr>
<th>Days</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Basti</td>
<td>A</td>
<td>N</td>
<td>A</td>
<td>N</td>
<td>A</td>
<td>N</td>
<td>A</td>
<td>N</td>
<td>A</td>
<td>N</td>
<td>A</td>
<td>N</td>
<td>A</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>
A- means Anuvaasana Basti N- is for Niruha Basti.

Basti drugs

Table-2 Drugs used for Anuvaasana Basti (oil enema)

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of drug</th>
<th>Dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bala Ashwagandhaadi oil.(Arya vadiya shala Kottakal)</td>
<td>60ml</td>
<td>Both these oils were mixed together and total 120ml of Anuvaasana Basti was given every alternate days.</td>
</tr>
<tr>
<td>2</td>
<td>Rasanadi Tail (Arya vadiya shala Kottakal)</td>
<td>60ml</td>
<td></td>
</tr>
</tbody>
</table>

Table- 3 Drugs used for Niruha Basti (decoction enema)

<table>
<thead>
<tr>
<th>No</th>
<th>Name of drugs</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Saindhava (Rock salt)</td>
<td>5gms</td>
<td>All these drugs were mixed as per classical indication i.e. first saindhava and honey should be mixed properly than both the oils, but one should not add the whole quantity of</td>
</tr>
<tr>
<td>Sr. No.</td>
<td>Name of drugs used in Yogaraja Guggulu</td>
<td>Botanical / Englishl Name</td>
<td>Sr. No.</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------</td>
<td>--------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>1</td>
<td>Citraka</td>
<td>Plumbago zeylanica</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>Pippalimula</td>
<td>Piper longum</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>Yavani</td>
<td>Trachyspermum ammi</td>
<td>17</td>
</tr>
</tbody>
</table>

*Kalka drugs*

- *Triphala* it is combination of 3 herbs they are Haritaki- *Terminalia chebula*, Bhibhitaki- *Terminalia bellirica* and Amalaki- *Emblica officinalis*.
- *Trivruta*- *Operculina terpethum*
- *Kataphal* - *Myrica esculenta*
- *Madanphala*- *Randia spinosa*
- *Vacha* - *Acorus calamus*

*Drugs of Dashmool decoction*


Contents of *Bala-Ashwagandhaadi*: It mainly contains Bala (*Sida cordifolia*) and Ashwagandha (*Withania somnifera*) along with other Vaata decreasing drugs.

Contents of *Rasanadi Tail*: It mainly contains Rasana (*Pluchea lanceolata*) and many other Vaata decreasing drugs.

Table -4a Contents of Yograja Guggulu[^8^]
Total two courses of 16 days \textit{Basti} were given with a gap of 3 months. Patient was advised to continue internal drugs during \textit{Basti}, after \textit{Basti} and for further 2 more months after completion of second course of \textit{Basti}. Internal drugs were \textit{Yogaraja Guggulu} 1 pill TDS with water after food and \textit{Rasanasaptaka} decoction 20 ml BD half an hr before food. She was also advised for oil application on back and legs and fomentation after the completion of \textit{Basti} course.

After completion of first course of \textit{Basti} patient had moderate improvement in pain she can do her routine activities but not tedious work and after completion of second course of \textit{Basti} slowly pain decreased and there was marked improvement.

Changes in MRI study was obtained which can be seen in reports. Scanned copy of MRI study of LS Spine before and after treatment is attached here with. The Diffuse disc bulge with broad based posterior herniation of L5-S1 was improved to mild disc bulge. Diffuse
bulge with focal left paracentral herniation noted involving L3-L4 disc was also improved to mild diffuse disc bulge at L3-L4 it mildly compresses thecal sac and left traversing L4 nerve root and after Basti there was minimal indentation of bilateral nerve roots. Marginal osteophytes noted in lower lumber vertebrae which was absent in next MRI same way ligamentum flavum thickening is also absent after Basti.

DISCUSSION
Panchakarma is main line of treatment in disease of Vaata and amongst it Basti is considered as a 50% treatment. So, keeping in mind these facts in the present case Basti treatment was planned along with Abhyanga and fomentation as again they are very important to subside Vaata biohumor. The oil used in Abhayanga was Bala oil (Sida cordifolia) which decreases the increased Vaata biohumor.

Probable mode of action of drugs used in Anuvaasana and Niruha Basti
Oil and decoction are main drugs for Basti and its probable mode of action can be explained as below.

Bala-Ashwagandhaadi oil contains mainly Bala and Ashwagandha and Rasanadi oil contains mainly Rasna along with many other drugs which are Vaata decreasing.

Bala (Sida cordifolia)- it mainly promotes the tone and power of muscles and it decreases Vaata.\[9\] The plant is analgesic, anti-inflammatory and tonic. It affects the central nervous system and provides relief from anxiety. Kanth and Diwan also demonstrated that S. cordifolia can increase pain tolerance and appears to have anti-inflammatory properties.\[10\] (Kanth et al., 1999).

Ashwagandha (Withania Somnifera) is Bruhaniya (the one which nourishes the tissues), Balya (promotes the tone and power of muscles), Rasayana (rejuvenates), Vrishaya (aphrodisiac), and Shothahara (decreases the swelling).\[11\]

Some of the research work on anti-inflammatory effect of Ashwagandha are as follows.

Anti-inflammatory effects: Ashwagandha acts as an effective anti-inflammatory agent and relives the symptoms of arthritis and variety of rheumatologic conditions. Naturally, it has much higher steroidal content than that of hydrocortisone. In one of the animal study it was observed that rats treated with powder of Withania somnifera root orally for 3 days, 1 h
before injection of inflammatory agent produced anti-inflammatory responses comparable to that of hydrocortisone sodium succinate.\[12\]

**Anti-inflammatory effects**
In vitro and animal experiments suggest *W.somnifera* may possess anti-inflammatory properties. Cultures of cartilage from patients with osteoarthritis and rheumatoid arthritis have been used to demonstrate *W.somnifera* ’s protective effects on chondroplasts. Related effects on cytokines and transcription factors, and suppression of nitric oxide have also been demonstrated. In experiments in rats with induced inflammation, decreased inflammation (paw volume), pain, and disability were noted, as well as an antipyretic effect after administration of *W.somnifera* root powder.\[13,14,15\]

**RASANA** - *Plucheia lanceolata*. *Rasana* is best drug for *Vaatahara* (the one which subsides the Vaata biohumor).\[16\] *Amapachana* (improves the digestion), *Kapha Vaatanashana* (destroys the increased Kapha & Vaata bio humor), *Shothahara* (decreases the swelling), useful in all 80 types of *Vaata* diseases.\[17\]

**Dashmoola Kwatha**- It is combination of 10 drugs which are mentioned above. It mainly destroys diseases of all the 3 biohumors, decreases pain & swelling and promotes interest in food.\[18\]

**Probable mode of action of Internal drugs**
Internal drugs were *Yogaraja Guggulu* and *Rasana Saptaka kwatha*. Its probable mode of action can be explained as below.

*Yogaraja Guggulu*-indicated in *Amavaata* (Rheumatoid arthritis), Gout etc diseases, it increases the digestive fire, muscular strength & Aura, it destroys the disease of *Sandhi & Majjagata Vaata* (diseases pertaining to joints & bonemarrow).\[19\]

*RasnaSaptaka Kwatha*- is a simple *Ayurvedic* formulation in a decoction form which is highly effective in the treatment of Low Back Pain, sciatica and Sacro-Iliac joint disease / pain.

The ingredients of *RasnaSaptaka Kwatha* and their mode of action is as explained below.
Rasna

\textit{Rasna / Pluchea Lanceolata}, being bitter in taste (\textit{Tikta rasa}) and hot in potency (\textit{Ushnaveerya}), combats both \textit{Kapha} and \textit{Vaayu}, thus relieves stiffness and pain associated with back pain low, sciatica and other painful conditions of the back and lower limbs. It is also a potential analgesic. It also relieves inflammation and regional swelling (\textit{Shothahara}).

Since it is one of the best \textit{Aamahara} (expels metabolites and detoxifies the system) it is also used in back pain occurring due to inflammatory arthritis like \textit{Aamavata}(rheumatoid arthritis).

Guduchi: \textit{Guduchi /Tinospora cordifolia} is a potential immune modulator. The immunity in painful (inflammatory or degenerative) conditions especially those of systemic origin will be very low. \textit{Guduchi or Amrita} solves the purpose of the requirement of an ingredient which modulates immunity.

\textit{Guduchi} mainly acts through its madhuravipaka (post digestive product which is sweet in nature and is antagonistic to \textit{Vaata} and \textit{Kapha}) and \textit{ushna veerya} (hot potency) which again is against \textit{Vaata} and \textit{Kapha} (which are cold in nature).

Being a good \textit{Aamahara} it digests and removes the endo-toxins from the gut and cells and thus aids in quick healing. Presence of \textit{Aama} in the system slows down the process of healing and also increases pain & stiffness.

Its contribution in \textit{Agni Deepana} (correcting the disturbed metabolism) function comes handy as most of the pains have their origin from disturbed metabolism.

\textit{Guduchi} also provides strength to the tissues (\textit{Balakaraka}) and a potential rejuvenator (\textit{Rasayana}).

Thus the action of \textit{Guduchi} can be considered as 3 fold: at the onset of the treatment, during the treatment and after the treatment also to sustain immunity.

Aragwadha

\textit{Aragwadha / Cassia Fistula} serves the purpose of a potential laxative in the combination. Since the metabolites need to be removed regularly from the system we need a potential
laxative or purgative as per the nature and strength of the pathology. As and when the toxins are removed (Aama) the pain and stiffness comes down, so does the inflammation.

Being sweet in taste (Madhura Rasa) and heavy in nature (Guru guna) it is antagonistic to Vaata and Pitta.

Being cold in nature (Sheeta) it pacifies Pitta.

Being a Mridu Virechaka (mild laxative), it expels the aggravated Pitta and Kapha from the system.

It keeps the bowels clean, clear and sterile. This aids in quick healing and enables the medicines to act in a better way.

**Devadaru**

*Devadaru / Cedrus deodara* by the virtue of its Tiktarasa (bitter taste), Katu Vipaka (Pungent after taste or post digestion effect) and Laghuguna (light property) effectively combats the disturbed Kapha.

Being Snigdha in nature (unctuous nature) it counteracts Vaata.

*Devadaru* by combating Vaayu and Kapha, effectively removes the constipation, block, flatulence and distension, thus relieving the pressure symptoms on the back and joints of the lower limb.

It is also a potential Aamahara (detoxifier).

**Goksuhra**

*Gokshura / Tribulus Terrestris* serves the purpose of a diuretic in the compound. According to Ayurveda, Kleda is a liquid waste produced during the cellular metabolism. When this Kleda is held in excess in the cells, it leads to many diseases. Excess Kleda is removed by kidneys through urine. Gokshura is highly potential in enabling kidneys to expel this Kleda.

Being a good Agni Deepana herb, it corrects the metabolic errors. So its action starts from the gut.
Gokshura has sweet taste (Madhura rasa) which helps in alleviating Vaata and Pitta.

Its Sheeta Veerya (cold potency) combats the disturbed Pitta.

It is also a good Balakaraka (provides strength) and Pushtikaraka (nutritious).

Erandamoola

Erandamoola / The root of Ricinus Communis (Castor Plant) is very affective in pacifying the aggravated Vaayu (responsible for pain).

Punarnava

Punarnava / Boerhaavia diffusa (Hogweed) is the best available tissue rejuvenator. While there is a healing process taking place at one end, we need something to maintain and sustain things. Punarnava fits into this role of rejuvenation and brings about the cellular immunity.

With its Tikta rasa (bitter taste) and Katu Vipaka (pungent after taste or post digestive effect) Punarnava combats the disturbed Kapha and with its Sheeta Veerya (cold potency) it counteracts Pitta.\(^\text{[20]}\)

Probable Mode of Action of Basti: Again Basti as a procedure also has its own effect which can be explained as below

1) By Absorption Mechanism

Basti being the most widely used and highly effective treatment modality in the Ayurveda, it is the prime subject of interest for modern scientific community. With this background the basic question which comes forward regarding Basti is“do active principles of drugs used in Basti get absorbed in systemic circulation?” Considering absorption factor Swapnil et al. carried out a study in which they have given Triphaladi decoction Basti containing biomarker gallic acid and after Basti they traced it in the circulation. The rectum has rich blood and lymph supply and drugs can cross the rectal mucosa like other lipid membrane. Thus unionised and lipid soluble substances are readily absorbed from the rectal mucosa. Small quantity of short chain fatty acid fatty acids, such as those from butterfat are absorbed directly into portal blood rather than being converted into triglycerides. This is because short chain fatty acids are more water soluble and allow direct diffusion from the epithelial cells into capillary blood of villi. However decoction Basti gets a very little time maximum 48 minutes \(^\text{[21]}\) to absorb from colon and rectum how so ever these areas have very large surface
area and highly vascular needed for absorption. Retention time for Anuvashana Basti is relatively more so probability of absorption also increases. Anuvasana Basti after reaching in the rectum and colon causes secretion of bile from gall bladder which leads to the formation of conjugate micelles which is absorbed through passive diffusion. Especially short chain fatty acid present in Sneha of Anuvasana Basti may absorb from colon and large intestine part of gastrointestinal tract and break the pathology of disease. In Basti Karma, a homogenous emulsion\textsuperscript{[22]} of Honey, Saindhava, Sneha Dravya, Kalka, and decoction mixed in remarkable combination after proper churning (break the large and middle chain fatty acid into small chain fatty acids) is given which facilitates absorption better then a single drug per rectum. In Ayurveda classics, various Basti Dravya are mentioned in diverse proportion in different diseases, it again confirms pharmacodynamics of Basti through absorption mechanism.\textsuperscript{[23]}

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