INTRODUCTION

Back pain is the third most common symptom presented to general practitioners. Worldwide, 37% of low back pain was deemed attributable to occupational risk factors. Dhatus like Asthi and Majja in Prakrutha avastha does Dharana and Poorana to body and in Viprakrutha avastha produce leads to Asthi shoona, Asthi kshaya, Asthi shoonyata etc.

Acharaya charaka while explaining about treatment for Asthimajja gata vata, emphasizes to consider both Asthi and Majja for treating through Snehan in both Bahya (externally) and Abhyantara (internally). While explaining about Asthi pradoshaja vikara he explains to adopt treatment of Panchakarma in which he gives Importance to Basti, containing Ghrittha and Ksheera as main Dravya.

INTRODUCTION

Back pain is the third most common symptom presented to general practitioners after headache and fatigue. Low back pain or lumbago is an extremely common phenomenon; a price mankind has to pay for their upright posture. Worldwide, 37% of low back pain was deemed attributable to occupational risk factors.

While most patients with back pain seen in primary care will have ‘simple mechanical Back pain’, there is a long list of potential diagnoses, some of them serious and life threatening. The concept of diagnostic triage has been developed to facilitate the efficient and effective diagnosis and management of patients presenting with back pain in primary and secondary care.

Dhatu Karma

- Asthi dhatu – support to maintain posture. The Peshi, Sira, Snayu all take their support from Asthi thus making the structure firm and strong. Asthi when gets Prakopa (aggravated) produce Vikaura (diseases) like Adhyasthi dhanta (extra growth of tooth), Shooola (pain), Vivarnata (discolouration). etc.
- Majja dhatu – it helps in providing Snehana, Bola, Asthi poorana (fills up cavity) and does Shukra poshana (nourishes semen) due to the Prakopana produces symptoms like Ruk, Brahma, Moorcha, Tamoha, Arumshi, etc.

Dhatu has two forms i.e. Asthayi dhatu (non-stable) and Sthayi dhatu (stable). In Dhatugatatwa, the Sthayi dhatu are weakened and aggravated Vata gets lodged there in. Due to the same fact, line of treatment also should be to improve the quality of Dhatu (tissues) and to pacify the Vata.

According to the complexity of the pathogenesis, Dhatu gatavata may produce symptomatology suggesting a single disease, a group of disease or even diseases which are opposite in nature. However it may be, the clinical presentation may be generally having the nature of Dhatu dourbalya.

KEYWORDS: Lumbago, IVDP, Saghritha ksheera basti, Asthimajja gata vata.

ABSTRACT

Lumbago is the third most common symptom presented to general practitioners. Worldwide, 37% of low back pain was deemed attributable to occupational risk factor. Dhatus like Asthi and Majja in Prakrutha avastha does Dharana and Poorana to body and in Viprakrutha avastha produce leads to Asthi shooola, Asthi kshaya, Asthi shoonyata etc.

Gatatva (movement/passage) is a phenomenon which is used for explaining about the Samprapthi that results in Dhatu kshaya (diminished). The Lakshana of Asthi Majja gata vata is Bheda asthi parvani (cracking of bones and joints) Sandhi shooola (piercing pain in the joints), Mamsa bala kshaya (diminution of muscle tissues), Aswapna (insomnia) Santata ruja (constant pain). The disease that which comes under these are Kati graha (low back stiffness), Gridhrasi (sciatica), etc.

Inter vertebral prolapsed disc IVPD is a pathology condition which has symptom of lumbago, caused due to strenuous activities, it has 4 stages and once pathology crosses 2nd stage condition cannot be reversed. It starts from severe low back pain, which may be localized then radiates and progresses towards producing towards symptoms like numbness, reduced strength etc.

Review Article
Concept of Gatavta

Acharya Vagbhata explains about Gatavta of Doshas as, the vitiated Doshas cause vitiation of rasa and other Dhatus and also vitiates Malas which in turn vitiates Srothas from the vitiated Srothas manifest the diseases.7

Analyzing the above referred meanings and synonyms it can be concluded that the word Gata has two implications. One related with the movement and the other related with occupying. Hence 'Gatavta' of Vata implies an undesirable movement of Vata and it's unnecessary occupation of certain sites.

- Asthi dhatu and Vata dosha have Ashra ashrayee Sambandha (inter relationship) because of this Vata vrudhi (aggravation) takes place in Asthi dhatu and, Majja dhatu has Ashraya Ashravee bhava Sambandhwa with Kapha dhatu.8

The Vyadhi that come under Lakshana of Kati vedana are Gridhrasi, Kati shoola, Kati graha, Sandhi gata vata, Snayu gata vata, Guda agata vata, Sannipataja jwara etc.

Low Back Pain

The spine is a weight bearing structure. Movements take place at apophyseal joints, which are synovial and at the inter vertebral discs. These are closely related and disease or deformity at one will often affect other. In the lumbar spine strength is provided at the apophyseal joints and disease or deformity at one will often affect other. In the lumbar spine strength is provided at the apophyseal joints and disease or deformity at one will often affect other. In the lumbar spine strength is provided at the apophyseal joints and disease or deformity at one will often affect other.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Causes</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Congenital</td>
<td>Spondylosis, spondylolisthesis etc.</td>
</tr>
<tr>
<td>2</td>
<td>Traumatic</td>
<td>Prolapsed disc, sprain, strain etc.</td>
</tr>
<tr>
<td>3</td>
<td>Inflammatory</td>
<td>Ankylosing spondylitis etc.</td>
</tr>
<tr>
<td>4</td>
<td>Degenerative</td>
<td>Osteo arthritis etc.</td>
</tr>
<tr>
<td>5</td>
<td>Neoplastic</td>
<td>Benign – osteoid osteoma etc. Malignant – lymphoma etc.</td>
</tr>
<tr>
<td>6</td>
<td>Metabolic</td>
<td>Osteoporosis etc</td>
</tr>
<tr>
<td>7</td>
<td>Pain referred from viscera</td>
<td>Genito – urinary disease etc.</td>
</tr>
<tr>
<td>8</td>
<td>Miscellaneous</td>
<td>Functional back pain etc.</td>
</tr>
</tbody>
</table>

The methods of ascertaining the history of patient also play an important role.10

- History - Age – more seen in 21-45yrs
- Sex
- Past history
- Features of pain – location, onset, localization of pain, progress of the pain, relieving and aggravating factors

Associated symptoms – stiffness, pain in other joints, neurological symptoms extra- Skeletal symptoms, physiological status of the patient

Physical examination – Standing – position, spasm, tenderness, swelling, ROM

Lying- SLR-positive @40° or < suggest root compression

Neurological – sensation, muscle power etc

Peripheral pulses

Adjacent pulses

Abdominal examination


MRI, CT-SCAN

CBC - In suspicion of metabolic disorders etc

Prolapsed Intervertebral Disc

Anatomy of Intervertebral Disc -3 distinct components

- Cartilage end plates: The cartilage plates are thin layers of hyaline cartilage between adjacent vertebral bodies and the disc proper. the disc receives its nutrition from the vertebral bodies via these end plates, by diffusion.

- Nucleus pulposus: Is a gelatinous material which lies a little posterior to the central axis of the vertebra. It is usually under considerable pressure and is restrained by the crucible like annulus.

- Anulus fibrosus: it encloses nucleus fibrosus, it is a structure composed of concentric rings of fibro cartilaginous tissue.

Pathology of Intervertebral Prolapsed Disc (IVDP)12

<table>
<thead>
<tr>
<th>Stage</th>
<th>Changes in Pulposus</th>
<th>Changes in Annulus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Nucleus Degeneration (degeneration stage)</td>
<td>Softening of nucleus and its fragmentation.</td>
<td>Weakening and disintegration of the posterior part of annulus</td>
</tr>
<tr>
<td>2- Nucleus Displacement (disc protrusion stage)</td>
<td>The nucleus tends to bulge through the defect (disc protrusion)</td>
<td>Degeneration and fragmentation is increased due to injury</td>
</tr>
<tr>
<td>3- Stage of extrusion (disc extrusion stage)</td>
<td>Nucleus comes out of annulus and lies under the posterior longitudinal ligament contact</td>
<td></td>
</tr>
<tr>
<td>4- Stage of sequestrated</td>
<td>The extruded disc may lose its contact with the parent disc. The sequestrated disc may come lie behind the posterior longitudinal ligament.</td>
<td></td>
</tr>
</tbody>
</table>
CAUSES
- Common cause due to sedentary life.
- Preceding history of trauma
- Exertion such as having lifted something heavy or pushed something immediately preceding a sudden onset backache.

COMMON SYMPTOMS
Common presenting symptom is low back pain with or without radiating the back of the leg i.e., course of sciatica.
- Low back ache – set acute or chronic
  - Acute backache is severe with the spine held by muscle spasm and any movement of spine painful with difficulty to get up from sitting posture.
  - In chronic condition the pain is dull and diffuse, increases in forward bending or standing for long time, relieved by rest.
- Sciatica – pain radiating from low back until the course of sciatic nerve

<table>
<thead>
<tr>
<th>Nerve Root Compression</th>
<th>Pattern of Radiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>To the posterio lateral calf and heel</td>
</tr>
<tr>
<td>L5</td>
<td>Anterior lateral aspect of calf and heel</td>
</tr>
<tr>
<td>Higher to L2-L3</td>
<td>To the front of the thigh</td>
</tr>
</tbody>
</table>

NEUROLOGIC DEFICIT IN DISC PROLAPSED

<table>
<thead>
<tr>
<th>Level</th>
<th>Nerve root Affected</th>
<th>Motor weakness</th>
<th>SENSORY LOSS</th>
<th>REFLEXES</th>
</tr>
</thead>
<tbody>
<tr>
<td>L5-S1</td>
<td>S1 root</td>
<td>Weakness of the planter flexors of the foot</td>
<td>Over the lateral side of the foot</td>
<td>Ankle reflex sluggish or absent</td>
</tr>
<tr>
<td>L4-L5</td>
<td>L5 root</td>
<td>Weakness of extensor hallucis longus and dorsal flexors of the foot</td>
<td>Over dorsum of the foot and lateral side of the leg</td>
<td>Ankle jerk normal</td>
</tr>
<tr>
<td>L3-L4</td>
<td>L4 root</td>
<td>Weakness of extensors of the knee</td>
<td>Over great toe and medial side of the leg</td>
<td>Knee jerk sluggish or absent</td>
</tr>
</tbody>
</table>

INCLUSION CRITERIA
- Disc protrusion @ L3-L5
- Degenerative stage @ L3-L5

EXCLUSION CRITERIA
- TB spine
- Extrusion stage
- Sequestrated stage
- Spina bifida
- Trauma

Available Treatment for Low Back Pain
- For chronic - Spinal manipulation, Acupuncture, Biofeedback Cognitive-Behavioral therapy, Massage, Comprehensive rehabilitation programs
- Acute - heat or ice pack, taking medicine, resting, Manual therapy or stronger pain medicine, a muscle relaxant, Epidural steroid shots.

Available Treatments in Ayurveda
- The aim the Chikitsa (treatment) is to attain  Dhatu samyata (maintain equilibrium among tissues).
- There are various treatment modalities available in Ayurveda, broadly it can be classified in to Antha (internal administrations) and Bahya (external therapies).
- Antah (internal medications) - Choorna – Aswagandha choorna. Guggulu – Mahayoga raja guggula.
- Vati - Chitrikadi vati Taila – Gandharva hastyadi taila.
- Kalka - Laushuna kalka Kashaya - Masha eranadadi kashya.
- Basayana - Yoga raja guggulu, Bruhat vata chintamani, Rasa rajeshwara rasa.
- Ghritha – Indukantha ghritha.
- Bahir (external therapies) - Sthanika - Lepa - Manjishtadi lepa Snehana - Kati basti, Kati pichu with Tailas, Mamsa rasa.
- Sarvanga - Snehana (oleation) - Dhanvantaram taila, Narayana taila.
- Rookshana (drying) - with Choorna like Kottam chukkadi, Jadamayadi choorna.
- Swedana(sudation) - Patra potali sweda using Patra like Nirgundi, Eranda etc.
- Basti (enema) - Eranda moolad, Dashamooladi shodhana basti, Mustadi yapana basti.
In emergency Raktha mokshana (bloodletting), Rooksha agni karma can also be done.

- Acharya charaka tells that Basti (enema) as the Ardra chikitsa among all Chikitsa.\(^{18}\)
- Acharya Vagbhata while explaining about Basti karma indicates Basti in Vatolbana, and Vata pradhana vyadhix.\(^{19}\)
- Among the types of Basti i.e. depending on the karma(effect) of Basti, Ksheera basti does both the action of Shodhana (elimination) and as well as Brihmana (nourishing) and when we analyze about the Yoga i.e., Basti when prepared by using ingredient Tiktha ksheera.

Makshika (bone) – does Kapha hara, it is a best Anupana in Kapha vata. It also has Yogavahi guna.

Lavana (rock salt) – it is Shrotoshodaka (clears channel), when mixed with Makshika it helps to reach in micro Channels.

Snehana – due to its Snigdhata it reduce Rooksha. Snehana used in form of Ghritha it does help in smoothness to Aashaya (organs) and help in movement of mala(waste products).

Kalka, Kwathana (decocction) – does Utkleshana, Dosha harana or Shamana of Dosha. Tiktha rasa does Vata shaman.

Avapa (adjuvant) – when used Ksheera does Brihmana (nourishing) effect.

- While explaining about Basti karma Acharyas explain that neither Sneha basti nor Nirooha basti should be continuously given, if done it leads to Vata prakopa (aggravate) so Basti like karma Basti, Kala basti, Yoga basti.

Depending on the purpose or by adding Avapa dravya it can be either Shodhana, Brihmana, Shthambana, Lekhana basti

- While Acharya sushruta has stated the 8\(^{th}\) Sneha basti reaches Asthi-majja dhatu, for these purpose the Yoga, Kala and Karma Basti has come.

- Shodananga Snehana when done in Bahya does help to move Dosha from Shaka to Koshata and also help in Vata shaman.

**RESEARCH UPDATES**

40 Patients diagnosed Osteoporotic by Bone Mineral Density test, were randomly divided into two groups, A and B consisting of 20 patients each. Patients of Group-A were administered Tikta Ksheera Basti in Kala Basti schedule (16 days) followed by Ajasthi Bhasma - 500 mg orally B.D. with milk as Anupana for 3 months. Patients of Group-B were given only Ajasthi Bhasma - 500 mg orally B.D. with milk as Anupana for 3 months. The combined therapy of Basti and Ajasthi Bhasma showed encouraging results in the subjective and objective parameters of Osteoporosis. The study shows that the Tikta Ksheera Basti and Ajasthi Bhasma are very effective in the management of Osteoporosis.\(^{20}\)

30 patients of Asthikshaya with low Bone Mineral Density score were given 180 ml Panchatikta Ksheer Basti daily for 30 days, follow up taken for 2 more months to study the effect of treatment on subjective and objective parameters. Observations & Results: Treatment showed significant relief in subjective parameters like Asthisheel, Katishool, Sandhisheel and also improvement in BMD T-Score. Conclusion: The study shows that the Pancha Tikta Ksheera Basti is effective in the management of Asthikshaya w.s.r. to Osteoporosis & Osteopenia.\(^{21}\)

A clinical trial was done in 40 patients in sciatica which also come under IVDP, with similar inclusion & exclusion criteria had found better symptomatic result with these treatment because of following reason. Ghritha contains Tikta Rasa which increases the Dhatvagni (metabolic stage). As Dhatvagni increases, nutrition of all the Dhatu is increased. As a result Asthi Dhatu, Majja Dhatu may get stable and Asthi Dhatu and Majja Dhatu Ksaya will be decreased. So degeneration in the Asthi Dhatu may not occur rapidly.

It can be said, it slows down the degeneration processes. Asthi Majja gata Vata is Madhyama Roga Marga gata Vatika disorders in which vitiated Vata gets lodged in Sandhi.

Hence to treat Asthi Majja gata Vata drugs acting on both Vata and Asthi should be selected Tikta Rasa has got Deepana, Pachana and Rochana properties. So it helps in the improvement of the general condition of health and thus strengthens the whole body as well as joints. Tikta Rasa possesses Lekhana property, so it helps in the weight reduction of the patients.

Tikta Rasa is also have Jwaraghna and Daha Prashamana properties that it may acts as anti-inflammatory agent and can reduce the pain and swelling of the joints. Tikta Rasa has Vayu and Akasha Mahabhuta in dominance. Hence it has affinity towards the body elements like Asthi having Vayu and Akasha Mahabhuta in dominance.\(^{22}\)

**Mode of action of Saghritha ksheera basti**\(^{23}\)

- While analyzing about Physical state Liquids are absorbed better than solids.
- Ingredients of Basti, their solubility and their homogenous mixing: Lipids and lipid soluble drugs penetrate into the cell more rapidly than the water soluble drugs. The homogenous mixture of Basti dravya is important.
- The cow’s milk which is the main ingredient of the Ksheera Basti is rich in calcium, phosphorus, magnesium, potassium, sodium, chlorine etc. It also contains fat soluble vitamins like vitamin-A, D and K. Apart from this the ghee contains phospholipids which play an important role in the mineralization of bones.
- Hence all these factors enhance the absorption of the Basti dravya from the rectum through the rectal mucosa.
The Basti drayya absorbed from the lower part of the rectum enters the systemic circulation via middle and inferior haemorrhoidal veins and the Drayya absorbed from the upper part of the rectum is thrown into the portal circulation through the superior haemorrhoidal veins.

CONCLUSION

- Basti due to its Veerya does Vata hara as well as Shroto shodaka (cleanses channels) and Brihmana due to its combination.
- This can used as an preventive as well as curative treatment after accessing the Bala of the Roga and Rogi, Kala, Desha etc factors.
- When the combination of Sagrithra ksheera used In the 1st 2 stage of IVDP it would help in delaying the progression of the disease.
- The surface area of the small intestine and rectum is more and it has very rich blood supply, moreover the Basti when given in the morning after the patient has passed the stool i.e. when the rectum was empty.

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