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INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/15929
DOI URL: <http://dx.doi.org/10.21474/IJAR01/15929>



RESEARCH ARTICLE

DIAGNOSIS AND MANAGEMENT OF KATIGATAVATA (LOW BACK PAIN) IN AYURVEDA: A CRITICAL REVIEW

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Manuscript Info

Manuscript History

Received: 25 October 2022

Final Accepted: 28 November 2022

Published: December 2022

Key words:-

Katishool, Katisandhigata Vata, Lower Back Pain, Lumber Spondylosis

Abstract

Introduction: Low back pain has prevalence of 6.2% in general population to 92% in construction workers in India. Current health system is not so much updated to rule out this entity early which tend to cause much more devastating medical conditions and economical expenses. This outcome generates an opportunity for Ayurveda to manage it with conservative treatment.

Aims and objectives: To Compile the reference of *KatisandhigataVata* (Definition, *Nidana*, *Lakshana* and *Chikitsa*) mentioned in various classical texts and to evaluate the treatment modalities useful for the management.

Discussion: *Sandhi* is a union of *Asthi* which is *Ashrya* of *VataDosh* so as its vitiation progress, its *RuksaGuna* also increases which lead to *Dhatukshaya* and *Snehanash* reduction. So *Asthi* and *Sandhi* related *Vikaras* also show progression. All the classics mentioned the use of *Snehana* and *UpanahaKarma* which will control *RuksaGuna* of *Vatadosha*.

Result: Remedies mentioned in Ayurveda classics may boost up the options to manage it with less efforts, maximum benefits, and least side effects.

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Introduction:-

Modern science considers low back ache as a burning issue which affect the people indiscriminately. It is the major cause of disability affecting the routine life as well as work efficiency of an individual. It possesses a vast variety in term of periodicity, severity and its presentation. In accordance with the report of World Health Organization in 2002, LBP constituted 37% of all occupational risk factors which occupies first rank among the disease complications caused by work. Such high prevalence of complications at international levels has made the World Health Organization to name the first decade of the third millennium as the “decade of campaign against musculoskeletal disorders (as the silent epidemic)” (WHO, 2005)¹

The prevalence of LBP in Indian population has been found to vary between 6.2% (in general population) to 92% (in construction workers). Such large variation can be attributed to the heterogeneity of the population under study as twenty three out of thirty-one studies reporting prevalence were conducted in different occupational groups. Variation in obtained data may be another objective of study, various demographic characteristics of subjects in study and definition may be used for the study.²

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In Ayurveda it can be correlated with *KatigataVata*. Some ancient texts also describe few disorders having resemblance such as *KatiGraha*, *TrikaGraha*, *PrushthaGraha*, *KatiVayu*, *TrikaShoola*, *PrushthaShoola*, *VatajaShoola*, *TrikaVedana*, and *Gridhrasi*³. Description of *KatigataVata* is not given separately as much as and not included in *NanatmakaBheda* of *Vata*. In this entity *Vata* dosha vitiated due to various causes, as mentioned in *CharakaSamhita* under the term “*SandhigataAnila*”, here *Vata* gets located in the *KatiSandhi* and result in *KatiSandhigataVata*. *MadhavNidana* also describes as a *Hantisandhigata: sandhinshoolatopokarotich* which means this diseases joints damaged by *Vata* are having symptoms like pain sensation, crepitation in joints.

This problem apparently has a favorable natural history, although it can be remarkably disabling, and has challenged the health care providers. The medical system frequently fails to identify this complaint beforehand and therefore leads to a disproportionate quantum of medical and economic expenses⁴.

In allopathy, this is treated by Analgesics, Anti-inflammatory agents, Corticosteroids, Muscle relaxants, Calcium and Vitamin D supplements, Lumbar Belt, Traction, and Physiotherapy to offer. But these medicines have egregious side goods which limit their use for a long period. Further, progressive worsening of symptoms may affect in Lumbar conduit Stenosis, which needs surgical intervention like Hemi facetectomy, Laminectomy Slice excision, etc. with due threat.⁵

This outcome generates an opportunity for Ayurveda to manage it with conservative treatment, therapies or interventions which are cost-effective, day-care procedure, easy to perform along with its low economical expense and having less side effects.

Aims And Objectives:-

1. To Compile the reference of *KatisandhigataVata* (Definition, *Nidana*, *Lakshana* and *Chikitsa*) mentioned in various classical texts and bring it under the same
2. To analyse *Nidana Panchaka* of the *KatisandhigataVata* and the etio-pathogenesis of the lumbar spondylosis.
3. To evaluate the treatment modalities useful for the management of the disease.

Definition

Charaka mentioned that when vitiated *Vata* get localized in *Sandhi* and produce sign and symptoms like *Sandhishool* (pain in joint), *Vataapurnadrutisparsh*, *Sotha* (swelling), *PrasaranaakunchanyopravartischVedna* (pain on movement of joint)⁶

Nidana

SamanyaNidana–

Nidana for *SandhigataVata* is not given individually but *Nidana* of *VataVyadhi* is considered as *Nidana* for *SandhigataVata*

*VishesaNidana*⁷:

Special causative factors are as shown in Table 1

Table 1:- *Nidana* for *VataVyadhi*.

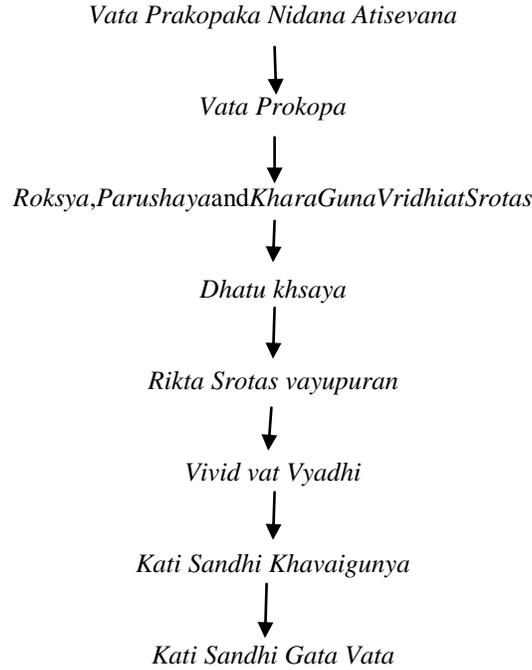
<i>Aharaja Hetu</i>	<i>Viharaja-Hetu</i>	<i>Mansika Hetu</i>
<ul style="list-style-type: none"> • <i>Ruksha</i> • <i>Sheet</i> • <i>Alpa</i> • <i>Laghu</i> • <i>Abhojanat</i> 	<ul style="list-style-type: none"> • <i>Ativyavaya</i> • <i>Atiprjagre</i> • <i>Vishamupacharat</i> • <i>Dosh asriksravanata</i> • <i>Plawana</i> • <i>Ativyayama</i> • <i>Atichesta</i> • <i>Dukhsaiyasaishana</i> • <i>Divaswapna</i> • <i>Vegsandharana</i> • <i>Gajo-Ustra-ashaw-shigrayanata</i> 	excessive indulgence of <ul style="list-style-type: none"> • <i>Chinta</i> • <i>Sok</i> • <i>krodh</i>

In addition to above Charaka also mentioned *Nidana* as *Dhatukshaya*, *Abighatat* and *Marmaghata* as a *Nidana* for *VataVyadhi*

Acharya Sushruta also mentioned some *VyadhijaHetu* as cause of *Katishool* or *Katigraha*-

1. *Purvarupa* of *Bhagandara*- “*Katikapaal Vedna*”
2. *Lakshana* of *Vankshan*-” *Vidradhi -Katipruthgrahstivro*”
3. *Purvarupa* of *Vridhi*- “*Vastikatimushakmedresu Vedna*”
4. *Asanprasava* *Lakshana* – “*KatipruthamPratiSamantadvedna*”

SAMPRAPTI⁸



Samprapti-Ghataka as per shown in Table 2⁹

Table 2:- Samprapti-Ghataka of Sandhigata Vata.

Samprapti Ghataka of Sandhigata Vata	
Doshas	➤ <i>Vat-Pradhan: Inkshayajanya-sandhigatvata</i> ➤ <i>Vat-kaphpradhan: Inupstambhit-sandhigatvata</i> According to Sushruta
Dushya	<i>Rasa, Rakta, Mansa, Sira, Asthi</i>
Agni	<i>Jatharagni & Dhatvagni-Mandya</i>
Srotas	<i>Ashtivaha Srotas</i>
Srotodusti Prakara	<i>Sanga & Vimargagamana</i>
Udbhavasthana	<i>Pakwashaya</i>
Adhithana	<i>Sandhi (Kati)</i>
Vyadhi Marga	<i>Bahya Marga</i>

Purvarupa-

No specific description is available for *Kati-Sandhigata Vata* but *Purvarupa* of *VataVyadhi* can be considered as *Purvarupa* of *SandhiGata Vata* which is also given as” *AvyaktanamLakshana*”¹⁰.

Roopa/Lakshana-

Clinical signs and symptoms as per different Ayurvedic literature is mentioned in Table 3

Table 3:- Roopa/Lakshana according to various classic.

S.N.	Lakshana	C.S.	S.S.	A.H.	A.S.	M.N.	B.P.	Shodala	Y.R*.
1	<i>Vatapurnadritisparsh</i>	+	-	+	+	-	-		-

2	<i>Shotha</i>	+	+	+	+	-	+		+
3	<i>Prasarana Akunchanyo Pravartisch Vedna</i>	+	-	+	+	-	-		-
4	<i>Hantisandhi</i>	-	+	-	-	+	+		+
5	<i>Shoola</i>	-	+	-	-	+	+		+
6	<i>Atopa</i>	-	-	-	-	+	-		-

*C.S.- *Charaka Samhita*, S.S- *Sushruta Samhita*, A.H. *Ashtanga Hridayam*, A.S.- *Ashtanga Samgraha*, M.N.- *Madanapala Nighantu*, B.P.- *Bhavaprakasha*, Y.R.- *Yogaratanakara Sadhyata-Asadhyata-*

If *SandhigataVata* is occurs newly, having strong immunity not making any complication than it is *Sadhya*. Otherwise, it is *KrichhaSadhya*. More over if there is dominance of the *VataDosh*& patients develop complication of *VataVyadhi* then it is *Yapya*¹¹

SandhigataVata is one of the *VataVyadhi*, therefore it is *Kasthasadhyab* because it occurs in aged people and is situated in *Marmasthana*, it is *MadhyamaRogaMarga*, and it is *Asthi*, and *Majja Dhatu Ashrita*¹²

Chikitsa –

Aim of all the treatment modalities described in *Ayurveda* is to control the *Vatadosha* and increase the *ShleshakaKaph* in *Kati Sandhi* to its proper functioning with suppression of other associated symptoms. Various aspects of treatment are mentioned for *SandhigataVata* according to various classics which are listed below

AcharyaSushruta had given a variety of modalities such as when *VataDosh* situated in *Snayu* and *Sandhi* can be managed by *Snehana*, *Upanaha*, *Agnikarma*, *Bandhan* and *Mardanakarma*¹³ and aggravated *Vata* localized in whole body then *Siravedha* should be done and if it is localized in one place then *ShringaYantra* can be used to manage it¹⁴. Use of *Kshaum*, *Karpas*, or *Karnika* made bandage is used tie at various part of body where there is *Shoola* and *Stambha*¹⁵.

In *CharakaSamhita* it is stated that it can be cured as “*BahyabhyantaraSneheastimajagatjaye*” which indicate the application of *BahayaSnehana* (external massage by oil) and *AbhyantaraSnehapana* (taking of ghee, oil by orally)¹⁶ As *SandhigataVata* is *MadhyamaMargagata* disorder in which *Vata* gets localized in *Sandhi*. Hence to manage it drugs acting on both *VataDushti* and *AsthiDhatu* should be chosen. Considering this point, *Basti* medicated with *TiktaDravya*, *Ghrita* and *Ksheera* is specially recommended in treatment of *AshtivahaSrotodusti*.¹⁷

According to *AcharyaVagbhataVata* situated in *Katisandhi* can be treated by *Snehana*, *Chhedan* and *UpanahaKarma*¹⁸

Yogaratanakara also supported the protocol of *Shusruta* to some extent, in which treatment is given as, *Agnikarma*, *Snehana*, *Swedan* for *SandhigataVata*.

Bhavaprakash mentioned *Dahana*, *Snehana*, *Upanaha* as a therapeutic modality along with this he also mentioned use of *Indervarunimool* and *Pippali* in *KarshaMatra* with honey.¹⁹ Other various treatment modalities by different classics of *Ayurveda* are mentioned in Table 4.

Table 4:- Treatment modalities by various classics.

S.N.	Treatment modality	C.S.	S. S	A.H.	Y.R.	B.P.
1	<i>Snehana</i>	+	+	+	+	+
2	<i>Upanaha</i>	-	+	+	+	+
3	<i>Agnikarma</i>	-	+	+	+	+
4	<i>Shringa yantra</i>	-	+	-	-	-
5	<i>Bandhan karma</i>	-	+	-	-	-
6	<i>Mardana karma</i>	-	+	-	-	-
7	<i>Basti karma</i>	+	-	-	-	-
8	<i>Aushadha karma</i>	-	-	-	-	+

Pathya-Apathya

Use of *Sarpi, Tail, Vasa, Majja, Abhyanga, Basti, Snehana, Swedana, use of Nivatasthan, Pravarana, Mansa Rasa, Kshira, Madhur -Amala- Lavana Rasa, Bhojana and Bhranhana Dravya* intake.²⁰

Modern Review of Low Back Pain

Low back pain is a common clinical presentation of musculoskeletal disorders due to spinal pathology and lumbar spondylosis is responsible for about 10% of all back pain. It is characterized by progressive loss of function and painful lumbar joint movements²¹

Etio-Pathogenesis

The high prevalence of contemporaneous degenerative changes to the intervertebral disk, vertebral body, and associated joints suggests a progressive and dynamic medium, with interdependent changes being secondary to disk space narrowing. Intervertebral disks are believed to undergo First "Degenerative cascade" of three overlapping phases that may occur over the course of decades.

Phase I (Dysfunction Phase)

Initially effects of repetitive microtrauma with the development of circumferential painful tears of the outer, innervated annulus, and associated endplate separation that may compromise disk nutritional supply and waste removal. Similar tears may coalesce to form radial tears, further prone to protrusion, and impact the disk capacity to maintain water, performing in desiccation and reduced disk height. Crevices or tears may become ingrown by vascular tissues and nerve endings, adding innervation and the disk's capacity for pain signal transmission.

Phase II (Instability Phase)

is characterized by the loss of mechanical integrity, with progressive disk 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 disk space narrowing and fibrosis occurs along with the formation of osteophytes and trans discal lead to further mechanical progression, building upon this degenerative cascade of the intervertebral disk, and result into several implications of disk space narrowing.

Narrowed Intervertebral canal's dimensions get approximated by adjacent pedicles. Due to rebounding of longitudinal ligaments, laxity allows bulging of ligamentum flavum and spine instability potential. Increased spine movement permits subluxation of the superior articular process (SAP), causing a narrowed anteroposterior dimension of the intervertebral and upper nerve root canals. Laxity may also translate into altered weight mechanisms and pressure relationships on vertebral bone and joint spaces believed to influence osteophyte formation and facet hypertrophy to both inferior and superior articular processes with risks for projection into the intervertebral canal and central canal, respectively. Oblique orientations of the articular processes may further cause retro-spondylolisthesis, with resulting anterior encroachment of the spinal canal, nerve root canal, and intervertebral canal²²

Clinical Features

Symptoms begin as low backache, initially worst during activity, but later present almost all the time. There may be a feeling of 'a catch' while getting up from a sitting position, which improves as one walks a few steps. Pain may radiate down the limb up to the calf (sciatica) because of irritation of one of the nerve roots. There may be complaints of transient numbness and paraesthesia in the dermatome of a nerve root, commonly on the lateral side of leg or foot (L5, S1 roots) respectively²³

Treatment

It is a degenerative condition so it cannot be prevented to further progression but there are several majors to pain relief and stiffness reduction to some extent.

Conservative

1. NSAIDs like ibuprofen, diclofenac, ketorolac etc.
2. Opiates intake- Codeine, oxymorphone etc.
3. Muscle relaxants – Serretopetidase and tranquilizers like Tricyclic antidepressants

4. Epidural steroidal injection
5. Surgical management like Laminectomy, spinal decompression surgery etc.

Discussion:-

KatisandhigataVata is not described in detail but *Panchnidana* of *VataVyadhi* is well explained in ayurveda classics in which *Nidana* include the *VataProkopaAharaja*, *Viharaja*, *MansikaHetu*. Its disease of *Vridhdhaavastha* in which there is pre-dominance of *Vatadosha* which further increase its prevalence. And *Sandhi* is a union of *Asthi* which is *Ashrya* of *Vata* dosh so as its vitiation progress, its *RukshaGuna* also increases which lead to *Dhatukshaya* and *Snehansh* reduction So *Asthi* and *Sandhi* related *Vikaras* also show progression.

SampraptiChakra and sign and symptoms also suggest that *Shotha*, *Shoola*, *PrasaranaAkunchanyoPravartischVedna* and *Stambha* of *KatiSandhi* which are very similar to degenerative disorders of modern science.

To treat *SandhigataVata* all the classics aims to manage the *VataDosh* and to again increase the *Snehans* in *Asthi-Sandhi*. and as a favor to this from above we can say that all the classics mentioned the use of *Snehana* and *UpanahaKarma* which will control *RukshaGuna* of *Vatadosha*. *Agnikarma* also has a *UshanaGuna* property which will control *Vatadosha* and *KaphaDosh* both. Rest of modalities like *Bandhankarma*, *Shringayantra* based *Raktamokshana* and *AushadhaKarma* also aim for the same.

Conclusion:-

KatisandhigataVata is a very peculiar entity to manage with modern treatments available but remedies mentioned in Ayurveda classics may boost up the options to manage it with less efforts, maximum benefits, and least side effects.

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