

## AYURVEDIC OVERSIGHT OF MSD (MUSCULOSKELETAL DISORDERS)

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### ABSTRACT

Ayurveda has been one of the oldest medicinal systems in the world. It is the holistic lifestyle science aiming at physical, mental as well as spiritual well-being of an individual. Current fast lifestyle is leading towards so many non communicable diseases amongst which connective tissue, joint and bone disorders are becoming a hot-spot. Musculoskeletal Disorders (MSD) is the most common cause of severe long-term pain and physical disability affecting millions of people around the world. The burden of MSDs is global so WHO declared 2000-2010 as the “Bone and Joint decade”<sup>[5][19]</sup> The various options of anti-inflammatory, analgesics as well as NSAID’s are being used for the treatment of the same. Ayurveda serves a promising base in the

management of the Musculo-skeletal Disorders as the conditions like *Sandhigatavata*, *Vatarakta*, *Aamvata*, *Katishoola*, *Gridhrasi*, etc are mentioned in the ancient classical texts with detail insight about their *nidan panchak and chikitsa*. There are various options of medications which includes *Shaman* as well as *Shodhan Chikitsa*. This article is an attempt to discuss various management options for Musculo-Skeletal Disorders mentioned in Ayurveda focusing on *Sandhigatavata* (Osteoarthritis).

**KEYWORDS:** Musculo-Skeletal Disorders (MSD), Osteoarthritis, *Vaatvyadhis*, *Sandhigata vata*, *Guggul Kalpana*, BJD.

## INTRODUCTION

Musculoskeletal Disorders (MSD) is one of the common causes of severe long term pain and physical disability affecting millions of people worldwide. Musculoskeletal disorders rank 4<sup>th</sup> globally in impact on the health of the population, considering both disability and death (DALYs).<sup>[5][19]</sup> The burden of Musculoskeletal Disorders is global and looking at the gravity of the Situation WHO declared 2000-2010 as the BJD (bone and joint decade).<sup>[19]</sup>

BJD is a global alliance for Musculoskeletal Health, the purpose of which is to improve the health of people with bone and joint diseases and injuries worldwide by raising awareness and understanding of the importance of these severe conditions. Prevalence of MSD's is seen to be more in females rather than in that of males.

The conditions like *Āmavāta*, *Sandhivāta*, *Vātarakta*, *Katīśūla*, *Krostukaśīrsa*, and *Grdhrasī* etc., described in Ayurveda classics are the major conditions afflicting the joints. The diseases namely *Āmavāta*, *Sandhivāta*, and *Vātarakta* are interpreted as rheumatoid arthritis, osteoarthritis, and gout respectively by most of the Ayurvedic scholars.

*Sandhigata Vata* is the commonest form of *Sandhi Vikar*. It is a type of *Vatavyadhi* which mainly occurs in *Vriddhavastha* due to *Dhatukshaya*, which limits everyday activities such as walking, dressing, bathing etc. thus making patient disabled / handicapped.

According to classic ayurvedic texts three disease pathways are described which are as follows: त्रयो रोगमार्गा इति- शाखा, मर्मस्थिसन्धयः, कोष्ठश्च।

*Shakha* (peripheral path), *marmasthisandhi* (vital organs & bone joints) and *koshtha* (digestive system). The *shakha* includes tissue elements like blood and skin etc.; this is considered as *bahya rogamarga* (external path for disease manifestation). *Marmas* (vital organs) are *basti* (urinary bladder), *hridaya*(heart), *murdha* (head) etc. bones, joints, ligaments and tendons, is considered as *madhyama rogamarga* (middle pathway for manifestation of disease). *Koshtha* (digestive system) is known as *Mahastrotas* (great channel) it is *sharira madhya* (central body part), *mahanimna* (greater lower part), *amapakwashaya* (stomach and intestines), this is *abhyantara rogamarga* (internal pathway for disease manifestation). *Sandhigatvata* being a *Vatavyadhi*, located in *Marmasthisandhi* and its occurrence in old age makes it *Kashtasadhya*.

Now a days due to globalisation traditional lifestyle has been changed. Due to extensive exposure to social media things are changing on faster pace sometimes which leads to passing of inappropriate information. Everybody wishes to lead a sedentary lifestyle which has increased the prevalence of NCDs like obesity, dislipidemia which inturn results in avoiding *Sneha* from our routine food. All this factor attributes towards early aging (*Vriddhavastha*) of our body. In *Vriddhavastha*, all *Dhatus* undergo *Kshaya*, thus leading to *Vataprakopa* and making individual prone to many diseases. Among them *Sandhigata Vata* stands top in the list. The incidence of osteoarthritis in India is as high as 12%. It is estimated that approximately four out of 100 people are affected by it. Osteoarthritis is the most common articular disorder begins asymptotically in the 2<sup>nd</sup> & 3<sup>rd</sup> decades and is extremely common by age 70. Almost all persons by age 40 have some pathologic change in weight bearing joint, 25% females & 16% males have symptomatic osteoarthritis.

Allopathic treatment has its own limitations when it comes to Musculo-skeletal disorders (MSD). It can provide either symptomatic or surgical treatment of the disorders with troublesome side effects. Whereas these conditions can be managed by Ayurveda in much better form as well as with least side effects. Ayurveda classics provide proper *shaman and shodhan chikitsa* for the treatment of diseases like *Sandhigata vata*. The treatment for *Sandhigata vata* include local *abhyanga*, *nadi sweda*, *lepan*, *anuloman*, *dahankarma*, *shamanopchar* etc. In consideration of the *shamanopchar*, *Guggul Kalpana* has good effects on *Sandigata vata* disorder. Let's discuss about the treatment for *Sandhigata vata* mentioned in Ayurveda Classics giving emphasis on the *Guggul kalpas* used in *Sandhi Vikaras*.

## MATERIALS AND METHODS<sup>[10][11]</sup>

*Sandhigata Vata* (vitiation in joints)- When vitiated vata is located in joints, it leads to palpatory feeling of air in joints(crepitus), swelling along with painful flexion and extension.<sup>[1]</sup>

The *Sandhigata vata* is been divided into two types mainly.

- 1) *Nirupsthambit Vata Vyadhi*
- 2) *Upsthambit Vata Vyadhi*

Treatment depends on independency of *vata doshas* or association of other doshas, location of vata in different part of body viz. in arm and head, below umbilical region, specific tissues and whole body or localised.

The treatment of *Nirupstambhita Vata Vyadhi*: *Snehapana*, *Sneha basti*, *Nasya*, *snigdha ahar*, and *Sudation* (*snigdhaswedan*, *nadisweda*, *prastarasweda*, *sankarasweda*). External and internal *snehan* is advised in *nirupstambhita Sandhigata vata*. *Snigdha* material quickly nourishes the dried body tissues and promotes strength and digestive power and corpulence.<sup>[4]</sup>

The treatment of *Upstambhita Vata Vyadhi*: If associated with *pitta* and *kapha* patient may be detoxified with mild *snigdha* purgatives and emetics. *Niruha basti* made up of appetisers and digestive drugs may be given if patient is not fit for purgation.<sup>[4]</sup>

The treatment of *Sandhigata vata* according to *Ayurveda* includes the utilization of *Guggul Kalpas*. Let's start with the properties of *Guggul*.

### **Guggul- Commiphora mukul**

Guggul has been a key component in ancient Indian Ayurvedic system of medicine. It has been used extensively by Ayurvedic physicians for centuries to treat a wide variety of disorders specially arthritis, besides its use in pharmaceutical and perfumery industries.

Guggul is a gum or resin extracted from the plant *Commiphora wightii* (Arn.) Bhand. (Syn. *Commiphora mukul* Hook. ex. Stocks) or Guggul tree. Guggul is a shrub or small tree belonging to *Burseraceae* family. Guggul contains volatile oil, gum resin, guggulipids, guggulsterones, guggulsterols, mukolol and other steroids.<sup>[16]</sup>

Guggul is very much used in Ayurvedic system of medicine. It is *katu* and *tikta rasatmak*, has *ushna veerya*, *katu vipaka*, also has following *guna*: *laghu*, *ruksha*, *tikshna*, *vishada*, *sukshma*, *sara* (*nava guggul* : *snigdha* and *picchila*). It is widely used as astringent, anti-septic, expectorant, aphrodisiac, carminative, anti-spasmodic, emmenagogue. In Ayurveda, Guggul is the best among herbs that are used for *Medoroga* and *Vata* disorders. Guggul is very effective in rheumatoid arthritis, gout and sciatica. Guggul is a very important and trustworthy herb in Ayurvedic medicine.<sup>[16]</sup>

The anti-inflammatory as well as anti-arthritic properties of *Guggul* and its chemical constituent is one of the reason why it is used widely in the management of *Sandhigata Vata*. Oleoresin was found to be highly potent anti-inflammatory agent, as compared to hydrocortisone and butazoladin against Brownlee's for maldehyde-induced arthritis in albino rats. Oleoresin fraction possessed significant anti-arthritic and anti-inflammatory activities, the minimum effective dose being 12.5mg/100g body weight.<sup>[15]</sup> The Steroidal compound

isolated from PE extract possessed significant anti-inflammatory activity on carrageenin-induced rat-paw oedema.<sup>[16]</sup>

The use of Guggul in *Sandhigata vata* in different formulations has been an ancient *Shaman* therapy. The anti-inflammatory and anti-arthritic properties of Guggul pave a way to treat *Sandhigata vata* and relieve the symptoms like inflammation, pain etc. The *Tridoshar* property of Guggul makes it useful in all the types of *sandhigata vata*.

The following are the **Guggulkalpa** used in *Sandhi Vikaras*.

1. *Yograj Guggul*
2. *Sinhnaad Guggul*
3. *Mahayograj Guggul*
4. *Kaishor Guggul*
5. *Lakshadi Guggul*
6. *Trayodashang Guggul*
7. *Panchamrut Loha Guggul*
8. *Rasnadi Guggul*
9. *Aabhadi Guggul*.
10. *Kanchnar guggul*

Lets discuss the above *Guggul Kalpa* individually as per their *upyuktata* in *Sandhi Vikaras*.

- 1) *Yograj Guggul*: (Reference: *Gadanigrah, yogachintamani, rasa ratanasagara, bhishajya rathnavali, chakaradutta, yogaratanakara, rasaratanakara, vangasena*)

This compound is one of the best in *Vaatvyadhi* treatment.

- Use: 1. This compound is useful in *sama avastha* of *sandhi vata*, i.e. *srotorodhatmak samprapti*.
- 2. Helpful in *Sandhigraha* & *Sandhi Atopa*
- 3. Acts as *Vataghna* as well as *Shoolnashak kalpa*.
- 2) *Sinhnad Guggul*: (Reference: *Yoga chintamani, vratyoga tarangani, basajaratanavali, chakrad autta, rasratanakara, bavaprakasha*)
- Use: 1. Best *Aampachak, Shothhar* & *Shoolhar*.
- 2. Useful in *Sandhi Graha, Sandhi Shoth* and *Sthanik Dehoshma Vruddhi*.
- 3) *MahaYograj Guggul*: (Reference: *Bhavaprakasha, brhatnighanturatan akara, rasaratanakara, sharangadharasamhitha*)

- Use: Useful in *Niraam Avastha* and *Dhatu Kshay avastha* of *Sandhigata Vata*.
- 4) *Kaishor Guggul*: (Reference: *Bhashajyarathnavali, Vatarakta, Yogatarangini*)
- Use: *Vaatshonita, Mandagni, Vibhanda, Prameha pidika, Jara dosha, Swayathu, Gulma, Sarva kushtha, Pandu, Netra roga, Jara Dosha, Sravi Vrana*

Useful in *Vaatraktjanya Sandhi shool & Vrana avastha*.

- 5) *Lakshadi Guggul*: (Reference: *Bhaishajya ratanavali, chakaradutta, brhayogata ragani, vangasena, yogaratanakara, gadanigraha*)
- Use: Useful in *Asthi kshya, Asthisoushiryajanya Sandhishool & Asthibhagnottar Sandhishool*.
- 6) *Trayodashanga Guggul*: (Reference: *Bhavaprakasha, brhatyogatarangini, rasa rathnakara, chakradutta, gadanigraha*)
- Use: 1. Useful in *Asthi Soushira, Ardita, Bahu/Prishta shool, Asthi Bhagna, Khanja Vata, Hanugraha, Janugraha, Padagraha, Gridhrasi, Katishool, Katigraha, Shosh, Asthisnayumajjagata vata*.
2. Useful in *Katikasheruka Vyadhi*.
- 7) *Panchamrut Loha Guggul*
- Use: 1. Best *Vaat shamak* and *Vata nadi balya*.
2. Useful in *Manyakasherukagat vata, Avabahuk, Manyastambh, Gridhrasi, Hastpadachimchimayan*.
- 8) *Rasnadi Guggul*
- Use: 1. It can reduce the symptoms as well as the degenerative process due to various actions of individual drugs in it.
2. This composition can also help to control the progressive degeneration, desquamation and necrosis of perichondreal tissues and chondrocytes of the articular cartilage making it one of the best *Vata shamaka*.
- 9) *Aabhadi Guggul*: (Reference: *Bhaishjya Ratnavali*)
- Use: 1. Useful in *Katigraha, Gridhrasi, Sandhigatavata, Asthimajjagatavata, Vatarogas*.
2. Also useful in *Asthibhagna* and *Khanjvata*.
- 10) *Kanchnar guggul*: (Reference: *Sharangdhar Samhita*)
- Use: *Galaganda, Apachi, Arbuda, granthi, Vrana, Gulma, Kushtha, Bhagandhar*

The other references of *Guggul Kalpas* from different texts are as follows<sup>[18]</sup>

1. *Adithyapaka guggul- Chakardatta- Asthigata, Majjagata, Sandhigatarogas*

2. *Gokshuradi guggul- Brhatniganturatnakara, sharangadharasamhitha, gadanigraha, rogatarangini - Prameya, mutrakrichra, pradara, mutragata, vatarakta, vatavyadhi, ashmari, shukadosha*
3. *Brahuthyogaraja guggul - Bhishajyarathanavali - Amavata, katibagana, kustha, gradrasi, sandivata, cures all nanatamajavaydhi of vata, pitta, kapha*
4. *Youshadhigutika guggul - Gadanigraha - Sandhi, asthi, majjagatharoga, amavata.*

Thus, the *Guggul kalpas* hold an important position in the management of Musculo-skeletal Disorders.

## DISCUSSION

Musculo-skeletal disorder management has tremendous scope in Ayurveda. The various types and formats of management can be mixed and utilised for the same. The severe pain and long term disability can gain relief by using the treatment methodologies mentioned in the ancient classical texts.

The wonder drug *Guggul* is an essential herb to be used in the management of *Sandhigata vata*. Guggulu is generally used in compound dosage forms along with anupana in Ayurvedic medical practice. Pharmaceutics of guggulu Kalpana highlights the pliant nature and prominence of guggulu in Ayurveda.

The use of the drug must be judicious as well the purification of the same is an essential part for providing maximum benefits.

Thus, using *Guggul kalpas* in the treatment of *Sandhigata vata* and other Musculo-skeletal disorders is an excellent way to manage the existing symptoms.

## CONCLUSION

The current rising trend of Musculo-skeletal disorders all over the world demands a holistic approach of its management. Ayurveda has the treasure of treating the *Vatavyadhis* with different forms of treatment i.e. *Shodhan & Shaman*.

*Sandhigata vata* (Osteo-arthritis) is commonly age related, earlier was thought as incurable but manageable disease. In this debilitating condition Ayurveda provide efficient treatment. Various researchers of Ayurveda proved to provide good management of the disease in the early stage of its development. Also, in later stage of disease, Ayurvedic treatment improves the quality of life there by decreasing the burden of disease on patient and community.



The current research base on *Guggul* and its constituents makes its easy to standardise the use of the formulations in the management of Musculo-skeletal disorders. Thus, utilisation of the various available *Guggul* formulations has proved to be a ray of hope in the management of Musculo-skeletal Disorders.

## REFERENCES

1. Agnivesha, Dridabala Charak Samhita- Vidyotani Hindi commentary by Kashinath shastri and Pandit Gorakhanath chaturvedi, Part-2, Chaukhambha Bharati academy, Varanasi 2015, chapter chikitsa sthana 28/37, page No. 783.
2. Benefits of Guggulu. Available from: Written by Joe King, M.S.05 December, 2018. <http://www.livestrong.com/article/115826-benefits-guggul>.
3. Gunjan Sabarwal, Vikas Prajapati, Shivakumar S Harti, Medha Sanjay Kulkarni. A Review on Sandhivata (Osteoarthritis) and its Management through Ayurveda. International Journal of Ayurveda and Pharma Research, 2020; 8(6): 85-89.
4. Prasad Anjali Baijnathet al. Ayurvedic approach in the management of sandhigatavata: A critical review. Int. J. Res. Ayurveda Pharm, 2018; 9(2): 12-17 <http://dx.doi.org/10.7897/2277-4343.09227>.
5. <https://www.who.int/news-room/fact-sheets/detail/musculoskeletal-conditions>
6. Akhtar B, Mahto RR, Dave AR, Shukla VD. Clinical study on Sandhigata Vata w.s.r. to Osteoarthritis and its management by Panchatikta Ghrita Guggulu. Ayu, 2010 Jan; 31(1): 53-7. doi: 10.4103/0974-8520.68210. PMID: 22131685; PMCID: PMC3215322.
7. Gunjan Sabarwal, Vikas Prajapati, Shivakumar S Harti, Medha Sanjay Kulkarni. A Review on Sandhivata (Osteoarthritis) and its Management through Ayurveda. International Journal of Ayurveda and Pharma Research, 2020; 8(6): 85-89.
8. Jangid, D. S. K. ., & Dixit, D. M. (2019). Ayurvedic Management Of Sandhivata (Osteoarthritis). International Research Journal of Ayurveda & Yoga, 2(6): 43-49.
9. Aparna Tripathi and S.K. Tiwari. A COMPARATIVE EVALUATION OF THE EFFECT OF PANCHMULABALADI KSHEER BASTI & RASNADI GUGGULU IN THE MANAGEMENT OF SANDHIVATA. Article DOI: 10.21474/IJAR01/9763 DOI URL: <http://dx.doi.org/10.21474/IJAR01/9763>.
10. Raghvendra Mishra: Conceptual Study Of Sandhivata (Osteoarthritis). International Ayurvedic Medical Journal {online} 2020 {cited March, 2020}.



11. Dr. Anuprita N. Shiyal, & Dr. Sharada Chikurte. (2018). A Review on Guggulu Kalpana (Commiphora Wightii) in Ayurveda. Journal of Ayurveda and Integrated Medical Sciences, 3(04): 127-132. Retrieved from <https://jaims.in/jaaims/article/view/457>.
12. Gujral, M.L., Sareen. K Tangri, K.K., Amma, M.K.P. and Roy, A.K., Anti-arthritis and anti-inflammatory activity of Gum guggul (Balsamodendron mukul Hook.) Indian J. Physiol. Pharmacol, 1960; 4: 267.
13. Santha Kumari, G., Gujral, M.L. and Sareen, K., Further studies on the anti-arthritis and anti-inflammatory activities of gum guggul. Indian J. Physiol. Pharmacol, 1964; 8(2): 36-37.
14. Arora, R.B, Kapoor, V., Gupta, S.K. and Sharma R.C., Isolation of crystalline steroidal compound from C.mukul and its anti-inflammatory activity. Indian J. Expt. Biol, 1971; 9:403.
15. Arora, R.B., Taneja, V., Sharma, R.C. and Gupta, S.K., Anti-inflammatory studies on a crystalline steroid isolated from C.mukul. Indian J. Med. Res, 1972; 60: 920.
16. D.C. Singh, Srishti Dhyani, Gagandeep Kaur. A Critical Review on Guggulu [Commiphora Wightii (Arn.) Bhand.] & its Miraculous Medicinal Uses. Int. J. Ayur. Pharma Research, 2015; 3(1): 1-9.
17. Amrita, Shunthi, Devadaru have immunomodulatory action from which can regulate the ISSN: 2320-5407 Int. J. Adv. Res, 7(9): 1116-1130 1128 lysosomal secretion macrophages in the synovial fluids.
18. Arun N, Kadibagil Vinay R, Anu PK, Rohit KS, Rahul Unnithan. Review on Guggulu Kalpana in Ayurveda. UJAHM, 2014; 02(06): Page 56-60, ISSN 2347-2375.
19. Shalini Ojha\*, Vandana Nikumb, Abhiram Behera, Prevalence of musculoskeletal disorders (MSD's) in an urban slum Population Turbhe, Navi Mumbai, J Res Med Dent Sci, 2018; 6(5): 284-295.
20. Yasobant S, Mohanty S. Musculoskeletal disorders as a public health concern in India: A call for action. Physiother - J Indian Assoc Physiother, 2018; 12: 46-7.