

PAIN MANAGEMENT THROUGH AYURVEDA: A METICULOUS REVIEW

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Published online: May, 2018

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ABSTRACT

Pain has been given utmost importance even in Ayurveda thereby, offering varied treatments to cure the same. In spite of recent advances in pain treatment including anesthesia, its' management still remains challenged. Treatment modalities offered in Ayurveda such as *Agnikarma*, *Jalaukaavcharan* etc. offer immediate pain relief without much untoward effects. It is hence mandatory to explore the concept of Pain and its practical utility requiring establishment in pain care reconnoitered in Ayurveda. Critical review of the previous available classical references and facts about pain, its management through conceptual study of vitiation of *Vatadosha* responsible for pain with chief therapeutic procedures such as *Snehan*, *Swedan*, *Agnikarma*, *Jalaukaavcharan*, *Vedhankarma*, *Lepankarma* & *Bastikarma* utilized in Ayurveda with a modern lookout could find a way to address this grief. Furthermore, brief outline has been given on *shaman chikitsa*, added *upakramas*, *Satvavjay chikitsa*, life style intervention & *Yog* for Pain management have also been incorporated. The role of *Madhur-Amla-Lavan Rasa dravyas* in treatment of *Dhatukshayanya Vataprakopa* in view of G-PCR bio-signaling of taste and Pain modulation helps one to comprehend the same with a new probable insight. Moreover, therapeutic procedures cited in this article leads to pacification of *Vatadosha* and thus, ultimately causing pain relief which are attempted to explain on the basis of Pain sensitization mechanism. The proposed hypothesis of increased & decreased bio-signaling pathways leading to *Dhatukshay* & *Margavrodhjanya vataprakopa* respectively could pave the way in understanding vitiation of *Vata Dosha* leading to inflammatory pathology. The topic being vast, this article attempts to touch maximum aspects of Pain management.

Keywords: Pain, G-PCR, Ayurveda, *Shool*, *Vednasthapan*.

INTRODUCTION

The International Association for the Study of Pain's define Pain as an unpleasant sensory and emotional experience associated with actual or potential tissue

damage, or described in terms of such damage.¹ The manifestation of Pain has varied lengths & breadths and hence, it calls upon to understand this word in

depth which is so commonly used in day to day practice. Considering these aspects, even Ministry of AYUSH, India has stressed upon this alarming topic and professed its theme as “Pain Management through Ayurveda” for Second National Ayurveda Day.

Pain can be explained in terms of a symptom underlying another disease or complication of the other disease. Classical texts of Ayurveda like Sushrut Samhita explain Pain as a separate entity termed as *Shool* which primarily implies colic. Furthermore, Charak Samhita explains *Mahakashaya* (compilation of 10 herbs) like *Angmardprashaman* (for Bodyache), *Shoolprashaman* (for Colic) & *Vednasthapak Mahakashaya* (for Haemorrhagic Pain) with its varied clinical applications considering the importance for the same.²

In spite of very advanced researches in Science, Pain still remains the major cause of disability affecting the large number of population in the world. An integrated approach towards Pain Management should possibly answer the grief involved in treating this Symptom of varying degrees. Formulation of this article attempts to club the scattered information available in both the school of thoughts. Hence, looking into Pain & its manifestation through the eyes of Modern science correspondingly opens a new array for the management of Pain holistically. This article focuses the Nociceptive type of Pain as per Modern science with the treatment principles & science behind related treatment modalities in Ayurveda thereby throwing a new focus upon the subject. To discuss the subject in length, keeping modern perspective of probable mode of action of the Therapeutic Management Strategies of Pain as per Ayurveda which include treatment modalities like *Snehan* (external Oleation), *Swedan* (Sweat Inducing Fomentation), *Agnikarma* (Intentional Heat burn Therapy), *Jalaukaavcharan* (Hirudotherapy), *Vedhankarma* (Therapeutic body piercing), *Lepankarma* (application of medicated paste), *Bastikarma* (administration of medicated enema) have been discussed followed by brief narration of

Shaman chikitsa in Pain (Pain due to *Dhatukshayjanya* & *Margaavrodhjanya vataprakopa*), *Satvavjay chikitsa* (Psychological interventions) with Lifestyle intervention & *Yog* therapy are briefly outlined. Miscellaneous added *upakramas* (modalities) and formulations used in pain management have been given a quick overview and have been refrained from elaboration.

Hope, this article will be a ready reckoner for the Ayurveda scholars exploring this topic in their research to understand the treatment principles of Ayurveda with a modern perspective.

METHODOLOGY

In this conceptual review article, information from contemporary texts of Ayurveda and a gist of Modern texts in view of Anatomy, Physiology, Biochemistry, Pharmacology & Medicine have been documented to understand treatment approach of Ayurveda from the eyes of modern concept.

LITERATURE REVIEW

Understanding Concept of Pain through Modern Perspective

Classification of Pain: Pain can be classified as per Duration (Acute, Subacute & Chronic); Nociceptive Pain, Neuropathic Pain, Psychogenic Pain, Break-through Pain (ex., Oncological pain), Pain asymbolia (ex., Diabetic Neuropathy)

Nociceptive type of Pain is caused when noxious stimuli is perceived by the free nerve endings of afferent sensory nerve axon. From Anatomical point of view, Nociceptive Pain can be classified as per the axons involved in perception of pain as Fast pain (mediated by A δ fibre) which is sharp and Slow Pain (mediated by C fibre) which is diffuse - dull aching. Apart from A δ and C fibres, A β fibres carry non-noxious stimuli³. From Location point of view Nociceptive Pain is classified as Somatic (superficial & deep) & Visceral. From Receptor point of view, Nociceptive Pain is classified as Thermal (Transducer such as TRPV1), Mechanical (receptors responding to excess pressure), Chemical (receptors responding to chemicals like capsaicin), Silent (receptors re-

sponding only when inflammation sets in) and Polymodal (many neurons performing single function).⁴

Pain Sensitization Mechanism : The Ascending Spinothalamic tract (sensory afferent neuron system) pathway helps us to understand conduction mechanism of Pain (lateral tract- A δ & C Fibres), Pressure (ventral tract – Ruffini endings), Temperature (lateral tract).^{5,6} Similarly, the Gate Control Theory of central Pain Modulation and Descending modulation of Pain (Efferent Analgesic system) is an alternative mechanism of understanding pain sensitization mechanism.^{7,8,9} Moreover, the role of noxious stimulus altering the conformation of proteins (G-Protein Coupled Receptors)¹⁰ in the cell membrane of A δ and C fibres and the role of inflammatory pain mediators such as Serotonin (5 HT), Bradykinin, Leukotrienes, Prostaglandins etc. helps in understanding the sensitization mechanism of pain in depth.¹¹

Management of Pain : According to Pain Care Bill of Rights, USA, the patient suffering from Pain have right to get thoroughly assessed and promptly treated.¹² To address this concern, there are four main treatment groups viz., Neuropathic Pain, Muscle Pain, Inflammatory Pain & Mechanical / Compressive Pain. Pharmacological Management of these groups is categorized under Non-steroidal anti-inflammatory Drugs (NSAIDs), Opioid Analgesics, Adjuvant Drugs like Muscle relaxants, anxiolytics etc.

Understanding Concept of Pain through Ayurveda

Definition & Nature of Pain in Ayurveda: In Ayurvedic texts, various terms such as, *Ruk*, *Ruja*, *Vedana* & *Shool* are commonly used for pain, however, '*Shool*' is more appropriate term amongst all which means – a condition with state of discomfort to body & mind. Thereby, stating the definition of *Shool* as experience similar to driving a nail into the body of the person.¹³ It has been further elaborated that out of *Tridoshas*, vitiated '*Vata*' is the main causative factor responsible for all painful condi-

tions.¹⁴ This vitiation of *Vata* occurs in two ways, viz. *Dhatukshya janya Vata prakop* (increased catabolism) and *Margavarodh janya Vata prakop* (channel obstruction).¹⁵ Furthermore, the '*Ruksha*' (Dryness) and '*Chala*' (Vibrations) *Gunas* (characters) of *Vata* are mainly involved in the manifestation of pain.

Management of Pain in Ayurveda: Pain management in Ayurveda has a holistic view which incorporates several therapeutic procedures and behavioral modifications under the light of basic principles narrated in Ayurveda. Hence, prescription writing for pain in Ayurveda is varied as Ayurveda considers pain as subjective phenomenon which includes therapy to body and mind both.

Therapeutic Procedures For Pain Management In Ayurveda

1. **Snehan:** *Snehan* implies oleation of the body and is described as one of the important *Purvakarma* (precursor) to *Panchkarma*. As *Vata Dosha* (*Dhatukshayjanya*) gets pacified by *Sneh* (oleation), this therapeutic procedure includes lubrication of body chiefly with medicated oil. As per the patients' requirement, *Snehan* is classified as *Abhyantar Snehan* (Internal oleation) and *Bahya Snehan* (Outer oleation).

To understand the pacification of pain by *Bahya Snehan*, we need to understand the role of *Til Tail* (Sesame Oil) and Neuro-hormonal effects within the body due to *Bahya Snehan*. *Til Tail* is considered the best among *Sthavar Sneha* (Oil derived from Plant source), and also used as base for preparations of various medicated oil, as sesame seeds has strong vitamin E activity and helps in regulation of eicosanoids that cause inflammation (production of good eicosanoids from omega 3 essential fatty acids which inhibits inflammation).¹⁶ Neuro-hormonal effects due to *Bahya Snehan* has been established, stating that massage increases levels of Dopamine, increases availability of serotonin, may elevate epinephrine (adrenaline) and release of endorphins. (Research conducted at TOUCH Research Insti-

tute at the University of Miami). All these neuro-hormones alter brain chemistry which in turn reduces response to pain sensation.¹⁷

2. **Swedan:** *Swedan* implies hot fomentation which is also the precursor procedure to *Panchkarma* which helps in inducing sweating to the patient. This procedure is done to curb the *Vata Dosha* vitiated due to increase in its *Sheeta* property.

The role of *Swedan* is best understood with Transient Receptor Potential Channels. These receptors are mainly found in nociceptive neurons of peripheral nervous system. Upon further literary search, it is known that TRPV1 channels are responsible for perception of heat and pain both thereby, facilitating the role of *Swedan* in management of pain.^{18,19}

3. **Agnikarma :** *Agnikarma* (Intentional Heat burn Therapy) is one of the most effective para surgical procedure mentioned for the management of pain which is done with the help of *shalaka* (metal probe). This unique procedure helps in relieving pain in various painful conditions chiefly of Musculoskeletal pain like *Parshnishool* (heel pain- Calcaneal spur), *Sandhigataavata* (Osteoarthritis), *Avabahuk* (Frozen shoulder); According to Ayurveda, due to *ushna guna* produced during helps in pacification of *Vata-Kapha Dosha* and helps in increasing the *Dhatvagni* thereby reducing pain.

Mechanism of action of *Agnikarma* can be understood with the help of afferent spinothalamic tract. As stated earlier, the ascending neurons are the pathway for conduction of Pain (lateral spinothalamic tract- A δ & C Fibres), Pressure (ventral spinothalamic tract – Ruffini endings), Temperature (lateral spinothalamic tract). When perception of pressure and temperature factor is increased, pain perception is reduced which helps us to understand the role of *Agnikarma* in relief of pain.

Moreover, another hypothesis suggests that the released heat could have caused irritation on the superficial sensory nerve endings thereby relieving

ing pain from the concept of ‘counter irritation’. It has also been suggested that pain may be possibly caused as a result of the accumulation of metabolic waste products in the tissues, and an increased flow of blood (vasodilatation due to heat) in the region is the possible mechanism that is responsible to remove these substances and relieve pain. Another possibility is that the pain releasing mechanism is associated with muscle relaxation.²⁰

4. **Jalaukaavcharan:** *Jalaukaavcharan* (Hirudotherapy) is one of the therapeutic procedures of *Raktamokshan* (Bloodletting). This therapy of pain relief involves application of *Nirvish Jalauka* (Nonpoisonous Leeches – *Hirudo medicinalis*) for removal of vitiated blood at the site of pain.²¹

It is hypothesized that the strong sensory stimulus caused by the pain and burning sensation of the leech bite can alleviate the symptoms of the patient through the “gate theory”. Moreover, review of components of Medicinal Leech saliva reports Hirudin which inhibits blood coagulation by binding to thrombin, Calin inhibits collagen-mediated platelet aggregation, Destabilase dissolves fibrin, Hirustasin inhibits kallikrein, trypsin, neutrophytic cathepsin G, Bdelins acts as anti-inflammatory and inhibits trypsin, Eglins acts as anti-inflammatory and inhibit activity of cathepsin G, Carboxypeptidase A inhibitors increases the inflow of blood at the bite site, Histamine like substance, acetylcholine acts as vasodilator and Anesthetic substance which causes anesthesia at the bite site.^{22,23}

5. **Viddhakarma:** Also known as *Vedhan* is one of the eight *Shastrakarma* (surgical measures) mentioned in Sushrut Samhita.²⁴ This is a sterile procedure which includes piercing the points with special hollow needles considering the anatomy of *Marma* (vital points) as per Ayurveda. The piercing leads to painful mechanical stimulus which causes release of endorphins thereby, causing immediate pain relief. Another

procedure called as *Vidhaagni* (combination of *Vedhankarma* and *agnikarma*) is also practiced in painful conditions with varied results.

6. **Lepankarma:** *Lepankarma* is application of medicated paste on skin. Classical texts describe the utility of *Lepa* in treatment of *Vatrakta*. Sushruta has mentioned *Lepankarma* in *Twakgat vata* (vitiated *Vata* in skin) as reference cited in *Vranshoth chikitsa* (inflammatory condition), *Mansagata Vata* (vitiated *Vata* in muscles) and *Snayuroga* (Diseases related ligaments).^{25,26}

Mode of action of *lepankarma* can be explained with the help of Transdermal absorption of drugs. Epidermis behaves as a lipid barrier whereas; Dermis is freely permeable to solutes. Inflammation increases cutaneous blood flow and also enhances absorption. Moreover, thermoreceptors in the skin have cold receptors (thin myelinated A δ fibres) and warm receptors (unmyelinated C fibres) which help in understanding the regulation of *Pralepa* and *Pradeha* respectively. Probable role of *Pralepa* can be explained with the mechanism of transduction of cold thermoreceptors as for example Menthol sensation is perceived via TRPM8 channel; whereas role of *Pradeha* can be explained with TRPV1 channels and furthermore certain Warm receptors also being sensitive to painful stimuli function as nociceptors and thus, mediate action of herbs with hot consistency.^{27,28,29}

7. **Bastikarma:** It is one of the chief therapeutic procedures of *Panchkarma* in which the drugs are administered into the rectum of the patient. It is multidimensional treatment procedure offering wide range of clinical benefits in different diseases due to its synergistic effects. Sensation of Pain is attributed to vitiated *Vata Dosha* and in order to correct this *doshic* imbalance *Basti* is the chief treatment of choice as origin of *Vata Dosha* is from *Pakwashay* and hence, described *Ardhachikitsa* (as treatment of choice for numerous diseases) in *Charak Samhita*.³⁰

Probable mode of action of *Basti* and mediation in Pain management is that the rectum has rich blood and lymph supply and the drugs can cross the rectal mucosa like other lipid membrane. The unionized and lipid soluble substances are readily absorbed from the rectal mucosa. This is because short chain fatty acids are more water soluble and allows direct diffusion from epithelial cells into the capillary blood of the villi. It is proposed that *Basti* has a feature to regulate sympathetic activity, thereby, balancing the autonomic nervous system. Hypothalamus-Pituitary-Adrenal axis (HPA) gets activated with the visceral afferent stimulation, involving the release of neurotransmitters from adrenal gland called cortisol, a neuroendocrine hormone, acts as a potent anti-inflammatory systemically.^{31,32,33}

8. **Miscellaneous Upakramas (Modalities) for Pain Management:** In addition to several therapeutic procedures discussed in length in this article, as per the location or site of pain, the specific *upakramas* (modalities) are helpful in pain management. For pain in *Urdhwajatrugata* (supraclavicular) area, specific *upakramas* like *Shirodhara* (Pouring of medicated oil over forehead), *Abhyang* (Massage therapy), *Pichu* (Application of medicated cotton swab) and other *kriyakalpa* (procedures) like *Anjan* (application of medicated kohl), *Netratarpan* (Eye care with medicated oil), *Karnapurana* (Ear therapy with medicated oils), *Karnadhupan* (Ear therapy with medicated smoke), & *Kawal – Gandush* (holding of medicated oil in mouth) are done as per the pain scale of the patient.

In *Urasthan* (pain in chest region) *Bahya snehan-svedan*, *Sthanik basti* like *hridbasti* (external oleation at cardiac region in cardiac pain) and *Prushtabasti* (external oleation in pain at scapular region) are done. Another commonly cited example for Pain management in chest region due to *Shwas roga* (Bronchial asthma) is

application of oil mixed with *Saindhav lavan* (salt) on *Urasthana*.

As stated earlier, *Snehan*, *Snehapan* (Internal oleation ex., ingestion of Castor oil), *Anuloman* (Purgatives), *Abhyang*, *Virechan* (Induced purgation), *Vatanuloman* (Anti flatulent) *dravya* (drugs) are used in Udargata (abdominal) region. In *Shakha* (extremities) modalities like *Abhyang*, *Sthanik basti* (local external oleation), *Bastikarma* as mentioned earlier are prescribed as per the painful ailment.

▪ **Shaman Chikitsa for Pain Management (in Dhatukshayanya Vataprakopa):**

Shaman Chikitsa implies prescription of internal medications. This primarily aims to correct the vitiated *Vata Dosha* due to *Dhatukshay* (due to catabolic process) and palliative drugs used to correct this *Doshic* imbalance thereby, to resolve pain should be *Madhur*, *Amla* & *Lavan Rasatmak* (Sweet, Sour & Salty tasting).³⁴ In order to understand this concept of Ayurveda, we need to look into the Receptors on cells that mediate Taste & Pain both. G-Protein Coupled Receptors are dynamic machines for signaling Pain.³⁵ These same group of receptors (T1R2 & T1R3 receptors) are responsible for perception of Sweet taste (*Madhur Rasa*) thereby, making us understand the role of *Madhur Rasa* in resolution of pain. As regards, *Lavan* (Salty taste - ENaC Receptors) & *Amla* (Sour taste - Two TRP channels – PKD2L1, which are also present in pain fibres responding to chemical stimuli like Capsaicin & menthol) use ion channels-proteins that form a channel through which specific inorganic ions can diffuse. Changes in cellular ion concentrations could then be detected and transmitted to the nervous system. However, Dr. Charles Zuker, meanwhile, states that current ion channel theory is not correct and GPCRs could also be involved in these perception modalities. In a nutshell, the role of GPCR in mediation of pain and mediation of taste thereby, explaining the role of *Madhur*, *Amla* and *Lavan Rasa* in resolution of Pain; the subject still is being under validation as the research about the same continues.^{36,37,38,39}

▪ **Lifestyle Intervention & Yog therapy for Pain Management**

Aahar includes kitchen herbs like *Haridra* (*Curcuma longa*), *Ardrak* (*Zingiber officinale*), *Dalchini* (*Cinnamomum verum*), *Ela* (*Elettaria cardamomum*), *Lavang* (*Syzygium aromaticum*), *Rason* (*Allium sativum*) and other common herbs like *Tulsi* (*Ocimum sanctum*), *Yashtimadhu* (*Glycyrrhiza glabra*), *Neem* (*Azadirachta indica*). Mode of action of these herbs can be understood by understanding the role of Eicosanoids in inflammation & pain. Arachidonic Acid is an unsaturated fatty acid found in plasma membrane, where it is bound to phospholipid. Its metabolism produces Eicosanoids. Eicosanoids are signaling molecules derived from Omega 3 & Omega 6 fatty acids which have complex control over inflammation, Immunity and act as messengers in CNS. As it is already known that Omega 3 and Omega 6 are Essential Fatty acids out of which Omega 3 reduces inflammation and Omega 6 gears up inflammation. Therefore, there is formation of Good & Bad Eicosanoids. Prostaglandins comes under subfamilies of Eicosanoids out of which PGs from enzyme COX 2 are responsible for inflammation and good PGs are derived from enzyme COX1. (Dr. Barry Sears). Above few mentioned herbs acts by stopping the conversion to the bad eicosanoids. Moreover, production of good eicosanoids helps to explain the role of herb *shallaki* (*Boswellia serrata*) and plants containing quercetin (polyphenol from plants) thereby, acting as anti-inflammatory agents.^{40,41}

In addition to this, *Vihar* of Painful conditions is inclusive of *Yog* and Meditation in daily practices. Practices of *Yog* help us to attain the Physical well-being through *asanas* (Physical exercises prescribed in *Yogsadhana*) thus to remove the strain on the particular group of muscles which causes pain. Similarly, for *Vata Dosha* regulation especially in abdominal discomfort, *asanas* like *pavanmuktaasana* (wind relieving pose) is prescribed. *Pranayam* (exercises done to control *prana* – vital life force) in *Yog* inclusive of Meditation practices also serve us

to see ourselves distinct as witness to sufferings of body & mind, spirit being untouched with the same. One such *Pranayam* being *Kapalbhati* (one of the exercises done in *Hath yoga*), *Kriya* like *Dhauti* (purification of esophagus & stomach) and *Agnisaar kriya* (exercises especially useful in menstrual disorders) and *Uddiyan bandh* (body lock at the region of diaphragm) are prescribed in varied painful conditions.

Apart from *Yog & Meditation* practices, the technique of being Mindfulness helps a person to deal with the pain more efficiently. Mindfulness i.e. a person has to be present to the present. Mindfulness helps one to observe thoughts and feelings from a distance. Pain is perceived through body but it is the mind that associates itself with pain and therefore, renders physical and mental sufferings. Mindfulness makes one watchful for all the actions and response of the body clearly making its mind distinct from the perception of pain.^{42,43}

▪ **Satvavjay Chikitsa (Psychological Intervention)**

Satvavjay Chikitsa (Psychological Intervention) for Pain Management focuses on counseling of the patient which encompasses understanding of the physical and emotional consequences and limitation of pain followed by its acceptance.

INFERENCE AND DISCUSSION

Signals are received by the cell from its environment which can be correlated with *Chala Guna* (vibrations) of *Vata Dosha*, rightly called to be *Sarveidriyanamudyojaka* and *Sarveindriyaarthanaambhivodha* (the one who carries sensory signals & the one who perceives afferent stimulation). Perception of pain and causation of inflammation are mediated by G-Protein Coupled Receptors (GPCRs)⁴⁴. Ligands (biomolecule) attach to the GPCRs and cause conformation of GPCRs leading to transmission of signals to the nucleus, thereby, governing the functions of the cell. *Dhatukshaya* (catabolic process of metabolic pathway) leads to *Vataprakopa* (increase in *Chala guna*

– vibrations) which leads to abnormal signal initiation (increased signals or defective signal termination) causing defect in GPCRs in turn, leading to over signaling within the cell. This over signaling causes inflammation within the cell. *Margaavrodh* (Decreased signal initiation) that is defect in transmission of signals (obstruction in passage of signals) via GPCRs causes less perception of signals by the cell thereby, disrupting cell functioning leading to accumulation of metabolite toxins within the cell again leading to inflammation.

Therapeutic treatment procedures cited in this article and the concept of pacification of *Vatadosha* as per use of *Madhur-Amla-Lavan Rasa Dravyas* and cited therapeutic procedures are attempted to explain on the basis of Taste-GPCR Receptors and Pain sensitization mechanism respectively. This article, comprehends the role of Receptor proteins such as nociceptors, thermoreceptors in *Lepankarma*, Taste receptors with pain mediation with the help of G-Protein Coupled Receptors – explaining the role of *Madhur, Amla, Lavan Rasa* in *Dhatukshayjanya Vataprakopa*, Transient Receptor Potential channels in *Swedan & Lepankarma*, Explanation of role of *Agnikarma* in pain management with the help Physiological functions of Ascending Spino-thalamic tract & localized counter irritation mechanism, Gate theory in *Jalaukaavcharan* with anaesthetic activity of saliva of Medicinal leech), role of neurotransmitters in *Snehankarma*, release of Endorphins in *Viddhakarma*, role of Autonomic nervous system and HPA axis in *Bastikarma* and explanation of Descending modulation (Placebo effect of Touch in Pain) serve the purpose of revalidating the basic concepts of Ayurveda in a diverse way. Besides, production of good eicosanoids thereby, reducing inflammation overlays methods of understanding action of certain herbs in management of pain.

In treatment options, *Charak Samhita* explains three *Mahakashaya* viz., *Angamarda, Shool Prashaman* and *Vednasthapak Mahakashaya*. Out of these, *Angamarda Mahakashaya* consists of herbs with both *Sheeta* (cold) and *Ushna* (hot) *virya* (consisten-

cy) which indicates treatment options and choice of herbs as per *Angamarda* (bodyache) due to *Dhatukshaya* and *Margavrodhjanya vataprakop* respectively. *Shoolprashamiya Mahakashay* consists of all *ushna virya* herbs which chiefly act on gastrointestinal tract therefore, important in abdominal colic; whereas, *Vednasthapak Mahakashaya* consists of herbs with *Kashaya Rasa* and *Sheeta virya* properties and is described after *Shonitshapan Mahakashaya* thereby, indicating its action in Pain of traumatic conditions.

CONCLUSION

In a nutshell, this article is an attempt to explore the concept of Pain in classical texts of Ayurveda in light of modern science. Re-exploring of therapeutic pain management strategies which are validated & effective treatment in Ayurveda of *Snehan*, *Swedan*, *Agnikarma*, *Jalaukaavcharan*, *Vedhankarma*, *Lepankarma*, *Bastikarma* are discussed followed by brief narration of *Shaman chikitsa* in Pain followed by *Satvavjay chikitsa* with Dietary & Lifestyle modification inculcating *Yog & Meditation Practices* in life helps one to understand the modulation of pain in light of modern concepts. Many other facets of vitiation *Vata Dosha & Pain* as for example treatment of *Vatavyadhi* (disorders due to vitiated *Vata Dosha*) chiefly are out of purview of this article.

The management of Pain itself is still under research persistently as it is a subjective parameter with different threshold for different individuals. Current article is an attempt to cover the maximum aspects of Pain treatment & throw an emphasis on probable mode of action of the chief therapeutic procedures utilized in pain treatment in Ayurveda but as the symptom being subjective; it depends on the patient, site, extent and stage of the disease and hence doesn't offer the most appropriate modality for pain relief.

To conclude, it is a Herculean task to cover entire concept of Pain management in Ayurveda. There are few distinct formulations and therapies mentioned in classical text (*Sushrut Samhita*) for pain

management such *Shatphal Ghrutam* and *Hingvadi Gutika* in *Udarshool* (Abdominal colic), *Siravedh chikitsa* (Bloodletting through venipuncture) in *Gridhrasi* (Sciatica), *Vardhaman pippali* in *Vatarakta* (Gouty arthritis) which needs therapeutic validation leaving a scope for future research in pain management through Ayurveda.^{45,46,47,48}

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Source of Support: Nil

Conflict Of Interest: None Declared

How to cite this URL: Dwivedi Amarprakash P. & Chaugule Pradnya D.: Pain Management Through Ayurveda: A Meticulous Review International Ayurvedic Medical Journal {online} 2018 {cited May, 2018} Available from:
http://www.iamj.in/posts/images/upload/1176_1185.pdf