



Review Article

CONCEPT OF INFLAMMATORY JOINT PAIN IN AYURVEDA - A REVIEW

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ABSTRACT

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. It is said to be nature's earliest sign of morbidity and it is prominent among all the other sensory experiences by which an individual can identify the presence of a pathological condition in them. In the condition related to musculo-skeletal system, pain is an important symptom. The most common cause of joint pain is either inflammation or degeneration. Some of the conditions with joint pain due to inflammation are Rheumatoid Arthritis (RA), psoriatic arthritis, ankylosing spondylitis, Systemic Lupus Erythematosus (SLE), Gouty arthritis. References regarding different conditions related to Joint is seen in the context of many systemic diseases like *Jwara*, *Atisara*, *Grahani*, *Pandu*, to mention a few, and *Sandhi* (joints) related diseases like *Amavata*, *Vatarakta*, *Vatavyadhi* and *Kroshtukaseersha*, in Ayurveda. The *Samprapti* (pathogenesis) can be thought to be due to the involvement of *Tridoshas*, *Ama* and *Rakta*. Due to the *Khavaigunya* and *Vakrata* of the *Sandhis*, they get lodged at the *Sandhi Pradesha* resulting in symptoms of inflammatory arthritis such as *Vedana* (pain), *Sopha* (swelling), *Raga* (redness) and *Sparshasahishnuta* (tenderness) in *Sandhi*.

INTRODUCTION

The International Association for Study of Pain (1971) defines pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage. Aristotle defined that pain is an emotion and is opposite to pleasure. He also postulated that heart was the center of sensation and pain was carried by blood to the heart. Irrespective of the severity, pain will cause some kind of disturbance for body and the mind which may hamper our day to-day activities. The cause of pain may differ depending up on the underlying pathology. The common pathology behind joint pain is either degenerative or inflammatory response. The prevalence of Inflammatory Joint Pain is 0-0.5% in India^[1].

Inflammatory Arthritis describes conditions characterized by pain, swelling, tenderness, and warmth in joints, as well as morning stiffness that lasts for more than an hour. The most common causes are Rheumatoid Arthritis (RA), Psoriatic Arthritis, Systemic Lupus Erythematosus (SLE), Gout, Ankylosing spondylitis(AS).

In inflammatory arthritis, there will be release of inflammatory chemicals which may cause inflammation of synovium, cartilage and bone damage and muscle loss. By this, the nociceptors around the joints are activated and these signals are transmitted from periphery to the dorsal horn of the spinal cord via peripheral nervous system and from there it reaches higher centers of the brain, by which the person experiences pain.

Etiopathogenesis of Inflammatory Joint Pain

Since a number of diseases with different etiology come under the title of inflammatory joint diseases, it is difficult to explain the pathology as a single entity. Depending upon the causative factor, inflammatory arthritis can be classified in to four-infectious arthritis, crystal induced arthritis, immune related arthritis and reactive arthritis.^[2]

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Causative factors differ for each type of inflammatory arthritis. Infectious arthritis is caused by the organisms like *Staphylococcus aureus*, *Streptococcal pneumoniae*, *Neisseria gonorrhoeae* etc. Crystal induced arthritis is due to the deposition of monosodium urate crystals or calcium pyrophosphate dihydrate crystal in joint space. Immune related arthritis is caused due to the impaired immune system which is attacking healthy body tissues. Reactive arthritis happens as a part of an infection by the pathogens which are usually affecting gastro intestinal tract or urogenital system. Due to the above said causative factors, there will be inflammation of synovium, which may further lead to the damage or destruction of joint tissues.

The main clinical feature of inflammatory joint disease is persistent synovitis which may lead to joint pain, swelling, tenderness, morning stiffness, restricted movement, temperature raise, redness and deformity of joints.

Inflammatory Joint Pain in Ayurveda

Joint pain can be termed as *Sandhivikara* in general. If it is due to an inflammatory pathology, there may be the involvement of *Tridosha* along with *Ama* or *Rakta Dhatu* vitiation.

Nidana:

Tridosha Prakopa Nidana (causative factors),^[3] *Agnidushti Nidana*,^[4] *Nidana of Ama*,^[5] *Srotodushti Nidana*,^[6] *Vatavyadhi Nidana*,^[7] and *Raktadushti Nidana*^[8] can be considered.

Purvarupa

Since the condition of inflammatory arthritis is a condition where there is involvement of *Ama*, *Rakta* along with *Tridosha Dushti*, we can consider the *Sama Lakshana* of *Doshas* and *Dhatu*s involved here as the *Purvarupa* (premonitory symptoms) of this condition. *Sama* condition is different from *Sama Roga*. *Samavastha* is the stage of *Sthana samsraya*, whereas *Samaroga* is the *Vyaktavastha*. So here we can see the *Samanya Lakshana* of *Ama* and *Sama Avastha* of *Dosha* and *Dhatu* in the *Purvarupa* of this particular condition.

Rupa

The *Lakshanas* (symptoms) include *Sandhi Shoola*, *Sotha*, *Raga*, *Sparsa Asahishnutwa* and *Stabdhata* (stiffness). Along with these *Lakshanas*, the *Sama lakshanas* are also seen.

Upasaya and Anupasaya

Upasaya and *Anupasaya* act as a diagnostic tool, which helps in differential diagnosis of the condition. In *Sandhivikaras* *Upasaya* and *Anupasaya* will help to understand the presence of *Ama* and

involvement of *Raktadushti* with the help of which, appropriate line of management can be selected.

Samprapti

Pain is always a quintessential symptom in inflammatory joint diseases, which shows the involvement of *Vatadosha Dushti* in *Sandhivikaras*. As per the explanation given by *Susruta* "There is no pain without the involvement of *Vata*, *Paka* without *Pitta* and *Pooya* without *Kapha*^[9]. The similar conditions can be seen in pathogenesis of inflammation also. Along with *Tridosha Dushti*, *Ama* and *Rakta* is also having an important role in these conditions. *Acharya Vagbhata* has explained *Samavata lakshanas*^[10] as *Vibandha*, *Agnisada*, *Tandra*, *Antra koojana*, *Vedana*, *Sopha*, *Toda*, which can be correlated to the systemic as well as localized symptoms seen in Inflammatory Arthritis. *Raga* and *Sparshasahishnuta* is also an important manifestation in *Sandhi vikaras* which shows the involvement of vitiation of *Rakta Dhatu* in the pathology.

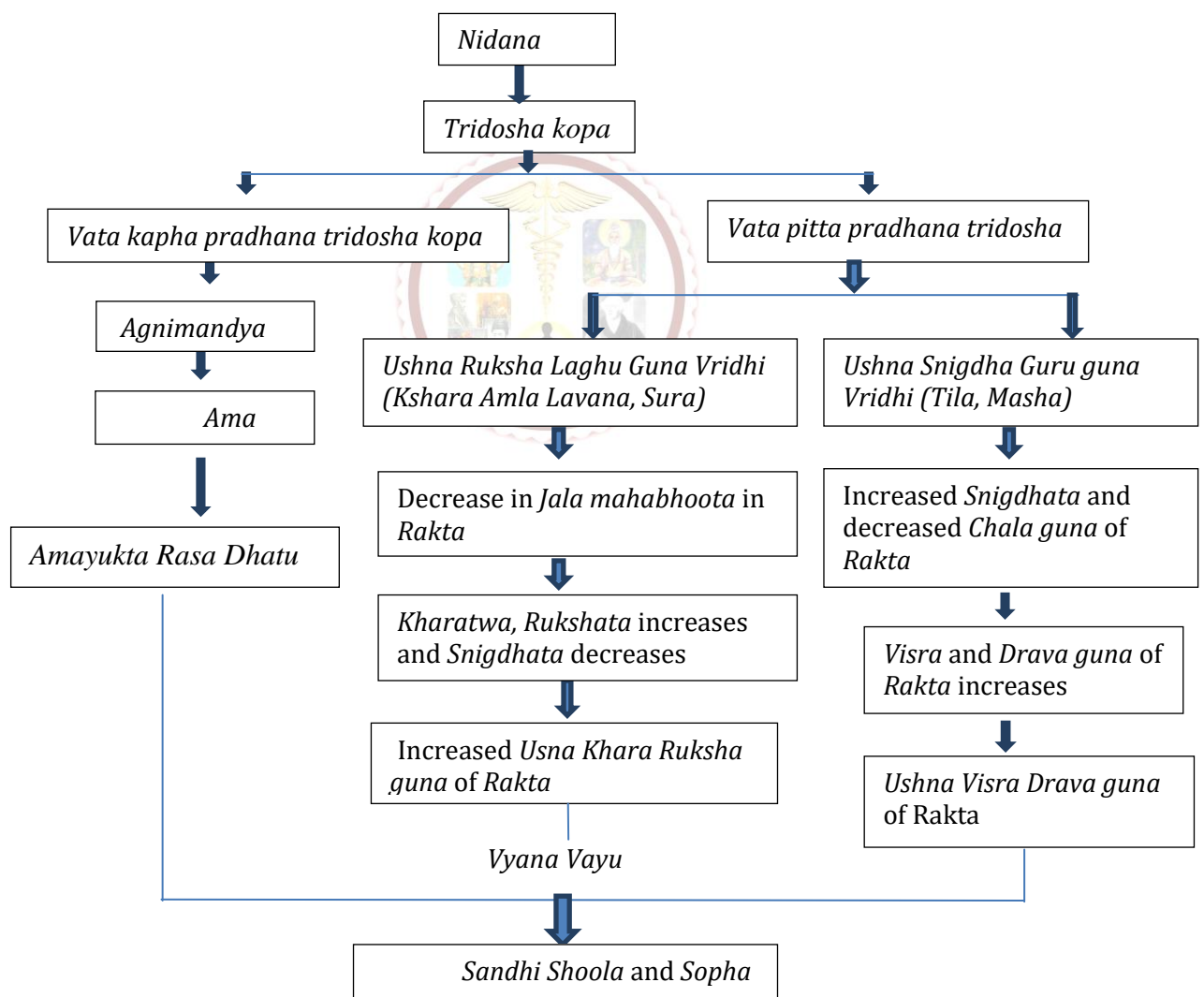
According to *Acharya Charaka*, *Agni* is considered to be the root of *Arogya* and the vitiation of *Agni* is considered to be the root cause of all the diseases.^[11] When there is *Agni dushti*, it may lead to improper digestion of *Ahara* and there will be *Ama* formation. Due to its specific nature like *Snigdhatta*, *Pichilata* and *Tantumata* nature, *Ama* will cause *Srotorodha*^[12]. Formation of *Dhatu*s, and their qualities also get altered by *Agnimandya* (weakness of digestive fire) and *Ama*. At cellular level it may change the cell membrane composition, disrupt the cellular communication and membrane functions. It may also alter the antigen antibody interaction leading to improper antigen presentation which may cause derangement of the immune system. According to Ayurveda, *Ama* is considered to be the byproduct of improper digestion and metabolism which can cause *Srotorodha* (obstruction of channels), *Vata vigunata* which may ultimately manifest as a disease. Similar is the process which is happening in case of free radicals.^[13]

According to modern system of medicine, free radical can be defined as a molecular species capable of independent existence that contains an unpaired electron results in common properties that are shared by most radicals. Many radicals are unstable and highly reactive. They can either donate an electron to or accept an electron from other molecules, therefore behaving as oxidants. The most important oxygen containing free radicals in many disease states are hydroxyl radical, superoxide anion radical, hydrogen peroxide and nitric oxide radical. These are highly reactive species, capable of damaging biologically relevant molecules such as DNA, proteins,

carbohydrates and lipids. Free radicals are derived either from normal essential metabolic processes in the human body or from external sources like exposure to X-ray, ozone, cigarette smoking, air pollutants, and industrial chemicals. Some internally generated sources of free radicals include Mitochondria, Xanthine oxidase, Inflammation, Phagocytosis, Ischemia and external sources include cigarette smoke, environmental pollutants, Radiation etc. As a result of this free radical formation, there will be oxidative stress when the critical balance between free radical generation and antioxidant defence is unfavorable. Oxidative stress now thought to make a significant contribution to all inflammatory diseases like arthritis, vasculitis, glomerulonephritis, SLE etc.^[14]

Presence of symptoms like *Raga* and *Sparshashishnuta* in the condition of inflammatory joint pain gives an idea about the involvement of *Rakta Dushti*, along with *Tridosha Kopa* in the pathology. Vitiating of *Rakta* can happen in two ways. The *Nidana* like excessive intake of *Kshara, Amla, Lavana rasa*, intake of *Sura, Souveera* etc may cause *Rooksha, Ushna, Laghu guna Vridhi* of *Rakta*, which may result in decreased *Snigdhatva* in turn impart *Kharatwa* to *Rakta*. If *Rakta Dhatu Dushti* is taking place due to intake of *Tila, Masha* etc, there will be increase in *Ushna, Visra* and *Guru Guna Vridhi* of *Rakta* and *Chala Guna* of *Rakta* will get decreased. The *Rakta* which is getting vitiating in above said manner will circulate whole body by *Vyanavayu*, it may get lodged in *Sandhi Pradesha* due to its *Vakrata* or *Kha vaigunyata* leading to Symptoms.

Samprapti



Chikitsa

We can adopt the line of management in inflammatory joint pain based on the *Sampraptighataka* involved in the disease. If the condition is associated with *Ama* we can adopt *Langhana, Swedana, Katu Tikta Rasa Prayoga* and *Shodhana* procedures like *Vaitarana Vasti* and other *Amapachana* measures. In *Niramaja* condition we can

adopt *Kevala Vatavyadhi Chikitsa* and in *Rakta* vitiated condition, the line of management should be *Sneha Prayoga*, *Virechana*, *Raktamokshana* and other treatment modalities which does the *Pitta Shamana*.

Samaja condition^[15]	Niramaja condition^[16]	Raktadushti^[17]
<i>Langhana</i>	<i>Snehapana</i>	<i>Snehapana</i>
<i>Swedana</i>	<i>Swedana</i>	<i>Swedana (Drava sweda)</i>
<i>Tikta Katurasa prayoga</i>	<i>Madhura Amla</i>	<i>Kashaya Tikta Madhura</i>
<i>Agnideepana</i>	<i>lavana rasa prayoga</i>	<i>Rasa</i>
<i>Virechana-Ruksha Virechana</i>	<i>Agnideepana</i>	<i>Agnideepana</i>
<i>Vaitarana Vasti/ Kshara Vasti</i>	<i>Snehayukta virechana</i>	<i>Snehayukta Virechana</i>
<i>Upanaha</i>	<i>Niruha Vasti, Anuvasana Vasti</i>	<i>Ksheerabasti</i>
<i>Ama pachana</i>	<i>Upanaha</i>	<i>Raktamokshana</i>
<i>Parisheka</i>	<i>Abhyanga</i>	<i>Abhyanga</i>
<i>Lepa</i>	<i>Parisheka</i>	<i>Parisheka</i>
	<i>Lepa</i>	<i>Lepa</i>

Pathya-Apathya

Pathya

Samaja condition^[18]	Niramaja condition^[19]	Raktadushti^[20]
<i>Panchakola</i>	<i>Shashtikashali</i>	<i>Purana yava</i>
<i>Vastuka</i>	<i>Godhuma</i>	<i>Godhuma, Shastika shali</i>
<i>Patola</i>	<i>Kulatha</i>	<i>Vishkira and Praduta</i>
<i>Lasuna</i>	<i>Patola</i>	<i>mamsarasa</i>
<i>Karavellaka</i>	<i>Lasuna</i>	<i>Kakamachi</i>
<i>Yavanna</i>	<i>Vartaka</i>	<i>Vastuka</i>
<i>Koradusha</i>	<i>Jambeera</i>	<i>Satavari</i>
<i>Purana shastikashali</i>	<i>Badara</i>	<i>Upodika</i>
<i>Kulatha</i>	<i>Bilesaya</i>	<i>Goksheera and</i>
<i>Lava mamsarasa</i>	<i>Kukkuta mamsa</i>	<i>Mahishaksheera</i>

Apathya

Samaja condition^[21]	Niramaja condition^[22]	Raktadushti^[23]
<i>Dadhi</i>	<i>Mudga</i>	<i>Masha</i>
<i>Matsya</i>	<i>Rajamasha</i>	<i>Kulatha</i>
<i>Guda</i>	<i>Koradoosha</i>	<i>Nishpava</i>
<i>Ksheera</i>	<i>Kashaya Katu tikta Rasa</i>	<i>Kalaya</i>
<i>Virudhahara</i>	<i>Nishpava</i>	<i>Kshara sevana</i>
<i>Vegadharana</i>	<i>Mrunala</i>	<i>Anupa mamsa</i>
<i>Ratrijagarana</i>	<i>Talaphala</i>	<i>Dadhi</i>
<i>Seetatoya parisheka</i>	<i>Kshoudra</i>	<i>Virudhahara</i>
<i>Ativyavaya</i>	<i>Syamaka</i>	<i>Ikshu</i>

CONCLUSION

Inflammatory joint pain is one of the commonest causes of sufferings for the mankind in this present era. According to the *Sampraptighataka* involved, the severity of the disease may differ and it can even hamper the day to day activities of a person. Similar symptoms of inflammatory joint pain are explained in Ayurveda in the context of *Amavata*, *Vatarakta*, *Kroshtuka seersha* and in many other systemic diseases as a symptom or as a complication. The main aim of the treatment is to reduce the inflammation of the affected joint which may help to

reduce the Pain and other symptoms. We can adopt the line of management explained in Ayurveda according to the involvement of *Sampraptighataka* in the particular condition.

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