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## Role of Panchakarma in the management of rheumatoid arthritis

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**Abstract**

Panchakarma is one among mode of treatment through Ayurveda, which involves the usage of these therapies along with palliative measures these days. Mechanism involves physical and physiological barriers, propulsion of the food, ion and water absorption mechanism, and presence of immune and inflammatory cells, form readily available substrates for the modulator activity of the therapeutic measures. Rheumatoid arthritis (RA) is an autoimmune chronic inflammatory disorder. As the disease progresses, the inflamed synovium invades and damages the cartilage and bone of the joint. In Ayurveda, Vatarakta is a disease caused by vitiated Vata and Rakta, where the aggravated Vayu gets obstructed in its course by the vitiated blood and the Vayu vitiates the entire blood. This vitiated Rakta in long term involves mamsadi dhatu. RA cannot be correlated with one single disease entity in Ayurveda. It was observed that clinicians use the protocols for management of Amavata and Vatasonita in different stages of RA. It can consider by the management of Amavastha and Niramavastha with medicines and Panchakarma procedures. It was concluded that RA can be cured completely or manage well with Ayurveda medicines and Panchakarma without any side effects, whereas non-steroidal anti-inflammatory drugs and disease-modifying anti-rheumatic drugs cause during the treatment.

**Keywords:** Panchakarma, rheumatoid arthritis

**Introduction**

Rheumatoid arthritis is one of the commonest joint disorders with varied clinical signs and symptoms involving multiple joints at various sites. Presently, the non-steroidal anti-inflammatory drugs (NSAIDs) are the mainstay in this condition; however, they have serious adverse effects and have limitations for a long-term therapy. NSAIDs temporarily control pain and possibility of further damage to joint increase, whereas the root cause remains unattended. The immunosuppressive drugs are reserved for selected cases, while the disease modifying drugs like gold-salts are costly and are known to cause hepato-renal retention causing toxicity (Essential of Medical Pharmacology, K. D. Tripathi- Drugs for Arthritis). Hence, there is a need for therapy having predictable efficacy with low toxic profile in this debilitating disorder.

A number of indigenous drugs have been claimed to be effective in the treatment of rheumatic disorders. Ayurveda has provided detail information of various joint disorders, which affects an individual's mobility and also the extensive therapies to control the deformities.

Considering the symptomatology of the disease Rheumatoid Arthritis, it can be concluded that most of the clinical features resembles to that of Amavata. Thus due to similar mode of presentation the term rheumatoid arthritis can be broadly grouped under the heading Amavata. There is such wide variation in the severity, course and distribution of the lesion in rheumatoid disease from patient to patient that it is difficult to give a concise distribution of the condition. A general definition would be that of an illness characterized by a chronic non-suppurative polysynovitis particularly involving joints in the hands and feet and often in a symmetrical pattern, with a variable cause of exacerbation and remissions and often accompanied by some systemic illness viz. anemia, weight loss, visceral lesions and change in serum protein.

**Epidemiology**

R.A. is the disease that occurs throughout the world and in all the groups. Climate, attitude and geography do not appear to influence its prevalence. Community prevalence study shows that the ratio of occurrence between female and male is 3:1. The onset of disease is more frequent during the 4<sup>th</sup> and 5<sup>th</sup> decade of life with 80% of the patients developing the disease between age group of 35 – 50 years. Population study also shows that affliction of about 8–9% of adult population in India with same or other form of rheumatoid disease.

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## Etiology

R.A. is the disease having multi-factorial etiology. Although the cause of R.A. remains obscure. Some of the concepts regarding the etiology are as follows:

- 1) **Autoimmunity:** R.A. is characterized by persistent cellular activation, autoimmunity and the presence of immune complex at sites of articular and extra-articular lesions. The development of amyloidosis in some patients provides further clinical evidence for chronic immune stimulation. If the exogenous agent is able to initiate an inflammatory synovitis, autoimmune reaction takes place in which T-cells play a major role, for the chronic destructive nature of Rheumatoid arthritis. Autoimmunity to type II collagen can be demonstrated in most of the patients with R.A. Human cartilage glycoprotein - 39 is also suspected as an auto-antigen<sup>[1-4]</sup>.
- 2) **Genetic susceptibility:** Clinical evidence for the importance of genetic features comes from the fact that an increase in the frequency of disease in first degree relative of patients with R.A. and a higher concordance rate of disease in identical twins (30%), compared with that in non-identical twins (5%).
- 3) **Super Antigen Driven Diseases:** Super antigen are the protein produced by the number of microorganisms like staphylococci, streptococci etc. They have capacity to bind to HLA-DR molecules and particular V<sub>B</sub> segment of heterodimeric T-cell receptor and stimulate T-cell receptor expressing the V<sub>B</sub> gene products (Harrison).
- 4) **Molecular Mimicry:** Another possibility is that the infecting micro-organism might prime the host to cross reactive determinants expressed within the joint as a result of molecular mimicry. Recent evidence of similarity between products of certain gram negative bacteria and the HLA-DR moderate itself supports this possibility.
- 5) **Infections:** A persistent infection of articular structure or retention of microbial product in the synovial tissue generates a chronic inflammatory response.
- 6) **Endocrinal Factor:** Endocrinal factor also play a part in 20 – 25% cases which occur within a year of menopause (Mitra et al).
- 7) **Psychological Factors:** Psychological stress causes first attacks as well as relapses. These also play a major role in the manifestation of disease (Oberai, 1988).
- 8) More recently, others have postulated that spasm of small peripheral veins may play a role in the etiology of Rheumatoid arthritis.
- 9) **Concept of Food Allergy:** Some authors also claim that joint pain can be the manifestation of food allergy. Symptoms are being precipitated by adverse reaction to specific food item in getting relieved by eliminating the same.
- 10) Another theory point out that Rheumatoid arthritis is due to derangements of the hyalauranic acid metabolism.
- 11) Arthritis has been found to be common in women that do cleaning work, which require spending a plenty of time with their hands in cold water (Laumber, H J and Ramm, C. Muunchin Med. Wehnschr, 77, 89- 1930)

## Pattern of Onset of Disease R.A. <sup>[6-12]</sup>

The pattern of onset of the disease is seen as follows. These are helpful in predicting the diagnosis of diseases.

- 1) **Insidious Onset:** The majority of Rheumatoid arthritis develop insidiously over weeks or months, with gradually increasing joint involvements. This pattern of

onset is seen in 70% of the cases. It is usually associated with a relatively poor diagnosis.

- 2) **Acute Onset:** In about 15% of cases the onset of disease is very sudden, even it may be over night, with severe symmetrical poly-articular involvement.
- 3) **Systemic Onset:** In 10% of cases in middle aged the non-articular feature may dominate the clinical picture like fever, myalgia, weight loss, anemia, etc. may be severe, sometime in absence of marked joint pathology.
- 4) **Palindromic Onset:** In about 5% of cases with Rheumatoid arthritis, persisting joint disease may be attended by repeated attack of acute self limiting synovitis, affecting a variable number of joints. Typically the inflammation develops over a few hours but resolves completely within 48 to 72 hours, leaving residual feature. About 50% of the patients with palindromic onset ultimately develop chronic Rheumatoid arthritis.

## Pathology

Various study show that joint inflammation is immunologically mediated. In a genetically predisposed individual, by activation of helper T-cells responding to some arthritogenic agent-possibly a microbe, the activated CD<sub>4</sub> cells produce a number of cytokinines that produces two principal effects.

- 1) Activation of macrophages and other cells in one joint space, which release tissue destructive enzyme and other factors that perpetuate inflammation.
- 2) Activation of the B cell system, resulting in the production of antibodies, some of which are directed against self-constituents.

The resultant autoimmune reactions damage the joint and are believed to play an important role in disease progression.

## Prodromal Symptoms of R.A.

Morning stiffness, fatigue, anorexia, generalized weakness, vague musculo-skeletal symptom like pain, weight loss etc. are the common prodromal symptoms of R.A.

## Clinical Presentation of Disease <sup>[16-22]</sup>

In majority of cases, the onset is insidious, with joint pain, stiffness and symmetrical swelling of a number of peripheral joints. Initially pain may be experienced only in the movement of joints, but rest pain and prolonged early morning stiffness are characteristic features of all kind of inflammatory arthritis.

Systemic features include fever, weight loss, profound fatigue, malaise, lethargy and Raynauds Phenomena. With the progression of disease muscular atrophy, tendon sheath and joint destruction result in limitation of joint movement, joint instability sub-luxation and deformities.

## Criteria to Diagnose R.A.

As per American Rheumatism Association (1988) the following criteria has been laid down:

- Morning stiffness
  - Arthritis of three or more joints areas
  - Arthritis of hand joints
  - Symmetrical arthritis
  - Rheumatoid nodules
  - Rheumatoid factors
  - Radiological changes
- ✓ Here first four criteria should be present for 6 weeks or more.
- ✓ Diagnosis of R.A. is made with four or more criteria.

**Features Associated with Poor Prognosis**

- Uncontrolled poly-arthritis
  - Structural deformity
  - Functional deformity
  - Presence of extra articular features
  - High or greater number of joints are affected.
  - Titre of Rheumatoid factor
  - Family history is positive
  - If the disease is associated with psychological problems.
- All these features are associated with the poor prognosis of the disease.

**Rheumatoid Nodules**

These are found in subcutaneous tissues of approximately 30% patients suffering from the disease and are commonly situated over the olecranon regions or other bony prominences and on the tendon sheaths. The presence of nodule is almost invariably associated with a positive test for rheumatoid serum factor. Very wide spread nodule formation is usually associated with poor prognosis with severe arthritis.

**Deformities in R.A.**

If the disease process continues, then number of deformities may arise. Important among them are:

- **Ulnar Deviation:** The basic deformity is a subluxation or dislocation of the meta-carpo-phalangeal joints and the process is essentially the same whether this is an anterior, anteromedial or medial direction commonly it is an anteromedial subluxation.
- **Swan Neck Deformity:** It is characterized by the flexion of distal inter-phalangeal joint and hyper-extension of proximal inter-phalangeal joint due to hyper-mobility of proximal inter-phalangeal joint.
- **Bottouiniere Deformity:** It is characterized by proximal inter-phalangeal joints flexion followed by compensated distal inter-phalangeal joints hyper-extension.
- **Mallet finger Deformity:** It is stretching or rupture of extensor tendon into dorsum of terminal phalanx.
- **Piano Key Sign:** Characterized by hyper-mobility of dorsally subluxated ulnar styloid and laxity of radio-ulnar joint.
- **Z-deformity:** Meta-carpo-phalangeal flexion of thumb and inter-phalangeal hyper-extension.

**Criteria for Complete Remission of Diseases (ACR)**

- Morning stiffness < 15 min.
  - No fatigue
  - No joint pain
  - No joint tenderness on motion
  - No soft tissue swelling in joints or tendon sheath.
  - ESR < 30 min./hour in women and <20 min/hour in men.
    - ✓ Minimum of five criteria must be present for at least 2 consecutive months.

**Complications of R.A.**

- Septic arthritis
- Systemic vasculitis
- Amyloidosis – The synovium is infiltrated with amyloid protein.
- Spinal cord compression
- Felty's syndrome – Splenomegaly with neutropenia leads to repeated infections and weight loss known as Felty's syndrome.

**RA in Ayurveda as Amavata** <sup>[25-50]</sup>

Vata has an important role in the pathogenesis of Amavata. The symptoms like pain, stiffness and restricted movements in Amavata are due to the vitiation of Vata Dosha. Hence in brief, we will deal with the description of Vata.

**Chikitsa Siddhanta**

Chakradatta, the explorer of Ámavata Chikitsa, says Langhana, Swedana, Tikta, Deepana and Katu drugs, Virechana, Snehapana and Saindhavadi Anuvasana as well as Kshara Basti are praised for Ámavata. (Chakradatta.25/1) Bhavamishra and Yogaratnakara have added Upanaha (sneha varjita) & Ruksha sweda to these therapeutic measures.

**1) Langhana**

- It is the first measure advocated in the management of Amavata. Langhana is that which produces a sense of laghuta (lightness) in the body.
- Charaka has mentioned ten types of langhana i.e., four of Shodhana type (Vamana, Virechana, Asthapana basti and Shirovirechana), Pipasa, Maruta, Atapa, Pachana Upavasa and Vyayama (Ch. Su. 22/18). Vagbhata in Astang Hridaya has described langhana under the heading Shodhana and Shamana which are further divided into 5 and 7 types respectively.
- The use of substances which possess the properties like Laghu, Ushna, Tikshna Ruksha, Vishada, Sukshama, Khara, Sara and Kathina cause Langhana and will also benefit in Pachana of Ama and correct the Mandagni.
- Main type of Langhana useful in case of Amavata is Upavasa (no consumption of food materials). This starvation will stop the further production of Ama.
- Once the Ama is cured and the strength of the Agni is restored, the measure to control the Vata can be instituted.
- Care should be taken to stop Langhana as soon as Nirama Vata state is achieved.
- Langhana also create hunger reflex in the patients resulting indirectly in enhanced production of internal corticosteroids which provide beneficial effect by reducing the inflammation. On the whole due to Langhana, Amapachana takes place reducing the symptoms produced as a result of Ama.

**2) Swedana**

- Swedana is the process which produces perspiration, destroys stiffness, heaviness of the body and cold (Ch. Su. 22/11).
- In Ayurveda different varieties of Swedana has been said viz. Sagnisveda, Niragnisveda, Rukshasveda, Snigdhasveda of which Rukshasveda with Baluka (Hot sand) has been advocated in Amavata. It is beneficial because of its Ushana Guna which digests (Pachana) the Ama present in affected area and also dilates the channel. Thus obstruction of channels (Srotorodha) is removed.
- Other types of Swedana which is good in case of Amavata is internal administration of Ushna Jala (hot water). Ushana Jala is Dipana, Pachana, Srotoshodhana, Jvaraghna, Balya, Ruchikara and Swedakara (Ch. Chi. 3/44).
- In Chronic stage of Amavata, when Rukshata is increased Snigdhasveda should also be employed. Charaka has mentioned that when Vitiated Vata is located in Sleshma Sthana, Rukshasveda followed by Snigdhasveda should be applied (Ch. Su. 14/19).

- Swedana has been specially advocated in case of Stambha, Gaurava, Jadya, Sheeta, and Shoola which are the predominant features of Amavata.

### 3) Tikta-Katu and Deepana Dravyas

- Tikta & Katu Rasa are Laghu, Ushna and Tikshna in properties which are very useful for Ama Pachana. These also possess Deepana and Pachana property. So by means of these properties, digestion of Ama, restoration of Agni (Deepana), removal of excessive Kledaka Kapha and bringing of the Pakwa Dosha to the Kostha from the Shakha takes place.
- But care should be taken in monitoring the extent of vitiation of Vata Dosha because the Tikta-Katu and Deepana dravyas increase the Vata Dosha. The drugs having Tikta and Katu Rasa should also possess the Vataghna properties. Shunthi has such properties. Because of Snigdha guna and Madhura Vipaka it inhibits more vitiation of Vata. Other renowned drugs possessing these Rasa are Chitraka, Guduchi, Pippali, Maricha etc.

### 4) Virechana

- Virechana is a therapy which is indicated for Shodhana purpose. By virtue of it, the Doshas are eliminated by Adhomarga (Ch. Ka.1/4)
- After the Langhana, Swedana, Deepana Pachana, Doshas come in Nirama state, from Shakha to the Kostha, Virechana with suitable drug should be performed.
- Eranda Sneha is very good drug for virechana purpose in Amavata. It is not absorbed systematically but acts locally in the Kostha. It is said to be best vatanulomaka drug, because it not only perform Virechana action but also control the Vata Dosha by its Snigdha Guna.
- Symptoms of Amavata like Anaha Vivandha, Antrakunjana, Kukshi Shoola etc. indicate the Pratilomagati of Vata Dosha, are conquered by Virechana therapy.

### 5) Snehapana

- Snehapana is the process by which snigdha, Vishyandata, Mriduta and Kledana in the body are achieved. The properties of Sneha are Drava, Sukshama, Sara, Snigdha, Pichhila, Guru, Sheet, Manda and Mridu (Ch. Su. 22/11,15).
- Snehapana is of two type Achha Snehapana and Sidha Snehapana. These can be used as per the condition (Samavastha & Niramavstha) and Bala of the patients.
- The therapeutic measures so far employed are likely to cause Rukshata in the Dhatu and provocation of Vata which may result in further aggravation of disease process. This can be well controlled by administration of Sneha. A medicated Sneha processed in Ushna, Katu, tikta Rasa drugs is very effective both for Ama and Vata.
- Due to chronic nature of the disease, tremendous Dhatukshaya and weakness develops in the body. Hence Brimhana Snehapana is recommended at this stage.
- Snehapana is also prescribed in case of Asthi Majjagata Vata (Ch. Chi. 28/93). As the Asthi and majja Dhatus are quite involved in Amavata, Snehapana will surely help the patients.

### 6) Basti

- Basti is considered as Ardhachikitsa and best measure to control vitiated Vata dosha.

- Basti helps in the management of Amavata as Vata is one of the main causative factor.
- Basti is very useful in chronic stage of Amavata.
- Both Anuvasana and Asthapana basti are recommended in Amavata.
- Anuvasana basti controls the Vata by its Snehana guna.
- Asthapana Basti eliminates the Dosha brought to the kostha by Deepana and Pachana. Besides these, it also strengthen the local function of the Kostha and remove the Anaha, Vibandhata etc.
- Chakrapani has recommended Saindhavadi Taila for Anuvasana Basti and Kshara Basti for Asthapana Basti.

### Pathya-Apathya

#### Aahara

Annava - Yava, Kulatha, Raktashali, Shayamaka, Kodrava, Purana Shashtishali  
 Shaka Varga - Vastuka, Shigru, Karvelaka, Patola  
 Dugdhavarga - Adraka Ksheer paka  
 Mamsa Varga - Jangala Mamsa  
 Drava - Ushna Jala, Purana Madya, Gomutra, Takra & Kanji with Shunthi churna  
 Drugs - Katu-Tikta Dravya- Shunthi, Gokshur, Bhallataka, Vridhadaruka, Varuna, Lashuna.

#### Vihara

Rukshasweda with Valuka Potali

#### Apathya

Aahara - Dadhi, Kshira, Matsya, Guda, pishta, Viruddhahara, Sheeta Jala  
 Vihara - Viruddha Chesta, Snigdha Abhyanga, Purvavata, Vegavarodha and Jagarana.

### Conclusion

It can conclude that RA can be cured completely or manage well with Ayurveda medicines and Panchakarma. There are many researches done on this topic which are the evidence to support this fact. There are no chances of recurrence if person follow the Ayurveda concept of healthy life style and regular cleansing of body through Panchakarma.

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