EFFECT OF RASONADI KWATH IN THE MANAGEMENT OF RHEUMATOID ARTHRITIS: A REVIEW
Ekka Deepak1*, Dubey Swati1, Kumar Anil1, Shrivas Sandeep1, Khichariya S.D.2, Dhruw D.S.2, Karhal K.S.2
1P.G. Scholar, N.P.A. Govt. Ayurvedic college Raipur (C.G.)
2Assistant Professor, N.P.A. Govt. Ayurveda College Raipur (C.G.)

ABSTRACT
Rheumatoid arthritis is a most common persistent inflammatory arthritis of unknown etiology marked by symmetric, peripheral poly arthritis and often result in joint damage and physical disability. Arthritis is always associated with arthralgia. It is 1.0-1.5% with a female to male ratio of 3:1 functional capacity decrease most rapidly at the beginning of disease and the function state of patients in their first year. RA. Etiology like Immunological factor (HLA-DRB1), Hormonal factor, contraceptives pills, is also associated with a worse disease outcome in R.A. Particularly in genetically predisposed individuals, some environmental antigen trigger, probably a virus, stimulates the production of autoantibodies (IgM rheumatoid factor) against the body, own IgM immunoglobins. This process can become self perpetuating. The prominent feature is the formation of immune complexes. within the joint resulting from tissue damage. These complex activate complement and attract neutrophils. Phagocytosis of immune complexes by neutrophils leads to release of chemical mediators of inflammation. Continued inflammation stimulates the formation of a proliferative synovitis. This hypertrophic granulation tissue is called pannus. This process is responsible for the causing joint erosions. In Ayurveda it is clinically correlated with Aamvata. According to Bhavprakash Beautiful composition is given in Aamvata chikitsa 26th chapter Rasonadi Kwath. Conceptually it is play very effective role because of it’s Sothhara, Vednasthapan, Kapo-vatashamak, Deepan-Pachan, Anuloman, Shoola-prashman, and also Shunthi is Uttam Aama pachak. The aim of this article is to provide a management for RA by Rasonadi Kwath.

KEYWORDS: Rheumatoid arthritis, Rasonadi Kwath, Aamvata, Arthralgia, HLA-DRB1

INTRODUCTION
Rheumatoid arthritis is one of the collagen disease, rheumatoid arthritis term is derived from Greek word for a flowing stream or river. It is an autoimmune disease[8], a floridating stream or river. It is an autoimmune disease with unknown origin [1], the synovial become thick, leading to the development of swelling around joints and tendon. The symptoms are pain, stiffness of joint. The chronic inflammation occurs due to the continuous production of auto antibodies called rheumatoid arthritis factor[2]. Characterized by symmetrical relapsing ankylosing polyarthritis affecting mainly the peripheral small joint initially, associated with varied constitutional symptom and presence of Rheumatoid factor [3], primarily affecting the synovium and adjacent tissue[4]. People have been prone to become stressed or even depressed as a result of limited movement and who aren’t able to do the activities that were once beyond their everyday lives. This result in inflammation process causing redness and swelling in joints and around them. Rheumatoid Arthritis is a chronic autoimmune disease that primarily involves the joints. In Ayurveda Aamvata can be correlated to Rheumatoid Arthritis. The basic pathophysiology of Aamvata primarily involves Ama and Vata[10], usually with asymmetrical distribution. It’s systemic manifestation include hematologic, pulmonary, neurologic and cardiac vascular abnormalities. It is hetero-genous disease with variable severity unpredictable course and a variable grasp once to drug treatment. The disease prevalence worldwide is approximately 0.8% of the population. In India the prevalence of R.A. is 0.5 to 0.75%, the peak age of onset is in the fourth & fifth decade of life with more the 75% patients developing disease between 30 & 50 years of age. The condition is high association with HLA-DR4 and HLA-DR1 and familial aggregation [3]. The onset of disease is insidious beginning with proderm of fatigue, weakness, joint stiffness of joint usually in symmetrical fashion especially involving joints of hand, wrist and feet.

Genetic Risk Factor [8]
The disease is usually begins between 25 and 55 years but may affect both older and younger people, rheumatoid arthritis affect about 3% of female and 1% of the male population in temperature climate. It is seen 2 to 4 time more often in first degree relation. The disease concordance in mono Zygotic twins is approximately 30-50%. While it is similar to non-twins siblings in dizygotic twins. Non-genetic risk factor included gender and tobacco. Role of hormones, Pregnancy and related physiological alteration, fetal-maternal interaction have been implicated smoking causes repeated insult to the mucosa of Airways causing persist low grade inflammation that activates innate immune system through engagement of toll like receptors.
AIMS AND OBJECTIVES

(1) To provide adequate knowledge about Rheumatoid arthritis.
(2) Management with the Ayurved perspective by Rasonadi Kwath.

Etiopathogenesis [3]

In present RA occur is an immunogenetically predisposed individual to the effect of microbial agents as trigger antigen, more role recently the role of superantigens which are produced by several microorganism with capacity to bind to HLA-DR molecules and some others predisposing factors are following.

- Heredity – It may play a part in 5% to 10% of cases.
- Infection – Septic foci in the teeth, tonsil, gums or anywhere may play some part.
- Trauma – In many cases history of trauma is present.
- Climate – It was thought to be more common in temperature climates, however, it is equally prevalent in India also.
- Race – The disease does not occur in Negroes.
- Nutrition – Nutritional deficiency play a important part.
- Psychic factors – Psychic upstate is held responsible for this disease.

Clinical Features [4]: Insidious onset with fatigue, anorexia, weakness, and vague musculoskeletal symptoms & acute onset with rapid development of polyarthritis accompanied by constitutional symptoms-

- Morning stiffness more than 1 hour
- Arthritis of 3 or more joints
- Arthritis of hand joints
- Duration of 6 week or more
- Rheumatic nodules

Type of Presentation [4]

(1) Classical – Pain, stiffness and swelling of small joints of hand and wrist, symptoms fluctuate in severity from day to day.
(2) Palindromic – Intermittent episode of pain, swelling and redness usually of a single joint, followed by rapid return to normal after several days.
(3) Systemic – Weight loss, pleurisy and pericarditis but minimal joint involvement.
(4) Polymyalgic – Pain and stiffness in shoulder and hips with subsequent synovitis.
(5) Monoarthritis – Single joint involvement, usually the Knee.
(6) Acute onset – Sudden overnight onset with stiffness and pain.

Pathological Changes[8]: The predominant pathology lesion are found in the joints and tendons and less often, extra-articular lesion are encountered.

- Synovium-Histology: The synovial lining of an affected joint is inflamed and hyperplastic and proliferates to form swollen congested, thick villi process which project into the joints space.

- Articular cartilage: Prominent pannus may form over the articular cartilage, which may undergo organization, leading to fibrous ankylosis and sometimes bony ankylosis, in some patients with rheumatoid arthritis, chronic inflammation leads to the destruction of cartilage, bone and ligament causing deformity of joints.

- Synovial Fluid analysis: It is less viscous than normal. Joint fluid analysis usually reveals a WBC count of 2000-5000/cumm. The concentration of protein in fluid is increased.

Articular Manifestation [9]

Hand & wrist

- Swelling of the proximal but not the distal interphalangeal joint, result in Spindling of the fingers.
- Hyperextension of the proximal interphalangeal joints with flexion of the distal interphalangeal joints result in Swan-neck deformity.
- Extensor tendo rheumatoid granulomata and tendon rupture result in Dropped finger.
- Radial deviation of the wrist with ulnar deviation of the digit often with palmer subluxation of the proximal phalanges result in the Z deformity.

Foot & ankle

- Swelling of the metatarsophalangeal joints result in broadening of the forefoot.
- Lateral deviation and dorsal subluxation of the toes.
- Eversion at the hind foot.

Other joint

- Flexion contracture of elbow, wrist, knee and hips.
- Shoulder joint involvement can occur as glenohumeral arthritis and rotator cuff fraying and rupture.
- Cervical spine involvement can result in atlanto-axial subluxation with progressive spastic quadriaparesis.

Extra-Articular Manifestation [9]

Rheumatoid nodules

- Rheumatoid nodules are clinical predictors of more severe arthritis, sero-positivity, joint erosion and rheumatoid vasculitis.

Pleuropulmonary manifestation

- Pleural involvement result in effusion with low levels of pleural fluid glucose.
- Pulmonary involvement resulting in interstitial fibrosis.
- Caplans syndrome- Multiple nodules and interstitial lung disease due to pneumoconiosis.

Cardiovascular manifestation

- Pericarditis and chronic constrictive pericarditis.
- Premature atherosclerosis.
- Valvular involvement.
- Conduction defect.

Neurological manifestation

- Nerve entrapment syndrome.
- Spinal compression due to atlanto-axial subluxation.
- Peripheral neuropathies.
Felty syndrome
This is the association of splenomegaly and neutropenia with RA.

Osteoporosis
Osteoporosis secondary to rheumatoid involvement is very common. It may be aggravated by corticosteroid therapy and immobilization.

Haematological manifestation
- Normocytic normochromic anaemia
- Thrombocytosis
- Eosinophilia and mild leukocytosis

INVESTIGATION [4]
- Markers of acute inflammation- raised ESR, anaemia, thrombocytosis, increase levels of acute phase protein (CRP).
- Rheumatoid factor
- Anticitrullinate protein antibodies (ACPA), usually detected by anticyclic citrullinated peptide (CCP) antibodies.
- Ultrasonography & MRI for the detection of soft tissue synovitis before joint damages.
- Synovial fluid analysis, Synovial biopsy and arthroscopy.

DIFFERENTIAL DIAGNOSIS [3]
- Rheumatic arthritis
- Tubercular arthritis
- Osteoarthritis
- Traumatic arthritis
- Gouty arthritis
- Pyogenic arthritis
- Gonorrhoeal arthritis
- Psoriatic arthritis
- Haemophilic arthritis

Management of Rheumatoid Arthritis
In Ayurveda RA is conceptually very well correlated with Aamvata.[13] It is a joint disorder joint are made into two varieties - (1) Cestavanta (Mobile) and (2) Sthira (Non-mobile). This is important to note during the examination of joints because disease like Sandhivata always occur in Cala sandhis but not in Sthira sandhi, because of predominance of Vata in Cala sandhi.

absence of Slesmadhara kala in which Slesaka kapha is absent or slightly present. This is an important diagnostic features that Amavata condition prevail in Slesaka kapha sandhi (synovial joints) only. That means Amavata affects the joints in limbs, mandible and vertebrae only[18]. According to Bhavprakash Beautiful composition is given in Aamvata chikitsa 26th chapter Rasonadi Kwath. Conceptually it is play very effective role because of its rich properties [6].

Rasonadi Kwath [6,7]

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rasona [10]</td>
<td>Madhura, Katu, Tikta, Kashaya</td>
<td>Snigdha, Tikta, Pichala, Guru</td>
<td>Ushana</td>
<td>Katu</td>
</tr>
</tbody>
</table>

(1) Rasona [20]

<table>
<thead>
<tr>
<th>S. No</th>
<th>Active Principle</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Adenosine</td>
<td>Immunomodulator</td>
</tr>
<tr>
<td>02</td>
<td>Ajoene</td>
<td>Anti-inflammatory,COX-2 inhibitor</td>
</tr>
<tr>
<td>03</td>
<td>Allicin</td>
<td>Anti-inflammatory</td>
</tr>
<tr>
<td>04</td>
<td>Alpha-tocopherol</td>
<td>Anti-arthritic, Immunomodulator</td>
</tr>
<tr>
<td>05</td>
<td>Ascorbic acid</td>
<td>Anti-arthritic, Immunomodulator</td>
</tr>
<tr>
<td>06</td>
<td>Beta-carotene</td>
<td>COX-1,2 inhibitor</td>
</tr>
<tr>
<td>07</td>
<td>Caffeic-acid</td>
<td>COX-2 inhibitor</td>
</tr>
<tr>
<td>08</td>
<td>Calcium</td>
<td>Anti-arthritic, Anti-inflammatory</td>
</tr>
<tr>
<td>09</td>
<td>Chromium</td>
<td>Immunomodulator</td>
</tr>
<tr>
<td>10</td>
<td>Copper</td>
<td>Anti-arthritic, Anti-inflammatory, Immunomodulator</td>
</tr>
<tr>
<td>11</td>
<td>Eicosapentaenoic-acid</td>
<td>Immunomodulator</td>
</tr>
<tr>
<td>12</td>
<td>Kaempferol</td>
<td>Anti-inflammatory, COX-2 inhibitor</td>
</tr>
<tr>
<td>13</td>
<td>Magnesium</td>
<td>Immunomodulator</td>
</tr>
<tr>
<td>14</td>
<td>Manganese</td>
<td>Anti-arthritic</td>
</tr>
<tr>
<td>15</td>
<td>Phosphorus</td>
<td>Immunomodulator</td>
</tr>
<tr>
<td>16</td>
<td>Quercetin</td>
<td>Anti-arthritic, COX-2 inhibitor</td>
</tr>
<tr>
<td>17</td>
<td>Selenium</td>
<td>Anti-arthritic, Anti-inflammatory, Immunomodulator</td>
</tr>
<tr>
<td>18</td>
<td>Tryptophan</td>
<td>Anti-rheumatic</td>
</tr>
<tr>
<td>19</td>
<td>Zinc</td>
<td>Anti-arthritic, Anti-inflammatory, Immunomodulator</td>
</tr>
</tbody>
</table>
(2) Shunthi [20]

Table 3: Active Properties of Shunthi

<table>
<thead>
<tr>
<th>Ser. No</th>
<th>Active Principle</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>1,8-Cineol</td>
<td>Anesthetic, Anti-rheumatic</td>
</tr>
<tr>
<td>02</td>
<td>10-Dehydrogerdione</td>
<td>Anti-inflammatory, Antiprostaglandin</td>
</tr>
<tr>
<td>03</td>
<td>10-Gingerdion</td>
<td>Anti-inflammatory, Antiprostaglandin</td>
</tr>
<tr>
<td>04</td>
<td>6-Dehydrogerdione</td>
<td>Anti-inflammatory, Antiprostaglandin</td>
</tr>
<tr>
<td>05</td>
<td>6-Gingerdione</td>
<td>Anti-inflammatory, Antiprostaglandin</td>
</tr>
<tr>
<td>06</td>
<td>6-Gingeroi</td>
<td>Antiprostaglandin, Analgesic</td>
</tr>
<tr>
<td>07</td>
<td>Alpha-curcumene</td>
<td>Anti-inflammatory, Immunomodulator</td>
</tr>
<tr>
<td>08</td>
<td>Ascorbic-acid</td>
<td>Anti-inflammatory, Immunomodulator</td>
</tr>
<tr>
<td>09</td>
<td>Beta-carotene</td>
<td>COX-1,2 inhibitor</td>
</tr>
<tr>
<td>10</td>
<td>Beta-sitosterol</td>
<td>Anti-inflammatory</td>
</tr>
<tr>
<td>11</td>
<td>Caffeic-acid</td>
<td>Anti-inflammatory, COX-1,2 inhibitor, Analgesic</td>
</tr>
<tr>
<td>12</td>
<td>Calcium</td>
<td>Antiarthritic</td>
</tr>
<tr>
<td>13</td>
<td>Camphor</td>
<td>Analgesic</td>
</tr>
<tr>
<td>14</td>
<td>Chromium</td>
<td>Immunomodulator</td>
</tr>
<tr>
<td>15</td>
<td>Citral</td>
<td>Anti-inflammatory</td>
</tr>
<tr>
<td>16</td>
<td>Copper</td>
<td>Antiarthritic, Anti-inflammatory, Immunomodulator</td>
</tr>
</tbody>
</table>

(3) Nirgundi [20]

Table 4: Active Properties of Nirgundi

<table>
<thead>
<tr>
<th>S. No</th>
<th>Active Principle</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Beta-sitosterol</td>
<td>Anti-inflammatory</td>
</tr>
<tr>
<td>02</td>
<td>Artemetin</td>
<td>Anti-inflammatory</td>
</tr>
<tr>
<td>03</td>
<td>Isorhamnetin</td>
<td>Anti-inflammatory</td>
</tr>
<tr>
<td>04</td>
<td>Luteolin</td>
<td>Anti-inflammatory</td>
</tr>
</tbody>
</table>

RESULT

Due to all above properties and mentioned properties on Table 1 to Table 4 each drug of this compound are Anti-inflammatory, Immunomodulator, Analgesic, Antiarthritic, COX-1,2 inhibitor, Anti-prostaglandin which is also help to treat RA so this particular drug Rasonadi Kwath is conceptually play a very effective role in the management of Rheumatoid arthritis (R.A.).

DISCUSSION

Sedentary life style, stressful situations and fast food dietary patterns are responsible factors for the manifestation of disease. The etiological factors like Guru Ahara, Viruddhahara, Viruddha Cheshta, Mandagni, Snigdha bhuktavata Vyayama etc are responsible for Amavata. Derangement of Agni, that is Agnimandya, (hypo-functioning of Agni) is a chief factor responsible for the formation of Ama. Asthis (bones) and Sandhis (joints) are the most affected parts in Amavata. Root source of these are Majjavaha Srotas which are directly afflicted with Viruddha Ahar-Vihar. So we can say that Viruddha Ahara and Viruddha Cheshta both contribute as Nidanas in pathogenesis of Amavata. Again Vyayama is said to be a causative factor for the Shakha Gati of Doshas. If there is already Ama condition and Vyayama is done, the increased Vata will take the Ama to the Shakha then causing its Sthanasamshraya in the Sandhis, leading to Amavata. After studying the etiopathogenesis of Amavata, it is found that above factors individually or together lead to the Kapha Prakopa or Vataprakopa or both Along with this role of psychological factors also should be considered [25]. The drug Rasonadi Kwath which is also described in Bhasiya Ratnavali 29/29 the combination of these drug is Katu pradhan tikta rasa and except Amla rasa all others Rasa are present in small amounts. It is Pradhanaataha Raksha and Teekshna in Gunas, Ushana veerya, Pradhanaatah Katu Vipaka, Kapha-Vatathara and Deepana. Kwath is Laghu to digest as compared to Swarasa and Kalka. Rasonadi kwath is Karshaka in nature. It acts against the Snigdha, Pichila pradhana Gunas of Ama, and it reduced the Sarrvadaihika Ama lakshanas which are nothing but Samanya lakshanas of Amavata. so it has a 37.5% drug has Katu rasa, 25% Tikta rasa & 12.5% drug Kashay rasa. 100% drug is Ushana veerya and 66.6% drug is Katu vipaka which also has a Vatapitta Vridha and Kaphahara properties, 33.33% is Madhura vipak and very importantly 100% drug is Kaphavata shamak due to Ushana veerya other properties are Shothhara, Vedna shtapanam, Deepan-pachan, Shoolaprasranna, Aamapachan and Shunthi is Uttam Aamapachan. In this 100% drug are Ushana veerya so it very much Kapha shamak properties & also prevent the formation of free radical and Ketone bodies. Due to Tikta rasa Rason and Nirgundi has a Shothhara property which is also useful to reduce the inflammation in related joints, Vata dosha is mainly responsible for this disease but Kapha is also involved because it is a Shothatmak vikriti and Sotha is a Rasaprodosaj vikar and Mala of the Rasa dhatu is Kapo so that Kapha is essentially involved.

CONCLUSION

About Aamavata especially described by Aacharya Madhava in his book Rogvinashchaya that’s why also known as a Mouliv avdana of Madhava. It is a Krichasadhatya Vyadh but in modern it’s a autoimmune disease as well as metabolic disorder because involvement of Aama & it is mainly responsible for this disease and Aama means a intermediated product which is form during a abnormal metabolism of food. Due to Aama sited in Trika sandhi, Janu Sandhi, Manibanda, Kurpura sandhi, and all small joints of the body and show some specific symptoms like Pain, redness, swelling, stiffness these are the sign & symptoms of RA. From the above study will be concluded the preparation Rasonadi kwath is play much effective in 

Available online at: [http://ijapr.in](http://ijapr.in)
R.A. because it has a very rich property like Sothhara, Vedna-sthapanam, Kaptha-vatashamakam, Deepan-Pachan, Anuloman, Shoola-prashman, and also Shunthi is Uttam Aama pachak and the formation is potent enough to act at the level Asthi Sandhi which is a part of Madhyama Roga marga. all the above things are conceptually very helpful to treat the Rheumatoid arthritis.

REFERENCES

7. Prof. Sidhinandan Mishra Bhaisjya Ratnavali Varanasi U.P. Published by Choukhamba surbhirti Prakashan 2012 Page - 596.
8. Mrinalini Sant, A textbook of Pathology Landon, Published by NCBA new central Book agency (P) Ltd. 2010, Page - 627.
20. Dr. Duke’s Phytochemical and ethnobotnical database (Online database) 23 March 2012.

Cite this article as:

Source of support: Nil, Conflict of interest: None Declared

Disclaimer: IJAPR is solely owned by Mahadev Publications - A non-profit publications, dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. IJAPR cannot accept any responsibility or liability for the articles content which are published. The views expressed in articles by our contributing authors are not necessarily those of IJAPR editor or editorial board members.