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Patho-Physiology of Rheumatoid Arthritis (Amavata) And Their Ayurvedic Management

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Abstract:-

Rheumatoid arthritis (RA) is an autoimmune disease that can cause joint pain and damage throughout our body. The joint damage that RA causes usually happens on both sides of our body. So if a joint is affected in one of your arms or legs, the same joint in the other arm or leg will probably be affected, too.

Treatments work best when RA is diagnosed early, so it's important to learn the signs. Read on to learn everything you want to know about RA, from types and symptoms, to home remedies, diets, and other treatments.

Aim:- The aim of article is to discuss the pathogenesis and management of Rheumatoid Arthritis (Amavata).

Objectives:- To create awareness of treatment of Rheumatoid Arthritis(RA) according to Ayurveda.

Type of study:- Descriptive and Conceptual study.

Literary review:- According to Ayurveda (Samhita's) our shairs(Body) is made up of dosha, dhatu and malas. All these responsible for maintaining body.Roga (disease) is the effect of disequilibrium of dhatus and health is the result of equilibrium of doshas & dhatus.

Keyword:- Rheumatoid arthritis (RA), Amavata, Autoimmune disease.

Introduction:-

Amavata is not proved to be fatal, Amavataw.s.r. to Rheumatoid Arthritis is one of the apprehensive disease that mankind faces today. Even though, it cripples the affected patients. This dreadful disease initiates as joint stiffnessultimately it can cause of many others. It can affect many facets of a patient's life, occupational and community relationships, even with his family. It affects not only the social and economic position of the individual and his family but is leads to the draining of national resource due to the work hours lost and as well as resulting production.

R.A. is the most common persistent inflammation arthritis, occurring throughout the world and all ethnic groups, the prevalence is lowest in black Africans, Chinese and highest in PIMA (River side people) Indians, in Caucasian is 1.0-1.5% with female to male ratio is 3:1.

Rheumatoid Arthritis(R.A) an auto-immune musculo-skeletal disorder, explained in modern medicine has a clause resemblance with the clinical entity of Amavata. In recent year an intense study of different condition primarily involving the musculoskeletal structure(Rheumatology) has been made and it revealed that inflammatory or degenerative changes occur in disease like R.A.

The current available medical intervention cannot satisfy the objectives of an ideal therapy in R.A. The available pain reliving agents associated with substantial risk of gastrointestinal and bleeding.

Causes:-Occurs when immune system attacks the synovium — the lining of the membranes that surround your joints.

The resulting inflammation thickens the synovium, which can eventually destroy the cartilage and bone within the joint.

The tendons and ligaments that hold the joint together weaken and stretch. Gradually, the joint loses its shape and alignment.

Don't know what starts this process, although a genetic component appears likely. While your genes don't actually cause rheumatoid arthritis, they can make you more susceptible to environmental factors - such as infection with certain viruses and bacteria - that may trigger the disease.

Risk factors-

Factors that may increase risk of rheumatoid arthritis include:

- **Sex.** Women are more likely than men to develop rheumatoid arthritis.
- **Age.** Rheumatoid arthritis can occur at any age, but it most commonly begins between the ages of 40 and 60.
- **Family history.** If a member of family has rheumatoid arthritis, may have an increased risk of the disease.
- **Smoking.** Cigarette smoking increases your risk of developing rheumatoid arthritis, particularly if you have a genetic predisposition for developing the disease. Smoking also appears to be associated with greater disease severity.
- **Obesity.** People who are overweight or obese appear to be at somewhat higher risk of developing rheumatoid arthritis .

Sign and symptoms of RA:- In the early stages, people with RA may not initially see redness or swelling in the joints, but they may experience tenderness and pain.

These following joint symptoms are clues to R.A.-

- Joint pain, tenderness, swelling or stiffness for six weeks or longer
- Morning stiffness for 30 minutes or longer
- More than one joint is affected
- Small joints (wrists, certain joints of the hands and feet) are affected
- The same joints on both sides of the body are affected
- Along with pain, many people experience fatigue, loss of appetite and a low-grade fever.

The symptoms and effects of RA may come and go. A period of high disease activity (increases in inflammation and other symptoms) is called a flare. A flare can last for days or months.

Ongoing high levels of inflammation can cause problems throughout the body. Here of some ways R.A. can affect organs and body systems:

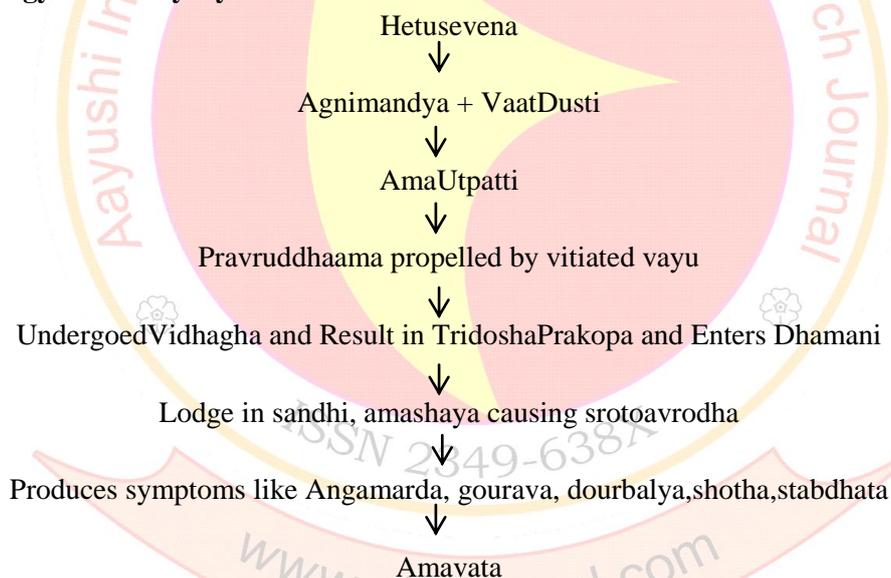
- **Eyes.** Dryness, pain, redness, sensitivity to light and impaired vision
- **Mouth.** Dryness and gum irritation or infection
- **Skin.** Rheumatoid nodules – small lumps under the skin over bony areas
- **Lungs.** Inflammation and scarring that can lead to shortness of breath
- **Blood Vessels.** Inflammation of blood vessels that can lead to damage in the nerves, skin and other organs
- **Blood.** Anaemia, a lower than normal number of RBCs.

Pathophysiology:-

- Genetic, epigenetic and environmental factors.
- The MHC class II gene, *HLA-DR4*, is the major susceptibility haplotype in 50-75% of Caucasian patients with R.A.
- DR1 is more important in Indian and Israelis , and DW15 in Japanese.
- Porphyromonas gingivalis, present in mouth of people with periodontal disease, appears to stimulate the production of ACPA linked to R.A.

- The clinical onset – infiltration of the synovial membrane with
 - Lymphocytes
 - Plasma cells
 - Dendritic cells
 - Macrophages.
- CD4+ T lymphocytes, include Th1 cell and Th17 cells play a central role by interacting with other cell in synovium.
- Lymphoid follicles form within the synovial membrane in which T cell – B cell interactions leads B cell to produce cytokines and autoantibodies, including RF and ACPA.
- Synovial macrophages- activated by immune complexes – produce proinflammatory cytokines, including TNF,IL-1,IL-6 and IL-15.
- proinflammatory cytokines acts on synovial fibroblasts, to promote swelling of the synovial membrane and damage soft tissues and cartilage.
- Activation of osteoclasts and chondrocytes drive destruction of bone and cartilage.
- The R.A. joint is hypoxic and this promotes new blood vessel formation.
- The inflammatory granulation tissue formed by the above sequence of event spreads by the over and under the articular cartilage, which is progressively eroded and destroyed.
- Later, fibrous or bony ankylosis may occur.
- Muscles adjacent to inflamed joints atrophy and may be infiltrated with lymphocytes.

Pathophysiology of R.A. by Ayurveda:-



Diagnosis:-

Rheumatoid arthritis can be difficult to diagnose in its early stages because the early signs and symptoms mimic those of many other diseases. There is no one blood test or physical finding to confirm the diagnosis.

During the physical exam, your doctor will check your joints for swelling, redness and warmth. He or she may also check your reflexes and muscle strength.

Blood tests- People with rheumatoid arthritis often have an elevated erythrocyte sedimentation rate (ESR, or sed rate) or C-reactive protein (CRP), which may indicate the presence of

an inflammatory process in the body. Other common blood tests look for rheumatoid factor and anti-cyclic citrullinated peptide (anti-CCP) antibodies.

X-ray help track the progression of R.A. in joints.

MRI and USG test- can help to judge the severity of the disease.

Management of R.A. :-

➤ According to modern point of view main goals of therapy of R.A. are

1. Relief of pain
2. Reduction of inflammation.
3. Preservation of Functional capacity .

The drugs of modern medicine are mainly divided into 3 groups –

I. Non-steroidal anti-inflammatory drugs.

II. DMARDS- Disease modifying rheumatic drugs.

III. Glucocorticoid drugs.

- a) As first line of treatment , normally aspirin like nonsteroid anti-inflammatory drugs along with low dose glucocorticoid are used.
- b) As second line of treatment DMARDS line gold compounds , D-pencillamine, Antimalarials, sulfasalazine etc. are used.
- c) Some time immune suppressive drugs like Azathioprine, Cyclophosphamide etc. are used.

➤ Ayurvedic line of Treatment of R.A. (Amavata)

Shodhan:-

1. Snehpana (Ingestion of unctuous substances -: various oils specially prepared with Rasna, Dashmoola, Nirgundi are used for this purpose. Especially castor oil is considered as the best oil to be used in the treatment of amavata.
2. Langhana (fasting)-: it is done by means of complete absence of food, or by giving preparations of MudgaYusha, Iajamanda, Peya(rice water soup), kulith(horse gram) and Yava (barly).
3. Swedana (fomentation) is very useful mode of treatment in amavata. Specially complete dry sweda in the form of Rukshakutisweda (sauna bath), Dry fomentation-using sands like dry substances, Upanaha (local application) of non-unctuous substances are very effective in relieving the pain.
4. Virechan (Purgatives)-: Virechan with castor oil is very useful in treating amavata.
5. Basti (medicated enema) various medicated enemas like VaitaranBasti, DashmoolaKwathBasti, KsharBasti, ErandmoolaYapanBasti are useful in relieving the pain in amavata

Shaman Chikitsa :- commonly used drugs

1. Decoctions

- Rasna-panchakkwatha.
- Rasnasaptakkwatha
- Panchakolkwatha.
- Dashmoolkwatha with erandataila.

2. Churna:-

- Ajamodadyachoorana
- Panchakolchoorna with lukewarm water
- Shunthichoorna
- Almabushadyachoorana
- Vaishwanarchoorna

- 3. Vati / Guggulu**
 - Simhanadguggulu
 - Brihatyogarajguggulu
- 4. Ghrita**
 - panchakolaghrita
 - rasnadighrita
- 5. Taila**
 - Erandataila
 - Saindhavadyataila
- 6. Lepa**
 - Shunthilepa
 - Bachang-tentulepa
- 7. Rasaushadhi**
 - Amavatari rasa
 - Rasrajras

Pathya-apathya -

	Pathya	Apathya
Food	Yava(barley) , Kulattha , Raktashali(rice) Vastuk, shigru, punarnava, karvellak, paeawar, adrak rasona, jangalmansa(meat), hot water	Flour of amsh, sweets, Fast food, uncooked food, salty , spicy, oily food, cold water, curd , jiggery , milk, ice creams .
Behavior	Pranayama, Yoga, Meditation .	Daytime,sleeping, Vegavadharan, exposure to cold , excess of stress.

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