

ANTI-RHEUMATIC FORMULATIONS FROM AYURVEDA

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ABSTRACT: *Rheumatic disorders like Amavata, Sandhivata and Vatarakta are elaborately described in ayurvedic literature. Preliminary survey of literature shows that about 247 formulations are recommended for these rheumatic disorders. These formulations generally include guggulu compounds, compounds of plant powders, decoctions, medicated ghees, oils, electuaries etc. Therapeutic potential of ayurvedic concepts and a brief review of Ayurvedic formulations are also discussed.*

INTRODUCTION

Rheumatic diseases have affected mankind since antiquity. Paleontological findings of dinosaurs fossils, which are 100 million years old have shown the evidence of arthritits¹. Egyptian mummies, estimated to be 8,000 years old have also shown the evidence of arthritis. **Caraka Samhita** comprehensively describes the clinical features of arthiritis². Bhrihu has also described the synovial fluid and changes in arthritis³.

Rheumatic disorders encompass a broad spectrum of diseases. However, many of the diseases have chronic progressive course leading to lifelong suffering, often making the patient deformed, disabled and dependent on others. Rheumatoid arthritis forms a major prototype of rheumatic diseases.

Pathogenetic mechanisms

For the development of an effective and rational treatment, it is first necessary to understand pathogenesis of a disease. The etipathogenesis of rheumatoid arthritis involves diverse and complex factors⁴ such as genetic background, rheumatoid factor, immune complexes, complement activation, lymphocytes, arachiodnic acid metabolites, free oxygen radicals etc.

The description of **amavata** in Ayurveda finds very much similarity too many of the rheumatic diseases. It is said that a person having inherent suboptimal digestive capacity develops, **ama** when exposed to incompatible diet and physical activities. **Ama** escapes into the circulation and gets further vitiated. Such vitiated **ama** gets deposited in various tissues and leads to disease⁵.

It is well recognized that certain macromolecules of food travel across gut mucosa and are likely to be antigenic; in response to these antigens antibodies are subsequently developed. Antigen and antibody combine to form the immune complexes. These are either cleared off by reticulo-endothelial system or may remain in circulation and may possibly may deposit into certain tissues to produce diseases.

It seems that the concept of **amapachana** therapy probably indicates antigen clearance. It would be interesting to study the effect of **amapachana** drugs on the circulating immune complexes.

Allopathic Antirheumatic Drugs

Currently drugs form a major part of the management of arthritis. The conventional drug treatment of rheumatoid arthritis consists of analgesics, non-steroidal anti-inflammatory drugs (NSAIDS), disease-modifying drugs (DMARDS) and corticosteroids. These agents act at various sites in the schema of pathogenetic mechanisms^{6,7}.

Analgesics act predominantly on the central nervous system to allay the pain. Paracetamol, dextropropoxyphen and low dose aspirin are the most commonly used analgesics.

The NSAIDS predominantly inhibit the prostaglandin biosynthesis by blocking the cyclo-oxygenase pathway of arachidonic acid. This group consists of a plethora of drugs such as salicylates, pyrozolon derivatives, propionic acid derivatives, indole group, oxicans, fenamates etc.

The disease-modifying drugs have various modes of actions. They probably inhibit the immune complex formation. Frequently used drugs are penicillamine, chloroquine,

sodium ourothiomalate. These taken long to act and relief is not seen before 8 to 12 weeks.

Immune-modulating drugs like methotrexate, cyclophosphamide, also modify the course of diseases but their severe toxicity often precludes their use.

The action of corticosteroids is less clearly understood. It blocks phospholipase A₂ enzyme preventing arachidonic acid formation and thereby prostaglandin biosynthesis. It also has the ability to prevent the recruitment of neutrophils and monocyte macrophages at the inflammatory site. Steroids are fast acting and are reserved for specific conditions e.g. acute exacerbation.

It seems from the foregoing discussion that modern conventional drug treatment is more or less palliative. These drugs do have adverse effects. And some are also expensive. Hence there is a need for new agents for arthritis which are safer, more economical and effective.

Ayurvedic Antirheumatic Drugs

In a preliminary survey of ayurvedic literature it was found that various types of preparations are recommended for rheumatic disorders⁸. Table 1 shows the number of various types of formulations used in rheumatic disorders.

Decoctions are prepared by boiling a specific quantity of either fresh or dried plants in measured quantity of water. **Kalka** means the fresh plants are crushed to make paste. **Choornas** or powders are prepared by grinding the dried plants to a fine powder. Few powder formulations also contain inorganic constituents. In the literature maximum number consists of pills;

eighty per cent of them contain inorganic constituents. **Guggulu (Commiphora**

mukul) forms a major constituent in about 50% of the pills.

TABLE – 1

Drugs recommended for rheumatic diseases in Ayurveda

Formulations	n	Formulations	n
Decoction & kalkas	47	Electuaries	8
Plant powders	24	Medicated ghees	24
Pills	85	Oils	47

Medicated confectionaries are prepared with drugs like ginger, marking nut etc. They are usually taken with milk or are licked. Medicated ghee is a special dosage form used in Ayurveda. In this dosage form the decoction or juice of plants is boiled with clarified butter. Medicated oils are used externally. It is likely that the drugs used in

oil might be absorbed through the skin. The oils are used internally as well.

All these formulations mentioned in texts are not always in frequent use. Table 2 shows the list of commonly selected formulations which are being used widely, in practice, throughout India.

TABLE 2

Formulations commonly used in Rheumatic diseases

Rasnasaptak kwath	Yogaraj guggulu
Ajmodadi choorna	Khandashunthyavaleha
Vatavidhvanasan rasa	Amrit bhallatak
Vatari rasa	Guggulu panchatikta ghrita
Sinhanad guggulu	Vishagarbha taila

Yogaraja guggulu a herbomineral formulation with guggulu as major ingredient is the most commonly used. In our study of this formulation in the patients of definite|classical rheumatoid arthirits, articular index, pain score and swelling

score decreased remarkably, morning stiffness also reduced considerably. Disease activity controlled in more than 50% of cases of Yogaraja guggulu⁹.

Selected list of ten plants frequently used in formulations as well as in clinical practice is shown in Table 3. These plants are also subjected to clinical and experimental investigations, to a varying extent.

Ginger is one of the major ingredient in more than 75% formulations. In Japanese studies, a compound derived from its rhizomes has been shown to inhibit

prostaglandin synthesis, even better than indomethacin¹⁰.

Ricinus communis i.e. castor plant called **eranda** in Sanskrit has been emphasized as an important therapeutic agent in Ayurveda, for **Amavatsa**¹¹. Recent study at All India Institute of Medical Sciences shows that castor oil in non-purgative dose could control disease activity of more than 40% of cases of Rheumatoid arthritis¹².

TABLE 3

Selected plants used in Rheumatics diseases

Zingiber officinale	Ricinus communis
Tinospora cordifolia	Terminalia chebula
Pluchea lanceolata	Semicarpus anacardium
Vanda roxbuerghii	Boerhaavia diffusa
Alpinia galangal	Commiphora mukul

It is evident from this study that Ayurvedic literature and tradition provides unprecendental opportunity for the new drug development of antiarthritic drugs. Many of the drugs and therapeutic modalities reveal interesting findings on clinical and

experimental investigations. Careful clinical trails of commonly used Ayurveidc drugs are needed to know the specific utility, efficacy and safety of these drugs. There is also a need to evaluate the efficacy safety vis-à-vis allopathic drugs.

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