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## **MEDICINAL PLANTS USED IN RHEUMATOID ARTHRITIS**

**Pratibha S. Gavarkar<sup>1</sup>, Rajashree S. Chavan<sup>2</sup>**

*1. Dept. of Pharmaceutical Chemistry, Anandi Pharmacy College, Kalambe Tarf Kale Tal-Karveer, Dist- Kolhapur, Maharashtra, India.*

*2. Dept. of Pharmaceutical Chemistry, Seth Govind Raghunath Sable College of Pharmacy, Saswad, Tal- Purandar, Dist- Pune, Maharashtra, India.*

### **ABSTRACT**

Rheumatoid arthritis is a chronic, inflammatory disorder that can affect numerous tissues and organs, but predominantly attacks synovial joints. The activity develops an inflammatory response the sheath around the joints and the inflammation of synovial cells. The aim in this review is to assemble all obtained data on anti-arthritic activity of plants and natural products. Different plant species have been recognized as active services of phytochemicals with anti-arthritic properties.

**Keywords:** - Rheumatoid arthritis, anti-arthritic activity, herbal plant, inflammatory



## **INTRODUCTION**

Arthritis is defined as inflammation of the joint. Rheumatoid arthritis (RA) is a ruining inflammatory and autoimmune disease that affects the joints but its cause is quite undetermined. In RA inflammation exhibits in the lining of joints inducing pain, enlargement, joint injury and its defect. It may infrequently comprise other internal organs, such as the nerves, eyes, lungs or heart. But RA is that, as it may mostly attack the joints. The initial symptoms of RA may be not a detailed or exact, which involves feeling unwell or tired suffering in or around joints, fever and weight loss along with low appetite [1-4].

There is generally a 'stimulation' like an infection or environmental factor, which initiates or activates the genes. When the body is subjected to this stimulation the immune system responds improperly. Rather than protecting the joint the immune system starts to produce the substances that attack the joints and this results in the development of rheumatoid arthritis. This paper reviews some of the habitual and familiar herbs that have a history of human use and their anti-inflammatory or anti-arthritis properties. Primarily herbal plants are used both internally and externally. A plentiful number of herbal drugs is available which are used to reduce chronic joint inflammation [5-8].

In current years, preclinical trials have proved that natural plant extracts and compounds can remarkably relieve RA. Regarding the natural plant extracts and compounds medicines for the treatment of RA represent different systematic rules and functions, examining the potential of natural plant extract and compounds as a medicine for RA treatment will be helpful for RA patients.

## **NEED OF NATURAL REMEDIES IN RHEUMATOID ARTHRITIS**

Since ancient times Indians rely more on natural sources of drugs. Natural remedies are still used in some tribal population, traditional medicinal practitioners are helpful in various diseases. According to WHO, the percentage of people using herbal treatments is about 80%. Also, such natural remedies are used in RA. These herbs can be taken as juice, infusion or with the daily diet to make desirable changes in the disease to the benefit of patients. [2]

## EFFECT OF MEDICINAL PLANTS ON RHEUMATOID ARTHRITIS

### 1) *Boswellia serrata* and *Glycyrrhiza glabra* (liquorice)-



Biological name - *Boswellia serrata*

Common name – Indian frankincense

Family – Burseraceae

Part used - Bark



Biological name – *Glycyrrhiza glabra*

Common name - Liquorice

Family- Leguminosae

Part used - Root, bark



*Glycyrrhiza glabra* (liquorice) is a herb belongs to bean. Roots and rhizomes of this herb is used from centuries in traditional medicines for its anti-inflammatory, antiulcer, antimicrobial activities. <sup>[3]</sup> *Boswellia serrata* found in India, north Africa. Its active constituent that is  $\beta$ -boswellic acid in resin portion shows anti-inflammatory and antiarthritic activity.<sup>[4]</sup> A study conducted in which *Glycyrrhiza glabra* and *Boswellia serrata* combined for synergistic activity on rheumatoid arthritis. They showed good synergistic activity.<sup>[3]</sup>

### 2) *Strychnos potatorum* (Linn)



Biological name- *Strychnos potatorum*

Common name - katakam

Family - Loganiaceae

Part used - Seed

This medium sized tree is found in central and south part of India, Sri Lanka and Burma. Powder of seeds of this plant is useful to treat rheumatoid arthritis.<sup>[4]</sup> Its active constituents are alkaloids, lignin, glycosides, phenols, saponin, sterols and tannins present root, stem bark and seeds are responsible for its activity.<sup>[6]</sup>

### 3) *Cinnamomum zeylanicum* L-



Biological name– *Cinnamomum zeylanicum* L.

Common name - cinnamon

Family - lauraceae

Part used – Bark

Cinnamon grows in south India. Its main active constituent is cinnamaldehyde and terpenes.<sup>[3]</sup> The Type-A procyanidin polyphenols that is TAPP which obtained by extracting the bark of cinnamon has shown the immunomodulatory effect and anti-inflammatory activity also proved to have effect in rheumatoid arthritis.<sup>[7]</sup>

### 4) *Justicia gendarussa* burm. F.-



Biological name- *Justicia gendarussa*

Common name – willow leaved Justicia

Family – Acanthaceae

Part used - leaves

*Justicia gendarussa* is rarely seen shrub grows in shade a fast growing. The main source country of this plant is China but it also found in forests of India and Sri Lanka. Leaves of the plants have been traditionally used in India in the treatment of different diseases like fever, rheumatism, arthritis. The leaves of this plant contain lignans as main constituents responsible for antiarthritic activity. Also ethanolic extract of the *Justicia gendarussa* found to be affective against rheumatoid arthritis.<sup>[5]</sup>

#### 4) *Hibiscus platinifolius* Linn-



Biological name – *Hibiscus platinifolius*

Common name – maple leaved mallow

Family - malvaceae

Part used- leaves

*Hibiscus platinifolius* Linn is flowering plant from India and also Sri Lanka. The anti-arthritis activity of leaves of this plant. It is effective against Freund's complete adjuvant (FCA) and turpentine induced arthritis. Aqueous extract of the *Hibiscus platinifolius* Linn leaves are extracted and used. [1]

#### CONCLUSION

Rheumatoid arthritis is an autoimmune disease that includes painful inflammations in the joints. Because of great economical value the medicinal plants as natural remedies are used in the treatment of rheumatoid arthritis. It is an evident that plant extract has potential effects on such diseases.

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