



HERBAL MEDICINE USED IN RHEUMATOID ARTHRITIS

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Abstract:

Abstract:-Rheumatoid arthritis (RA) could be a common worldwide public pathological state. autoimmune disease (RA) may be a chronic autoimmune debilitating disease characterized by synovial inflammation, damage to cartilage and bone, and deformities of the joints. The tumor necrosis factor (TNF) and interleukin-1 trigger the system in rheumatism. There are differing types of rheumatism and also the form of RA depends on your symptoms and also the clinical results of laboratory tests and x-rays. styles of RA is differentiated by the presence or absence of an autoantibody or protein produced by the body .Herbal medicines are widely used everywhere the globe since times of yore and are recognized by physicians and patients for his or her better therapeutic value. they need fewer adverse effects as compared with modern medicines. Especially in Indiaherbal medicines has increased due to their ability to treat various diseases with lesser side effects.

Introduction:

Herbal Medicine

Botany and also the use of medicinal plants are studied in herbal medicine. Plants are used because the premise for medical procedures for much of human history, and traditional medicine continues to be used today. Since ancient time, herbal remedies and natural products are being to cure the diseases. Many plant-derived compounds are often used as basis for evidence-based prescribed drugs in modern medicine. Herbal drug alternative and medicine that uses plants or their crude products or extracts for the treatment of diseases. Crude drug – It's a medically useful drug of plant or animal origin with none further processing or modification. Extracts – Extraction is obtaining of a mixture of compounds from herbal material by using adequate solvents.

RHEUMATOID ARTHRITIS

Rheumatoid arthritis (RA) is an disease causes chronic inflammation of in the joints. Autoimmune diseases are illnesses that occur when the body's tissues are mistakenly attacked by their own system. . Patients with autoimmune diseases have antibodies and immune cells in their blood that concentrate on

their own body tissues, where they are going to be related to inflammation. While joint tissue inflammation arthritis are classic RA features, the disease cause extra-articular inflammation and injury in other organs.

Signs and Symptoms

- Fatigue
- Joint pain
- Joint tenderness
- Joint swelling
- Joint redness
- Joint warmth
- Joint stiffness
- Loss of joint range of motion
- Limping
- Joint deformity
- Many joints affected (polyarthritis)
- Both sides of the body affected (symmetric)
- Loss of joint function
- Anemia
- Fever

RHEUMATOID FACTOR

- Seropositive
- Seronegative

Diagnosis of rheumatoid arthritis

- Elevated erythrocyte sedimentation rate (ESR)
- C- reactive protein

- Anti – cyclic citrullinated peptide (anti-CCP) antibodies

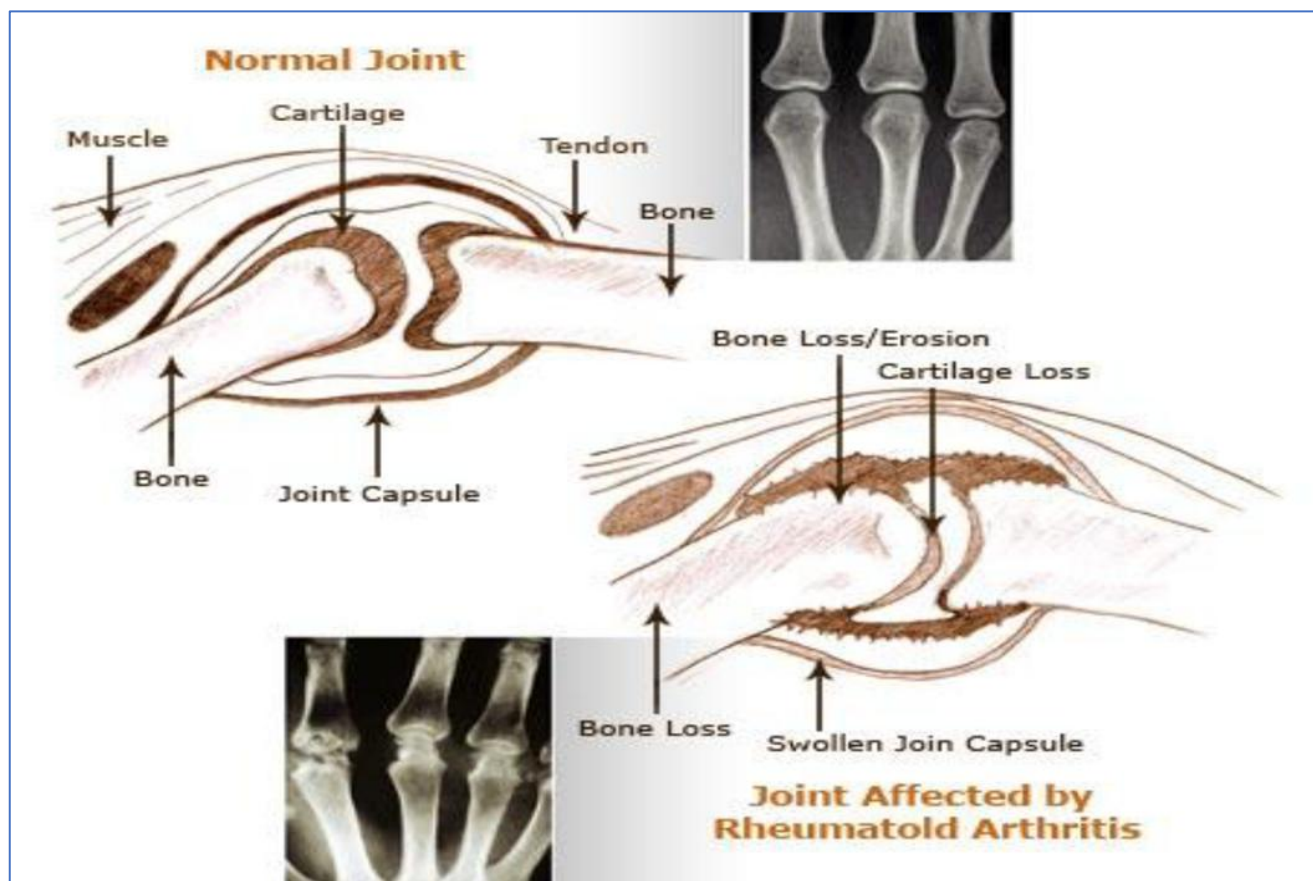


Figure 1: Comparison of normal joint and joint affected by rheumatoid arthritis

HERBAL DRUGS

1. GINGER

Botanical Name- *Zingiber officinale*

Family- Zingiberaceae

Chemical constitute- Shogaols, Gingerol, Diarylheptanoids, Limonene, Terpenes, Curcumene, Terphineol, 9% protein, 60-70% carbohydrates, 3-8% crude fiber, about 9-12% water and 2-3% volatile oil

Mechanism of action: Ginger anti-inflammatory activity by inhibiting COX-2 and LOX pathway. It suppresses the expression of COX-2, 5-LOX, and iNOS, most likely through the down regulation of NF-kB activation.

USES- 1. Ginger is used as stomachic, an aromatic, a carminative, stimulant, flavouring agent. It is used to treat nausea, vomiting, diarrhea.

2. It's also used as antioxidant, anti-inflammatory, antiseptic, anticarcinogenic, antifungal, antimicrobial.

3. Ginger extract is one altogether the effective arthritis joint pain remedies recommended by physicians. Main constituents are sesquiterpenoids, with (-) zingiberene. Sesquiterpene Lactones (SLs) are natural products in control of its anti-inflammatory activity.

2. CURCUMIN: (TURMERIC)

Botanical Name: *Curcuma longa*

Family:-Zingiberaceae

Biological source: The component of utilized in roots of plant. Turmeric is an herbaceous tracheophyte within the Zingiberaceae (ginger).

Chemical constituent:

curcuminoids(5%), essentialoil(6%), zingiberene, α -turmerone; β -turmerone; terpinolene; α -phellandrene; curcumadiol

Mechanism of action - Turmeric has anti-inflammatory and choleric action. Its action thanks to Curcuminoids which induce glutathione S-transferase and are potent inhibitors of cytochrome P450.

Uses:- 1. Antibacterial effects

2. Anti-inflammatory effects

3. Antioxidant effects

4. Anti-platelet aggregation effects

5. Anti-proliferative effects

6. Lipid-lowering effects

3. ALOE VERA-

Botanical name - Aloe barbadensis

Family - Liliaceae

Chemical constituents- vitamins, enzymes, minerals, sugars, lignin, saponins glycoside, Anthraquinones, aloin A, aloin B, aloinoside A, aloinoside B

Mechanism of action - Aloe inhibits the cyclooxygenase pathway and reduces prostaglandin E2 production from arachidonic acid.

Uses

1. Anti-inflammatory

2. Anti-bacterial

3. Anti-oxidative

4. Anti-diabetic

5. Anti-cancer

4. Boswellia -

Botanical Name- *Boswellia serrata*

Synonyms name - dia Indian Frankincense

Family - Burseraceae

Chemical constituent - Triterpene alcohol, serranol, p-cymene, d-limonene, terpinolene, bornyl acetates, and methylchavicol, Boswellic acid, glucose, arabinose, rhamnose, galactose

Mechanism of action- Boswellic acids inhibit the synthesis of pro-inflammatory enzyme, 5-lipoxygenase & 5-hydroxyeicosatetraenoic acid (5-HETE) and leukotriene B4 (LTB-4)

Uses- 1. Osteoarthritis

2. Rheumatoid Arthritis

3. Ulcerative colitis

4. Bronchial Asthma

5. Inflammatory Bowel Disease (IBD)

6. Cancer

5. Green tea-

Botanical Name - *Camellia sinensis*

Family- Theaceae

Chemical constituent- Catechins, Caffeine, compound (Theanine), Vitamins, Saponins, Fluorine, γ -aminobutyric acid (GABA), Minerals (Potassium, Calcium, Phosphorus, Manganese, etc.)

Mechanism of action - Pro-inflammatory cytokines like IL-1 β , TNF α , and IL-6 are shown to modulate extracellular matrix turnover.

Inflammatory mediators like prostaglandin E2, via enhanced expression of the enzymes inducible gas synthase and COX-2, respectively

Uses

1. Breast & Bladder cancer

2. Heart disease

3. Carcinoma, rectal cancer.

4. Diabetes

5. Cancer of the esophagus

6. Osteoporosis

7. Inflammatory bowel disease (ulcerative colitis)

8. Abnormal protein buildup in the body (amyloidosis)

9. Obesity

MARKETED PRODUCTS

SR. NO.	PRODUCT	MANUFACTURE
1	Ginger flex	Mobitech
2	Herb essential Boswellia	Jain lifesiences pvt.ltd.
3	Nano Curcumin capsules	One Plant Nutrition
4	Kapiva aloe juice	Adret Retail Pvt. Ltd.
5	Lipton green tea	Hindustan unilevar ltd.
6	Patanjali aloe juice fibre	Patanjali ayurved ltd.

Conclusion:

Herbal medicines are increasing in popularity at the time thanks to their ability to handle the majority diseases. From the very ancient time, the plants had been used for the treatment of disease. Different plant extract and stuff are found very effective against different diseases. Now a days, humans are moving towards the therapy. at the moment investigation of anti-arthritis activity of traditional medicine led to the event and studies of the various herbal preparations used for the treatment of arthritis. This information is extremely helpful in preserving folk medicinal plants having anti-arthritis potential. The aim of this study is to revive and explore the traditional medicinal knowledge of plants. Awareness among the people for the conservation of anti-rheumatic plants is extremely important and it's a requirement of ages because many plant species are decreasing very rapidly.

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