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ARTHRAID FORTE Tablet – A well balanced Combination helps to Support healthy Cytokine balance, Joint integrity & mobility in a single comprehensive formula

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ABSTRACT

Osteoarthritis is a chronic, inflammatory joint disease in the world. In India more than 20% of total population is suffering from arthritis, although the main cause of disease is unknown, morphological changes observed in OA include cartilage erosion as well as inflammation. Complex network of risk factors and biochemical parameters, including cytokines, proteolytic enzymes trigger the disease, by knowing the exact mechanism of progressive of disease, it may help in finding the new drug for reducing pain and curing of the joint disease. Conventional medicines do not prevent progression of osteoarthritis. Natural supplements have gained importance as a better alternative for the prevention of osteoarthritis progression. Eating a Natural supplement like ARTHRAID FORTE tablet can provide all the necessary nutrients and helps prevent progression of osteoarthritis. The present paper Reviews the Role of ARTHRAID FORTE tablets developed by R&D cell of LactonovaNutripharm Pvt Ltd. Hyderabad in prevention of osteoarthritis progression.

Keywords: OA,Morphological changes,Cytokines,ARTHRAID FORTE tablet.

INTRODUCTION

Osteoarthritis (OA) is degenerative joint disease, which affects millions of people in the world. It is a complex disease whose pathogenesis, changes the tissue homeostasis of articular cartilage and subchondral bone, determine the predominance of destructive processes. A key role in the pathophysiology of articular cartilage is played by cell/extra-cellular matrix (ECM) interactions.

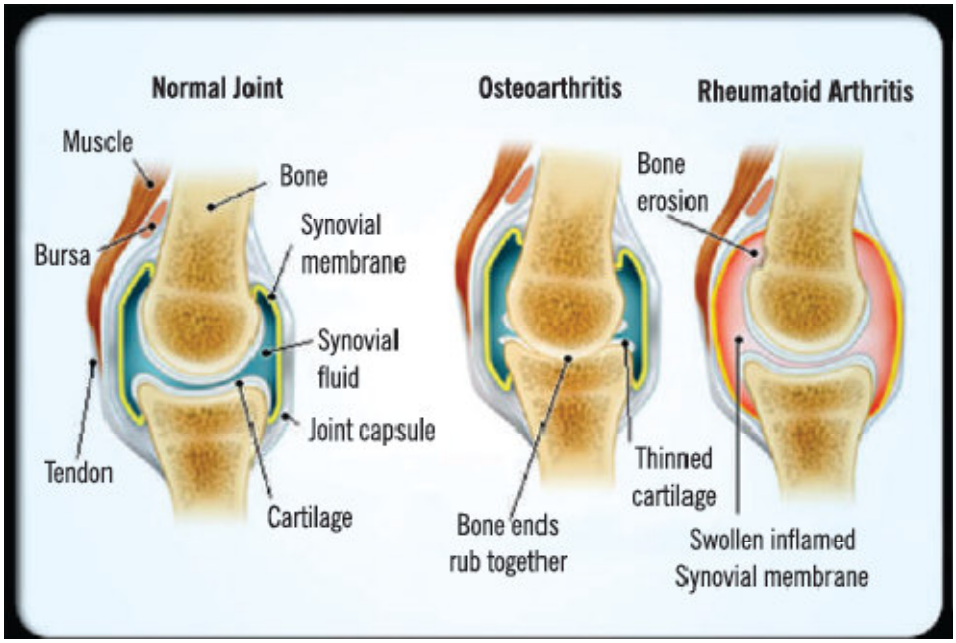

Fig.1

Signs and symptoms

Findings from studies indicate that age, gender, joint impairment, reduced range of motion (ROM), joint stiffness, and pain, contribute to increased disability.1, 2

Pain

The most common symptom is a chronic pain, during development of knee joint inflammation the concentration of Excitatory amino acids (EAA) especially Glutamate is increased which is released from sensory neurons in the spinal cord contribute to hyperalgesia and pain in the affected area. Several studies have found that there is no correlation between radiological images and pain parameters, but the medial side of the knee showed most sensitization in patients with strong/severe knee OA, the degree of pain can be measured with temporal summation of pressure pain instrument.3-5

Joint stiffness

The concept of joint stiffness in arthritis and related pathology diseases was introduced in the early 1960s.6, 7 It is revealed that surface-active phospholipid (SAPL) (synovial surfactant) capable of reducing friction to the very low levels and provide lubricant in normal joint moreover, this lining is deficient in osteoarthritis and lead to stiffness of joint.8, 9

Muscle weakness

Quadriceps muscle strengthening is an important protective function at knee joints. Cross-sectional studies suggest that strength is correlate with physical function and that increasing quadriceps strength reduces pain and improves function. Evidence suggests that thigh muscle strength may protect against knee joint damage and progression of existing OA.10, 11 Arthrogenic muscle inhibition (AMI) is a presynaptic, constant reflex inhibition of musculature surrounding a joint after damage to joint as it restricts full muscle activity and prevent the quadriceps strengthening, weaker quadriceps have been associated with an increased rate of loading at the knee joint.12 AMI is caused by activity in multiple inhibitory pathways, its severity may vary according to the degree of joint damage.13

Bone enlargement and swelling

Due to pathological changes of articular cartilage in knee joint resulted from many causes leads to blockage and edema of soft tissues, disturbance of blood circulation, erosion and injury of chondrocyte, and even increase of bony density and formation of cystic changes, resulting in swelling and pain.14

Risk factors of knee osteoarthritis

OA has a multifactorial etiology, can be considered the product of interaction between systemic and local factors.

Systemic risk factors for OA

Age

It is most important factor for development of osteoarthritis; with increasing age the tensile property of cartilage in articular cartilage is decreased results in accumulation of glycation which causes mechanical failure.15

Gender

Women have a higher level of pain and disability than men.16 A hospital-based study revealed rates of osteoarthritis is as high as 68% in women and 58% of men aged 65 and older.17

Genetics hormones

Classic study of monozygotic (MZ) twins aged 48 to 70 years, having identical genes showed 65% influence of genetic factors in developing of osteoarthritis.18 Between 39% and 65% of osteoarthritis in the general population can be attributed to genetic factors, women after menopause are more susceptible to knee arthritis because of increasing level of osteocalcin and bone resorption.19 Levels of osteocalcin, a marker of bone turnover, were lower in women with knee osteoarthritis.20

Diet

Rapid changes in diet and lifestyle by consumption of unrefined carbohydrates and Junk foods increased the rate of chronic diseases.21

Furthermore, chondrocytes are powerful sources of reactive oxygen species, which may damage cartilage collagen and synovial fluid hyaluronate, since micronutrient antioxidants provide defense against tissue injury, high dietary intake of these micronutrients could be helpful to protect against osteoarthritis.

Local risk factors

Joint injury and trauma

Articular cartilage tolerates loading from daily physical activities, in joints injuries and trauma the cartilage loses its flexibility, kills the cells and decrease the loading of the subchondral bone.22

Obesity

People with an elevated body mass index (BMI) as a measure of relative weight for obesity, has a positive association between obesity and knee OA results in substantial overloading and damage to the knee joint.23

Occupation

The lifting of heavy loads was found mainly in farmers, fishermen, construction site workers, and general laborers. Walking up stairs was experienced mainly by general laborers; all of these stress activities causes the strong association between knee injury and osteoarthritis.24

Physical activity/Sports

Men & women practicing gymnastic or kung fu (martial arts) regularly were at the risk of Knee injury.25

Schematic diagram of risk factors in osteoarthritis is shown in 2.

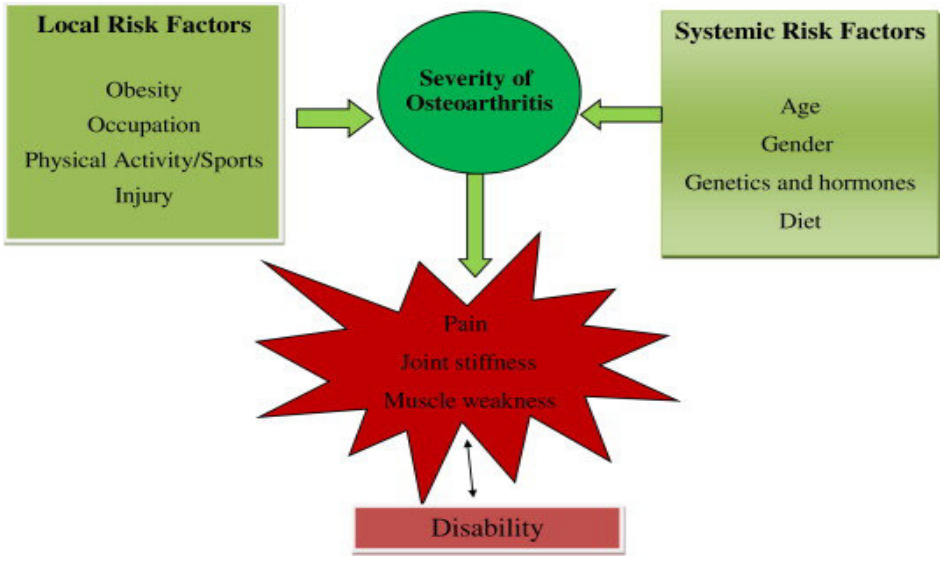

Fig. 2. Schematic diagram of risk factors for osteoarthritis.

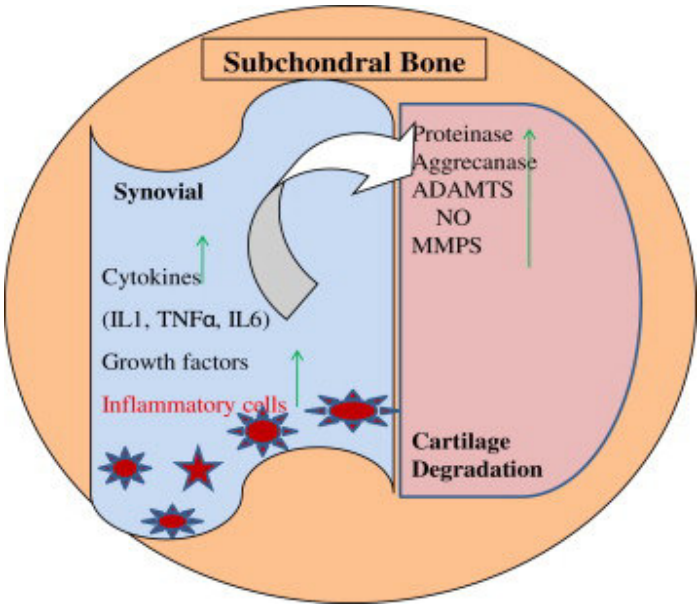

Fig. 3. Potential targets for development of osteoarthritis in knee joint.

Osteoarthritis, or degenerative joint disease, is the most common form of arthritis. It mainly affects middle-aged and older people, involving the neck, lower back, knees, hips & fingers. Treatment aimed at control of pain using NSAIDs and physiotherapy. Conventional medicines do not prevent progression of osteoarthritis.

COMPOSITION OF ARTHRAID FORTE TABLET

Supplement Facts		
Serving Size : 1 Tablet		**Serving per pack : 30**
Each coated tablet contains		**% ICMR RDA***
Glucosamine Hcl	750mg	**
Methyl Sulfonyl Methane	200mg	**
Chondroitin Sulphate Sodium	100mg	**
Collagen Peptide	50mg	**
Hyaluronic Acid	5mg	**
Boswellia Serrata Extract	100mg	**
*Indian Council of Medical Research Recommended Dietary Allowances. ** Not Established		

Ingredients : Glucosamine Hcl, Methyl Sulfonyl Methane, Chondroitin sulphate sodium, Collagen Peptide, Hyaluronic Acid, Boswellia Serrata Extract, Dibasic calcium Phosphate [341(ii)], Microcrystalline cellulose [460(i)], Povidone [1201], Silicon Dioxide [551], Croscarmellose Sodium [468], Magnesium Stearate [470(iii)], Hydroxypropyl methylcellulose [464], Ethyl cellulose [462], Titanium Dioxide[171], Talc [553(iii)], Iron Oxide Yellow [172(iii)],Propylene glycol [1520].

PHARMACOLOGY

Glucosamine Hcl

- Increases the cartilage and fluid surrounding joints and Reduces Pain in Osteoarthritis.

Methyl Sulfonyl Methane

- Inhibits NF-KB, a protein complex involved in inflammatory Resoponse in our body.
- MSM: is a natural occurring sulfur compound. It is an essential component in making collagen, a primary constitute of cartilage and connective tissue. It acts by increasing the cell wall permeability, enhances tissue pliability and encourages the repair of damaged skin also, acts as an oxidant. Patients with arthritis report substantial and long-lasting relief with MSM supplements. Taken along with glucosamine, a key substance in the process of rebuilding cartilage, MSM ca relieve pain and help repair worn or damaged cartilage in joints, ligaments and tendons with healthy, flexible new cells.

Chondroitin Sulphate Sodium

- It helps in Production of Hyaluronan which mentains viscosity in Synovial Fluid.
- Collagen Peptide
- It helps in stimulating cartilage matrix thus regenerating joint cartilage
- Absorbed and distributed to joint tissues and has analgesic and anti – inflammatory properties.

Hyaluronic Acid

- Functions as a tissue lubricant and plays an important role in modulating the interactions between adjacents tissues.
- It acts as a lubricant thus stimulating growth of chondrocyte
- Boswellia Serrata Extract
- Inhibits phosphorylation of IKB & NF –KB subunits Prevents activation of NF – kB gene.

INDICATIONS

Osteoarthritis, rheumatoids arthritis, tendonitis and bursitis, muscular soreness and athletic injuries, carpal tunnel syndrome post-traumatic inflammation and pain.

CONTRA-INDICATIONS

- Known contraindications to any ingredients of the supplement.
- ARTHRAID FORTE tablet might interact with drug thinning agents such as coumarins & warfarin.

DOSAGE AND DIRECTIONS FOR USE:

- Take 1 tablet 1-2 times daily for up to three months. This intake may have to be adjusted for obese individuals including those taking diuretics, thereafter one tablet per day as a nutritional maintenance, as the arthritic condition improves.
- It is taken preferably with meals or as directed by a physician, licensed nutritionist. or certified trainer

SAFETY

- ARTHRAID FORTE TABLET has an excellent safety record in both animal & human investigations, should be considered as a supplement of choice for nutritional correction of rheumatic disorders, can be safely taken alongside orthodox pain controlling medications.
- ARTHRAID FORTE TABLET is generally regarded as safe when taken in the recommended doses; however, mild reactions can include gastrointestinal problems, such as nausea.
- ARTHRAID FORTE TABLET is generally well tolerated. Because of lack of long-term safety data, ARTHRAID FORTE TABLET should be avoided by pregnant women and nursing mothers.

SIDE-EFFECTS

Epigastric pain/tenderness, heartburn, diarrhea and nausea, flushing.

SPECIAL PRECAUTIONS

- Take ARTHRAID FORTE TABLET with or directly after meals to lessen the possibility of gastrointestinal upset.
- It should be avoided by pregnant women and nursing mothers.

STORAGE CONDITIONS

- Store in a cool & dry place, protected from light.
- Keep out of reach of children.
- STORAGE LIFE IS 2 YEARS.
- The preparation should not be used after the expiry date.

CONCLUSION

Treatment of osteoarthritis (OA) is mainly based on the pathophysiological events that alter the initiation and progression of OA. Understanding the mechanism and Modulation of cytokines and MMPs would be a main target for treatment and prevention of Osteoarthritis. Conventional medicines do not prevent progression of osteoarthritis. Natural supplements like ARTHRAID FORTE TABLET have gained importance as a better alternative for the prevention of osteoarthritis progression.

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