Abstract

According to WHO, by 2020, 650 million people will have arthritis. Osteoarthritis (OA) is a degenerative disease characterized by gradual loss of joint function. The primary risk factors for OA are joint injury and excessive skeletal loading associated with disability and obesity.

Increasing incidence of OA is a global concern since it affects not only the developed societies but also the developing societies. Controlling arthritis is difficult because of lack of suitable targets.

Studies have shown that the proximate cause of arthritis is an imbalance of cytokines and oxidative stress. It is believed to be a consequence of mechanical and biological events that destabilize the normal coupling of degradation and synthesis within articular joint tissues.

While changes in lifestyle could effectively reduce arthritis. People looking for therapeutic intervention, to reduce the pain. However, the current therapeutic drugs have severe side effects and hence a search is on for natural remedies.

Several plants have been documented to have anti-arthritic properties. Silymarin is a plant native of Mediterranean region, North Africa, and Middle East. It belongs to Asteraceae or Compositae family. It has antioxidant and hepatoprotective properties. The investigation was taken up to establish its anti-arthritic effects alone and along with current NSAIDs in rat model.

Silymarin and combination of Silymarin and Celecoxib showed improvement in X-ray radiology image and histology analysis. Silymarin and Silymarin + celecoxib inhibited lipooxygenase, cyclooxygenase enzymes. Both of these inhibited important cytokines such as TNF-α and IL1-β. Silymarin inhibited enzymes of oxidative stress like, Malondialdehyde, reactive oxygen species and nitric oxide. The inhibition was comparable to celecoxib in chemically induced arthritis in rats.

These results suggest that Silymarin and combination of silymarin and celecoxib can be a potential anti-inflammatory and anti-arthritic agents.