

An anti-osteoarthritis potential of the extract of Aeglemarmelos leaves in MIA (Monoiodoacetate) induced osteoarthritis in Wistar Rat

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Abstract

This present study was performed to see the effect of the ethanolic extract of the Aeglemarmelos leaves in in MIA (Monoiodoacetate) induced osteoarthritis in Wistar Rat. However, many types of medicines are available for the treatment of osteoarthritis. Most of the medicines used to reduce the pain by blocking the cyclooxygenase enzyme. These herbal medicines were used from the ages in several kinds of diseases. Although, Aeglemarmelos plant itself contain enormous phytochemicals to treat various diseases, but the leaves containsAnthocyanins, amino acids, alkaloids which are tend to utilized in the various kinds of conditions related to the osteoarthritis. The extract was prepared using ethanol and administered to the animals at the different doses i.e. 260, 520 and 725 mg/kg/day. The osteoarthritis was induced by the single injection of the MIA at 3mg/mL. The osteoarthritis induced within 7 days and confirmed by the pain assessment.

Keyword:Aeglemarmelos, osteoarthritis, MIA induced osteoarthritis

1. Introduction

Rheumatoid arthritis is a persistent autoimmune inflammatory and degenerative arthropathy that affects the joints, skin, bones and muscles [1]. It causes joint inflammation, synovial hyperplasia, pannus development, bone and cartilage loss, as well as chronic arthritic pain, swelling, stiffness and work impairment. Penetration and stimulation of numerous inflammatory cell groups such like CD4 helper T cells, B cells, dendritic cells, macrophages and mast cells, as well as the unveil of matrix metalloproteinase and cytokines such as tumor necrosis factor (TNF), IL-1 and IL-6, all play a role in the progression of rheumatoid arthritis[2].

Pathogenesis of Rheumatoid Arthritis:

Preclinical rheumatoid arthritis, genetic variables and environmental factors are three categories of well-known causes that have a role in the pathogenesis of rheumatoid arthritis. Seropositive and seronegative rheumatoid arthritis is the two most common forms of rheumatoid arthritis in adults[3].