Nanotherapeutics for Rheumatoid Arthritis Therapy

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Abstract

Rheumatoid arthritis is an autoimmune disease that chronically depromotes the value of life, because of the destruction of bone and cartilage, swelling comes in the joint along with the pain and affects nearly 0.5 to 1% of the world's population. The cause of RhA remained unknown, however, the complex formation or interaction of the body's immune system including cytokines and effector cells, activation of effector cells responsible for pathogenicity. The treatment involves various traditional approaches such as DMARDs, anti-TNF-α treatment such as infliximab, adalimumab, etanercept, certolizumab, and golimumab have shown interesting results; however, the dose frequency for longer time of treatment causes several adverse effects. However, nanotechnology-based drug delivery now plays an important role in delivery of the many therapeutic agents, while several metal-based nanoparticle systems itself cause anti-inflammatory activities. Hence, in this book chapter we are providing detailed knowledge of Rheumatoid arthritis and its causes, traditional drugs and nanodrug and metal-based nanodrug delivery system which have been shown excellent in the in vitro and in vivo studies, therefore evading systemic and unpleasant effects.