Latest treatment modalities in Rheumatology

Abstract:
Most of the rheumatological conditions are autoimmune in nature, except few like degenerative joint disease and crystal arthritis. All treatment modalities available for autoimmune rheumatological conditions will discussed here. Methotrexate is one of the most durable and frequently used disease-modifying anti rheumatic drugs (DMARDs) in monotherapy and is the cornerstone of combination therapy for rheumatoid arthritis (RA). Leflunomide, sulfasalazine, and hydroxychloroquine are also effective therapies in RA and are commonly employed in combination therapy. Methotrexate has been in use since the early 1980s and it has become the disease-modifying antirheumatic drug (DMARD) of choice in the treatment of RA and is used in many other rheumatic diseases as well. Anti-inflammatory and antiproliferative effects of MTX may be mediated through its inhibition of transmethylation reactions. MTX has become the cornerstone of therapy for RA and is efficacious in many other rheumatic diseases. It is indicated in RA, SLE, JIA, PsA, Polymyositis and Vasulitis etc. Leflunomide is a synthetic DMARD approved for the treatment of RA. It emerged from a specific anti-inflammatory drug development program and has potent immunomodulatory effects. Its major effect seems to be a reversible inhibition of the enzyme dihydroorotate dehydrogenase (DHODH), which results in inhibition of pyrimidine synthesis. It is indicated in RA, JIA, PsA (7), AS with peripheral arthritis (8), rarely in Lupus (6) and Vasculitis. In 1938, Sulfasalazine was the first agent to be synthesized specifically for rheumatoid arthritis by Svartz in Stockholm. It is indicated in RA, JIA, AS, PsA, IBD and ReA. Antimalarials: Hydroxychloroquine (HCQ) the precise mechanism of action in rheumatic diseases is unknown. It is indicated in Panniculitis Rheumatism, RA, Lupus, antiphospholipid antibody syndrome and Sjogren’s syndrome. Immunomodulator Drugs: Cyclophosphamide (alkylating agent), Azathioprine (inhibit purine synthesis), Cyclosporine ans Tacrolimus (calcineurin inhibitors), Mycophenolate moetil (purine synrhesis inhibitor). The use of immunoregulatory drugs for rheumatic diseases has evolved out of the use of glucocorticoids and the older anticancer alkylating and purine analogue cytotoxic drugs to include new generation of non cytotoxic immunomodulators. The clinical use of immunomodulating drugs provides a therapeutic challenge unique to rheumatology. It often involves the selection of a drug, or combinations of drugs, based on inadequate data, a highly variable individual response to that therapy, long-term treatment with drugs that have potentially serious adverse effects, and the goal of halting or controlling a disease that can have an unpredictable clinical course. The new biological drugs available to treat drug resistant rheumatological diseases are in india are Infliximab, Etanercept, Tocilizumb, Abatcept and Rituximab. The new group of drugs called small molecules are latest drugs for RA. Tofactinib (JAK inhibitor) recently approved by US FDA belongs to this group, seems to be working better than biologics.

Key words: Rheumatoid arthritis, connective tissue diseases, biologics, immunoo modulators, steroids, small molecules

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