Editorial

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Conventional Synthetic DMARDs (csDMARDs): Foundations in Rheumatic Disease Management

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Introduction

Conventional synthetic disease-modifying antirheumatic drugs (csDMARDs) are cornerstone therapies in the management of inflammatory rheumatic diseases. Unlike symptomatic treatments such as nonsteroidal anti-inflammatory drugs (NSAIDs), csDMARDs act to modify the underlying immune-mediated disease process, slowing or preventing structural joint damage. They are widely used in rheumatoid arthritis, psoriatic arthritis, and other autoimmune conditions, often forming the foundation of long-term treatment strategies.

Mechanism of Action

csDMARDs exert their therapeutic effects by modulating immune cell function, cytokine production, and inflammatory signaling pathways. Methotrexate, the most commonly used csDMARD, inhibits dihydrofolate reductase and reduces proliferation of activated immune cells. Other csDMARDs, including sulfasalazine, leflunomide, and hydroxychloroquine, suppress inflammation through distinct mechanisms, such as inhibition of T-cell activation or interference with cytokine synthesis.

Clinical Applications

csDMARDs are first-line therapies in many autoimmune diseases due to their proven efficacy, safety profile, and cost-effectiveness. Methotrexate is often used as the "anchor" drug, either alone or in combination with other csDMARDs. Combination therapy can enhance disease control in patients with inadequate response to monotherapy.

Advantages and Limitations

The advantages of csDMARDs include oral administration, long-term safety data, and widespread availability. However, their onset of action is slower than biologic agents, and not all patients achieve complete remission. In cases of refractory disease, escalation to biologic or targeted synthetic DMARDs may be required.

Conclusion

Conventional synthetic DMARDs remain a cornerstone of modern rheumatology, offering effective control of inflammation, prevention of joint damage, and improvement in quality of life. Early initiation, appropriate monitoring, and strategic use in combination therapy optimize their clinical benefits. Despite the emergence of biologics and targeted therapies, csDMARDs continue to play a pivotal role in the management of chronic autoimmune and inflammatory diseases.