(20) 自體免疫疾病最新治療策略

New Treatment Strategies of Autoimmune Diseases

時	間:114年6月28日	(星期六) 13:30~17:30
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地 點:臺北榮民總醫院 中正樓 12 樓會議室

13:30~13:40	Opening Remarks	陳明翰主任 Ming-Han Chen
	座長:陳明翰 主任 (Ming-Han Chen)	
13:40-14:20	類風濕性關節炎的病況治療發展進程 The Evolving Landscape of Rheumatoid Arthritis Treatment	盧俊吉醫師 Chun-Chi Lu
14:20-15:00	類風溼性關節炎最新治療策略: JAK 抑制劑 Latest Rheumatoid Arthritis Treatment Strategy: JAK Inhibitor	蔡弘正醫師 Hung-Cheng Tsai
15:00-15:30	Coffee Break	
15:30-16:10	紅斑性狼瘡:美國及歐洲最新治療指引 Systemic Lupus Erythematosus: Updated Therapeutic Guidelines from the United States and Europe (台灣諾華衛星會議)	藍鼎淵醫師 Ding-Yuan Lan
16:10-16:50	生物製劑進展及最新治療 Biologic Therapies and Emerging Treatments	曹彦博醫師 Yen-Po Tsao
16:50-17:20	Discussion	All
17:20~17:30	Closing Remarks	陳明翰主任 Ming-Han Chen

The evolving landscape of rheumatoid arthritis treatment

類風濕性關節炎的病況治療發展進程

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Rheumatoid arthritis (RA) treatment has progressed from symptom management to targeted, diseasemodifying therapies. Historically, Non-steroidal anti-inflammatory drugs (NSAIDs) and corticosteroids provided relief but did not alter disease progression.

Disease-modifying antirheumatic drugs (DMARDs), notably methotrexate, marked a pivotal advancement, slowing disease progression. Biologic DMARDs (bDMARDs), such as TNF inhibitors, revolutionized RA treatment by effectively reducing inflammation. Subsequent bDMARDs targeting other cytokines expanded options. More recently, Janus kinase (JAK) inhibitors, as targeted synthetic DMARDs (tsDMARDs), offer oral administration and potent anti-inflammatory effects.

Current strategies emphasize early intervention and a treat-to-target approach, aiming for remission or low disease activity. Personalized medicine is increasingly influencing treatment decisions. Ongoing research focuses on novel therapies, such as other kinase inhibitors and cell therapy, to achieve sustained remission.

The evolution of RA treatment reflects a continuous pursuit of more effective and safer therapies, transforming RA management and improving patient outcomes.

Latest rheumatoid arthritis treatment strategy: JAK inhibitor

類風溼性關節炎最新治療策略: JAK 抑制劑

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Janus kinase (JAK) inhibitors have transformed rheumatoid arthritis (RA) treatment by targeting the JAK-STAT pathway, which is crucial for inflammatory cytokine signaling. These small molecules exhibit varying selectivity for JAK isoforms (JAK1, JAK2, JAK3 and Tyrosine kinase (TYK)2), influencing both efficacy and safety.

JAK1 and JAK2 are universally expressed in tissues and exert broad effects by participating in the signal transduction of key cytokines such as IFN- γ , IL-6, and IL-13. JAK2 not only plays a role in immune responses but also significantly impacts erythropoiesis and thrombopoiesis. JAK3, primarily in lymphocytes, is mainly involved in the signal transduction of γ C receptors. Its selective inhibition offers a potentially improved safety profile with fewer off-target effects. TYK2, also universally expressed in tissues, participates in the signaling of certain cytokines, such as IIFN- α/β , IL-12, IL-13, and IL-4.

Clinical trials have demonstrated that JAK inhibitors efficacy improves RA symptoms. However, safety concerns remain, including risks of infections, cardiovascular (CV) events, and thrombosis. Therefore, considering patient-specific risk factors is crucial in drug selection. In renal impairment, some JAK inhibitors require dosage adjustment. However, certain JAK inhibitors with lower renal clearance do not necessitate dose modification, simplifying treatment and minimizing drug accumulation risk.

This review summarizes current JAK inhibitor strategies in RA, focusing on JAK isoform selectivity, safety, and implications for renal impairment. Ongoing research will further refine treatment approaches and optimize patient outcomes.

Systemic lupus erythematosus: Updated therapeutic guidelines from the United States and Europe

紅斑性狼瘡:美國及歐洲最新治療指引

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Guidelines for Lupus Nephritis (SLE) Management may focus on Diagnosis, Induction Therapy, Maintenance Therapy, Adjunctive Treatments, Hydroxychloroquine also recommended for all SLE patients to manage systemic symptoms, Monitoring and Follow-up is to prevent to disease course progression. Frequent monitoring for drug toxicity, lupus activity, and renal function is essential. Adjustments in therapy based on response and side effects. Real-World Practice may focus on Personalized Treatment Plans: Clinicians may tailor treatments based on a patient's overall health, comorbid conditions, and response to initial therapy. The application of guidelines to real-world practice involves considering patient-specific factors, healthcare infrastructure, and resource availability to optimize outcomes in managing lupus nephritis.

Biologic therapies and emerging treatments

生物製劑進展及最新治療

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In recent years, biologic therapies and emerging treatments have revolutionized the management of chronic inflammatory and autoimmune diseases, including rheumatoid arthritis, systemic lupus erythematosus (SLE), psoriasis, inflammatory bowel disease (IBD), and others. These advanced therapies, often derived from living organisms, target specific components of the immune system to modulate disease activity more precisely than traditional immunosuppressive drugs.

Biologic agents such as monoclonal antibodies, fusion proteins, and cytokine inhibitors have significantly improved patient outcomes by reducing disease flares, preventing organ damage, and enhancing quality of life. For example, tumor necrosis factor (TNF) inhibitors, interleukin (IL) blockers (e.g., IL-6, IL-17, IL-23), and B-cell depleting therapies have become central to treatment algorithms for many autoimmune conditions. In systemic lupus erythematosus, belimumab (a B-lymphocyte stimulator inhibitor) and anifrolumab (an interferon receptor antagonist) represent key milestones in biologic therapy development, offering targeted mechanisms with favorable safety profiles.

Beyond biologics, emerging treatments include small molecule inhibitors such as Janus kinase (JAK) inhibitors, sphingosine-1-phosphate (S1P) modulators, and BTK (Bruton's tyrosine kinase) inhibitors. These oral agents offer the potential for easier administration and comparable efficacy, with several already approved for diseases like rheumatoid arthritis and ulcerative colitis. Advances in precision medicine, including the use of biomarkers and pharmacogenomics, are also helping to tailor treatments to individual patients, thereby improving therapeutic efficacy and reducing adverse effects.

Ongoing research continues to explore new targets and treatment combinations, aiming to improve remission rates and prevent disease progression. Clinical trials are expanding the therapeutic landscape, with promising candidates in various phases of development. Ultimately, the integration of biologic therapies and emerging treatments into clinical practice marks a transformative shift in managing complex immunemediated diseases, offering hope for more personalized, effective, and sustainable healthcare solutions.