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Opinion Article

Clinical Significance and Advancements in the Treatment of Systemic Lupus Erythematosus

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DESCRIPTION

Based on a review of the present state of the art, this opinion piece forecasts clinically important developments in the care of systemic lupus erythematosus during the next ten years. A solid set of classification criteria and treatment recommendations that have all been published since 2019 have created the framework. Based on this solid foundation, SLE management will undoubtedly take big moves forward. Musculoskeletal sonography is likely to be used in the evaluation of lupus arthritis. Large-scale polyomics studies are likely to uncover more of the disease's core immunological pathways. Biomarkers predictive of therapeutic effectiveness may enter the area; one serious candidate is the type I interferon signature as a companion for the use of anifrolumab, an antibody against the common type I interferon receptor.

Many alternative methods are in advanced clinical trials, including anifrolumab for nonrenal SLE and the novel calcineurin inhibitor voclosporin in lupus nephritis, both of which are already approved in the United States and are expected to be accessible in the European Union in 2022. They include advanced B cell depletion, costimulation inhibition *via* CD40 and CD40 Ligand (CD40 L), and inhibition of Janus kinase 1 (Jak1) and Tyrosine kinase 2 (Tyk 2). At the same time, will continue to use almost all of our traditional treatment arsenal. Patients' capacity to have successful SLE pregnancies, which has improved significantly in recent decades, should improve further, with treatments such as tumor necrosis factor blocking and self-monitoring of foetal heart rates. While the COVID-19 pandemic will be contained soon, it has raised awareness of the risk of severe viral infections in SLE, with an increased risk associated with particular medications. Although there is some evidence that a cure is possible, this will most certainly remain a struggle in the next ten years.

Before attempting to look into the future of managing patients with Systemic Lupus Erythematosus (SLE), it is necessary to examine the current state of the art. SLE has evolved from an often fatal, unknown disease to a chronic disorder in which quality of life and concomitant issues have replaced inflammation as the most difficult hurdles in therapy for the majority of patients. The scope, dose, and duration of cyclophosphamide treatment for organ-threatening disease have been lowered, and mycophenolate is an established alternate option for many patients with severe disease. Belimumab, a monoclonal antibody against the B cell cytokine B Lymphocyte Stimulator (BLyS)/B cell Activating Factor (BAF), was first approved for the treatment of nonrenal lupus 10 years ago, alongside antimalarial, azathioprine (approved in Europe), and glucocorticoids. The belimumab studies also served as models for successfully evaluating novel medications for nonrenal SLE in randomized clinical trials, with one more therapy approved for nonrenal SLE in the last year and numerous others in phase II and III trials.

Numerous multinational projects have reported advances in SLE clinical therapy in recent years. The 2019 classification of the European League Against Rheumatism/American College of Rheumatology (EULAR/ACR) introduced positive Antinuclear Antibodies (ANA) as an obligatory entry criterion, grouped items in weighted organ domains, and replaced individual exclusion criteria with a single attribution rule, that items should only be counted if there is no more likely explanation than SLE. The latest EULAR recommendations clearly described major improvements in SLE care, such as the use of hydroxychloroquine in all SLE patients without contraindication, as well as the necessity of risk factor modification, treating to target, and glucocorticoid exposure minimization. The Latin American Group Latino Americano de Estudio Del Lupus (GLADEL) guidelines on antimalarial for all SLE patients and keeping glucocorticoid doses low were consistent.

CONCLUSION

The steady growth in momentum in the SLE area over the last two decades has resulted in significant breakthroughs in understanding and managing SLE in a data-driven manner. These initiatives will continue to yield considerable and consistent results. Anticipate that massive polyomics studies as well as hypothesis-driven research will contribute to a better understanding of SLE pathogenesis. Many new treatments will supplement our present therapeutic arsenal, yet the majority of today's lupus drugs will remain effective. When taken together,

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these drugs will increase the likelihood of achieving remission or low disease activity and allow for the avoidance of potentially harmful glucocorticoid doses in the long run. Also, lupus pregnancies will become safer, and a better understanding of type 2 SLE symptoms and appropriate nonpharmacological therapies will improve quality of life. Importantly, universal access to appropriate SLE drugs and the discovery of an SLE cure will remain difficult but vital aims.