

Lupus nephritis: A Comprehensive Review

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ABSTRACT

Definition: Lupus nephritis involves chronic inflammation of kidney tissue in patients with SLE, which can lead to structural and functional damage.

Clinical Manifestations: Its symptoms range from mild, such as proteinuria and hematuria, to severe, including kidney failure. Patients may experience fatigue, swelling, and changes in urination.

Diagnosis: Based on clinical findings, urinalysis, serological tests, and renal biopsies to assess severity and guide treatment.

Treatment: Includes corticosteroids and other immunosuppressants. The therapy is personalized and closely supervised by a multidisciplinary team.

Complications: Chronic kidney failure, cardiovascular disease, and infections are major concerns. Patient education and comprehensive care are crucial.

KEYWORDS: Lupus nephritis, SLE, diagnosis, treatment, complications.

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INTRODUCTION

Lupus nephritis, a renal manifestation of systemic lupus erythematosus (SLE), represents a significant clinical challenge in current medical practice. SLE, a systemic autoimmune disease, can affect virtually any organ in the body, but its impact on the kidneys is particularly noteworthy. In this literature review, we will dive into the depths of lupus nephritis, exploring its epidemiology, its clinical significance and the crucial aspects related to this kidney condition, including its definition, the clinical manifestations that characterize it, cutting-edge diagnostic techniques, state-of-the-art therapeutic strategies and the complications it can entail.

SLE, a complex autoimmune disease, primarily affects women of childbearing age, with a female-to-male ratio of approximately 9:1. Lupus nephritis is a common complication in these patients, and its incidence and prevalence vary across ethnic and geographic populations. It is estimated that approximately 35% to 60% of SLE patients will develop lupus nephritis at some point in their disease. These figures highlight the importance of an in-depth understanding of this clinical entity and its impact on public health.

Lupus nephritis not only represents a major cause of morbidity and mortality in patients with SLE, but also places a substantial burden on the health care system. Kidney complications, which can range from proteinuria and

hematuria to acute or chronic kidney failure, can have a devastating impact on patients' quality of life and require complex and expensive treatments such as immunosuppressive therapy and dialysis. In addition, cardiovascular complications and infections are additional concerns that can arise as a result of lupus nephritis. Therefore, early identification and proper management are imperative.

In the following sections of this review, we will delve into the precise definition of lupus nephritis, its varied clinical manifestations, the most current diagnostic techniques, therapeutic strategies and associated complications, with the aim of providing a complete view of this complex clinical entity and contributing to the better management of patients affected by it.

DEFINITION

Lupus nephritis is a serious and common manifestation of systemic lupus erythematosus (SLE), a systemic autoimmune disease characterized by autoantibody production and chronic inflammation that can affect multiple organs, including the kidneys. Lupus nephritis is characterized by inflammation of kidney tissue, which can lead to structural and functional damage.

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CLINICAL MANIFESTATIONS

The clinical manifestations of lupus nephritis range from mild symptoms, such as proteinuria and hematuria, to severe forms with acute or chronic renal failure. Patients may experience fatigue, swelling in the extremities, high blood pressure, and changes in the pattern of urination. Cutaneous, articular, and systemic manifestations of SLE may be present along with renal symptoms, making diagnosis and evaluation even more complex.

DIAGNOSIS

The diagnosis of lupus nephritis is based on a combination of clinical findings, urinalysis, blood tests, and kidney biopsies. Laboratory tests may reveal the presence of proteins and red blood cells in the urine, elevated blood creatinine levels, and the presence of antinuclear antibodies (ANA) and native anti-DNA antibodies. Renal biopsy, which shows findings such as mesangial proliferation, fibrinoid necrosis, and thickening of capillary walls, is critical in determining the extent of kidney damage and guiding treatment.

TREATMENT

The main objective of lupus nephritis is to control inflammation, prevent kidney damage and improve the patient's quality of life. Corticosteroids, such as prednisone, are the cornerstone of treatment and are combined with other immunosuppressants, such as cyclophosphamide, mycophenolate mofetil, and rituximab, depending on the severity and course of the disease. Therapy should be personalized, considering factors such as disease severity, medication side effects, and individual patient response.

Complications

Complications of lupus nephritis can be serious and can affect the patient's quality of life. Chronic kidney failure is a feared complication that may require dialysis or kidney transplantation. In addition, patients with lupus nephritis have an increased risk of cardiovascular complications, such as coronary heart disease and cerebrovascular disease, and of infections due to immunosuppression. High blood pressure, osteoporosis and psychiatric disorders are also additional concerns.

DISCUSSION

Lupus nephritis is a complex and heterogeneous kidney condition that presents a significant clinical challenge. Its approach requires a multidisciplinary approach and a deep understanding of its many facets. In this section, key aspects related to the diagnosis, treatment, and clinical implications of lupus nephritis will be discussed.

Diagnosis and Monitoring

The diagnosis of lupus nephritis is based on a combination of clinical findings, laboratory tests, and renal biopsy. However, variability in clinical presentation and overlaps with other kidney diseases may make diagnosis difficult. Therefore, a

thorough evaluation is required to confirm the presence and severity of the disease.

Regular monitoring of patients with lupus nephritis is essential to assess response to treatment and detect early relapses. Clinical parameters, such as proteinuria and renal function, along with serological markers, such as levels of antinuclear antibodies and native anti-DNA, are critical in this process. In addition, kidney biopsy may be necessary to guide treatment and assess the degree of kidney inflammation and damage.

THERAPEUTIC STRATEGIES

The treatment of lupus nephritis has evolved significantly in recent decades. Corticosteroids remain the critical initial therapy for controlling inflammation. However, the importance of immunosuppressive drugs, such as cyclophosphamide, mycophenolate mofetil and rituximab, in preventing long-term kidney damage has been recognized.

The choice of treatment should be personalized and consider factors such as disease severity, response to treatment, and potential side effects. Therapy should be closely supervised by a multidisciplinary medical team, including nephrologists, rheumatologists, and other specialists as needed.

COMPLICATIONS AND QUALITY OF LIFE

Complications of lupus nephritis can be serious and significantly affect patients' quality of life. Chronic kidney failure is a major concern and may require dialysis or kidney transplantation. In addition, cardiovascular disease and infections pose significant risks to these patients, underscoring the need for comprehensive management that includes control of cardiovascular risk factors and surveillance of infections.

Osteoporosis, high blood pressure and psychiatric disorders are also additional concerns that may require specific interventions. Patient education about the disease, self-care and adherence to treatment are critical to optimizing outcomes and improving quality of life.

CONCLUSION

In conclusion, lupus nephritis is a complex clinical entity that requires a thorough understanding and comprehensive management. Accurate diagnosis and regular monitoring are essential to assess response to treatment and prevent long-term kidney damage. Therapeutic strategies have advanced, but they must be customized to address patients' individual needs. Complications and quality of life are important aspects that should be considered in the overall approach to lupus nephritis. Continuous knowledge and interdisciplinary collaboration are critical to improving the care of these patients in the future.

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