

# Lupus Nephritis in Association with Systemic Lupus Erythematosus

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## DESCRIPTION

Lupus nephritis, a severe manifestation of Systemic Lupus Erythematosus (SLE), is a complex and often challenging condition that affects the kidneys. Systemic Lupus Erythematosus is an autoimmune disease in which the body's immune system mistakenly attacks healthy tissues, leading to inflammation and a wide range of symptoms. Lupus nephritis, as the name suggests, specifically targets the kidneys, causing inflammation and damage.

Lupus nephritis is a crucial facet of Systemic Lupus Erythematosus. While SLE can affect various organs and systems in the body, lupus nephritis primarily targets the kidneys. This intricate interlink between the two conditions makes it vital to understand both. In SLE, the immune system produces autoantibodies that attack the body's tissues, causing inflammation and damage. In the case of lupus nephritis, these autoantibodies accumulate in the kidneys, triggering inflammation and ultimately damaging the kidney tissues [1].

Lupus nephritis can manifest with a wide range of symptoms, often making it challenging to diagnose. Some of the common symptoms associated with this condition include Hematuria, blood in the urine is a telltale sign of kidney inflammation and damage. Proteinuria excessive protein in the urine indicates that the kidneys are not functioning properly. Swelling often occurs in the legs, ankles, and around the eyes due to fluid retention. High blood pressure, kidney damage can lead to hypertension. Fatigue general tiredness and weakness can result from the body's struggle to filter waste products efficiently. Joint pain is a common symptom of SLE and may become more pronounced when lupus nephritis is present. Skin Rash the classic "butterfly" rash across the cheeks and nose is often seen in SLE patients [2].

Diagnosing lupus nephritis is a multi-step process that involves a combination of clinical evaluation, laboratory tests, and imaging studies. Here are some of the key diagnostic methods. Blood and urine tests, blood tests can reveal elevated levels of autoantibodies and assess kidney function. Urine tests can detect the presence of blood and protein, as well as other signs of kidney damage. Kidney Biopsy, is the most definitive diagnostic tool for lupus nephritis. A small sample of kidney tissue is obtained

and examined under a microscope to assess the extent of inflammation and damage. Ultrasounds or CT scans may be used to evaluate the size and shape of the kidneys and detect any structural abnormalities. Clinical evaluation, a comprehensive medical history and physical examination are crucial in identifying lupus nephritis, as the combination of symptoms, laboratory results, and imaging studies can lead to a diagnosis.

Lupus nephritis is classified into different stages based on the severity of kidney involvement. The World Health Organization (WHO) and the International Society of Nephrology/Renal Pathology Society (ISN/RPS) have established a widely accepted classification system that categorizes lupus nephritis into six different classes, ranging from mild to severe. There are four different classes. Class I, Minimal mesangial lupus nephritis, this stage shows minimal involvement of the kidney tissue. Class II, Mesangial proliferative lupus nephritis, mild to moderate mesangial expansion with or without focal proliferations. Class III, Focal lupus nephritis, active and chronic lesions in less than 50% of glomeruli. Class IV, Diffuse proliferative lupus nephritis, active and chronic lesions in more than 50% of glomeruli. Class V, Membranous lupus nephritis, thickening of the capillary wall. Class VI, Advanced sclerosing lupus nephritis significant scarring of the kidney tissue [3].

The choice of treatment for lupus nephritis depends on the stage and severity of the condition. Early intervention is crucial to prevent kidney damage from progressing. The management of lupus nephritis involves a multifaceted approach, often involving a team of healthcare professionals, including rheumatologists, nephrologists, and immunologists. Treatment options may include the following.

Corticosteroids, such as prednisone, are often used to reduce inflammation and control the immune response. Additionally, immunosuppressive drugs like cyclophosphamide, mycophenolate mofetil, and azathioprine may be prescribed to suppress the immune system. Antimalarial drugs like Hydroxychloroquine is commonly used to manage lupus symptoms and reduce the risk of flares. Blood pressure management, medications to control hypertension are vital, as high blood pressure can further damage the kidneys. Diet and lifestyle modifications, patients with lupus nephritis should follow a kidney-friendly diet, which often involves

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reducing salt and protein intake. Lifestyle changes, including regular exercise and stress management, can also help improve overall health. Dialysis and kidney transplant severe cases where the kidneys have sustained irreversible damage, dialysis or kidney transplantation may be necessary [4].

The prognosis for individuals with lupus nephritis varies depending on the stage at diagnosis, the response to treatment, and overall health. Early detection and aggressive treatment can significantly improve outcomes. However, even with proper management, some patients may experience ongoing kidney problems or relapses of lupus nephritis. Living with lupus nephritis can be challenging, but with the right care and support, many individuals can lead fulfilling lives. Some essential tips for managing lupus nephritis include. Regular medical follow-up, continuously monitoring kidney function and overall health is crucial. Medication adherence, it's vital to take prescribed medications as directed by healthcare providers to control inflammation and manage symptoms.

Healthy lifestyle, a balanced diet, regular exercise, and stress management can help improve overall well-being. Support System, joining support groups and connecting with others who have lupus nephritis can provide valuable emotional support and shared experiences. Avoiding triggers learn to identify and

avoid triggers that can exacerbate lupus symptoms, such as excessive sun exposure or certain medications. Medical alert bracelet, wearing a medical alert bracelet can help ensure that healthcare providers are aware of the condition in case of emergencies.

Lupus nephritis, as a complex and integral part of systemic lupus erythematosus, highlights the need for a comprehensive understanding of autoimmune diseases. Early detection and proper management are crucial in mitigating kidney damage and improving the quality of life for individuals living with lupus nephritis.

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