



Dialysis and Kidney Transplantation Outcomes in Rheumatic Disease

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Dialysis and Kidney Transplantation Outcomes in Rheumatic Disease

1. Lupus nephritis (LN)
2. ANCA-associated vasculitis (AAV)
3. Systemic sclerosis (SSc)



Lupus Nephritis (LN)

Dialysis Outcomes:

- Despite modern immunosuppressive protocols, 10–30% of LN patients progress to ESRD.
- Dialysis modality:** both HD and PD are acceptable; however, PD may be less suitable in patients with serositis or a history of peritonitis.

Article

Systemic Lupus Erythematosus in Hemodialysis: Survival Comparison and Mortality-Related Factors

Hwajeong Lee ¹  and Seok-Hui Kang ^{2,*} 

• Sample size: 56,238 HD patients

- SLE: 569
- DM: 24,665
- Others: 31,004

• Mortality rates:

- SLE: 23.4%
- DM: 49.0%
- Others: 31.8%

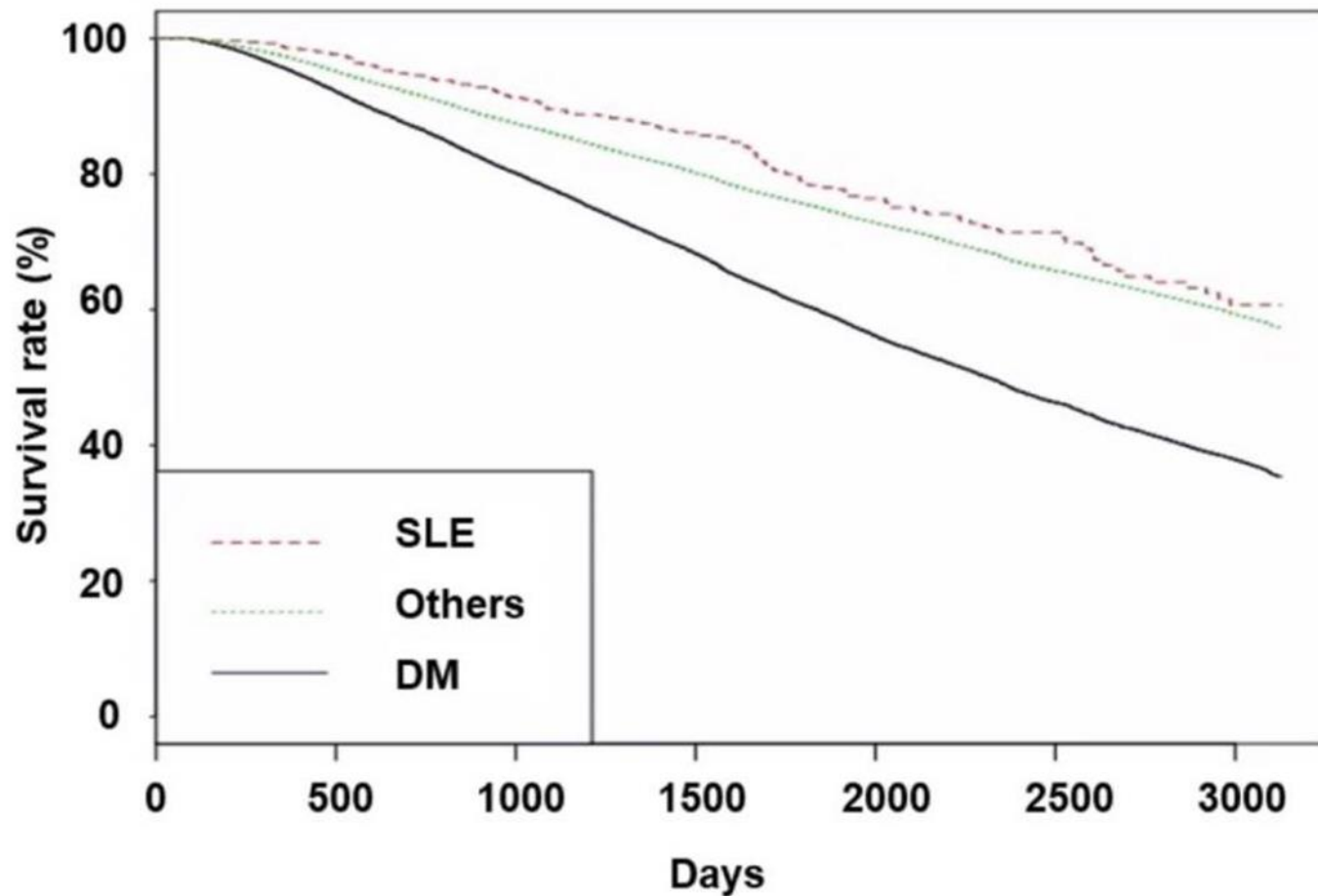


Figure 1. Kaplan–Meier curves of patient survival according to underlying disease. p -values were <0.001 for trend, <0.001 for DM vs. SLE or others, and 0.013 for SLE vs. others. Abbreviations: SLE, systemic lupus erythematosus; DM, diabetes mellitus.



- SLE not treated with ISAs demonstrated better patient survival than that observed in the DM group. However, **SLE treated with ISAs exhibited poorer patient survival** than that of the others group and similar patient survival compared with the DM group.

Kidney Transplantation vs dialysis in LN



Kidney Transplantation Improves Survival in Lupus Nephritis With End-Stage Kidney Disease



REIN registry
2002 – 2022



822 LN-ESKD patients



636 Waitlisted for KT



470 Received a transplant

Reduction in the risk of death

60%

KT vs no-KT
($p < 0.001$)

Patient survival at 10 years

83%

transplant recipients

($p < 0.001$)

60%

non-transplanted patients

2 years from ESKD onset

38%

Waitlisted patients were transplanted

Graft failure probability

23%

10 years post-transplant

KI REPORTS
Kidney International Reports

Brilland B et al, 2025

Visual abstract by:
Denisse Arellano, MD
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Conclusion Compared to remaining on dialysis, kidney transplantation is associated with improved survival in patients with LN-ESKD. Early evaluation for transplant eligibility and timely referral to transplant centers are crucial to optimize their outcomes.



•Effect of Dialysis Duration Before Transplantation

- Prolonged dialysis before transplantation is associated with increased mortality risk — **each additional month on dialysis worsens outcomes.**
- **Dialysis duration beyond 24 months significantly increases post-transplant risks.**
- The **KDIGO 2024** guidelines conditionally recommend **preemptive transplantation** (before dialysis initiation) when feasible.
- Early transplantation offers better patient and graft survival, provided the disease is clinically inactive.

Monitoring Disease Activity Before Transplantation

- Disease should **be quiescent** before proceeding with kidney transplantation **to minimize the risk of lupus recurrence** in the graft.
- However, there is no standardized definition of quiescence; criteria vary across studies and may include:
 - **Low or normalized anti-dsDNA and complement (C3, C4) levels**
 - **Proteinuria < 0.5 g/24h**
 - **Absence of active inflammation on kidney biopsy**
-
- Emerging biomarkers (urinary MCP-1, BAFF, MMP-7) are proposed as more sensitive indicators of disease activity.

ANCA-Associated Vasculitis (AAV)



Kidney transplant in AAV – graft survival

Outcomes After Kidney Transplantation in ANCA-associated Renal Vasculitis



Multicenter retrospective study
France, 2005 - 2023



N = 206 adults with ANCA-associated renal vasculitis (AAV-GN) who underwent kidney transplantation



N = 412 matched controls

Outcome	AAV group	Control	
 Delayed graft function	18%	19%	
 Graft failure	15%	12%	HR 1.55 p = 0.077
 Acute rejection	19%	17%	
 Death	24%	20%	HR 1.48 p = 0.034
 Associations between ANCA positivity at KT and outcomes	Relapse risk HR 4.17 p=0.065	Rejection risk HR 0.31 p=0.016	



Relapse Risk

Outcomes in ANCA-Associated Vasculitis Patients with End-Stage Kidney Disease on Renal Replacement Therapy

Pope V, Sivashanmugathas V, Moodley D, Gunaratnam L, Barra L

Systematic
Review and
Meta-analysis



ANCA-Associated
Vasculitis +
End-stage Kidney
Disease (ESKD)



Outcomes:
Mortality rate, Survival,
Severe infection rate,
Relapse rate



22 Studies

Retrospective,
Prospective and
Case series

952
Patients



Mortality Rate:



10.9 per 100
person-years (py)

1-year survival

82%

5-year survival

61%



Severe infection
Rate:

66.6 per 100 py



Relapse Rate :

6.2 per 100 py





One of the **poorest prognoses** on dialysis (multisystem involvement)

The scleroderma renal crisis is characterized by **malignant hypertension, acute renal failure, and microangiopathic anemia**. Treatment with angiotensin-converting enzyme inhibitors (ACEi) can improve prognosis.

A 2023 study indicated a **1-year survival rate of 70%** and a **5-year survival rate of 30%** in SRC patients requiring dialysis.



Kidney Transplant Outcomes in Patients With Scleroderma:

Patient Survival: 78% at both 5 and 10 years after transplantation.

Graft Survival: 100% at both 5 and 10 years after transplantation.

Optimal timing of kidney transplant

- It is recommended that kidney transplantation **be delayed** until there is clear evidence of irreversible kidney failure



- Outcomes of dialysis and kidney transplantation in rheumatologic diseases vary widely by underlying etiology.
- Lupus nephritis and ANCA-associated vasculitis patients achieve excellent outcomes when disease is in sustained remission.
- Systemic sclerosis remains challenging, with poorer prognosis and higher non-renal mortality.
- Careful timing of transplantation and multidisciplinary management are key to success.
- Collaboration between nephrologists and rheumatologists optimizes patient survival and graft longevity.

A series of eleven colorful, multi-colored streaks resembling shooting stars or fireworks, each topped with a yellow five-pointed star. The streaks radiate upwards from behind the word 'Thanks'.

Thanks