



A Comparative Analysis of Kidney Transplantation Outcomes in Systemic Lupus Erythematosus Patients with **Disease Flare** vs. Non-Flare Groups

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Disclosure

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■ Systemic lupus erythematosus (SLE):

- A chronic autoimmune disease with a diverse phenotype that can affect multiple organs, including the kidneys.
- **Lupus nephritis (LN)** is a significant manifestation of SLE, affecting up to 60% of SLE patients.
- LN can progress to end-stage renal disease (ESRD) in approximately 10–20% of cases, requiring renal replacement therapy including kidney transplantation (KT).

■ Current gaps in knowledge:

- While some studies have explored the risk of SLE flares following kidney transplantation, the exact incidence and risk factors remain poorly understood.
- There is a significant concern regarding the recurrence of LN after kidney transplantation, but limited studies have been published on the recurrence rates and associated risk factors.

To identify the **incidence rate**, **clinical manifestations**, and **risk factors** for SLE flares, including recurrent LN, in kidney transplant recipients with LN.

Methods

■ Study Design

- Retrospective cohort study of kidney transplant recipients with lupus nephritis (LN)
- Conducted between January 1995 and December 2021 at Asan Medical Center, Seoul, South Korea
- **Inclusion Criteria:** Patients diagnosed with LN either clinically or histologically, classified based on ISN/RPS 2018 criteria.

■ Data Collection

- **Laboratory Data:** Included erythrocyte sedimentation rate (ESR), C-reactive protein (CRP) levels, anti-double-stranded DNA (anti-dsDNA) titers, and complement levels.
- **Disease Activity Measurement:** Nonrenal SLE Disease Activity Index (SLEDAI) score was used to assess disease activity.
- Post-transplant outcomes: rejection, graft survival, and patient survival.

■ Lupus Flare

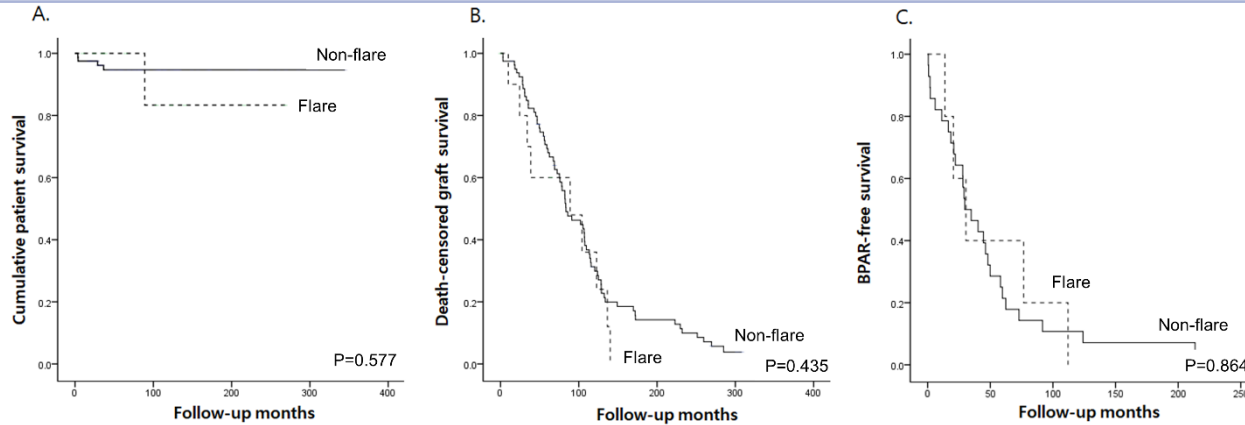
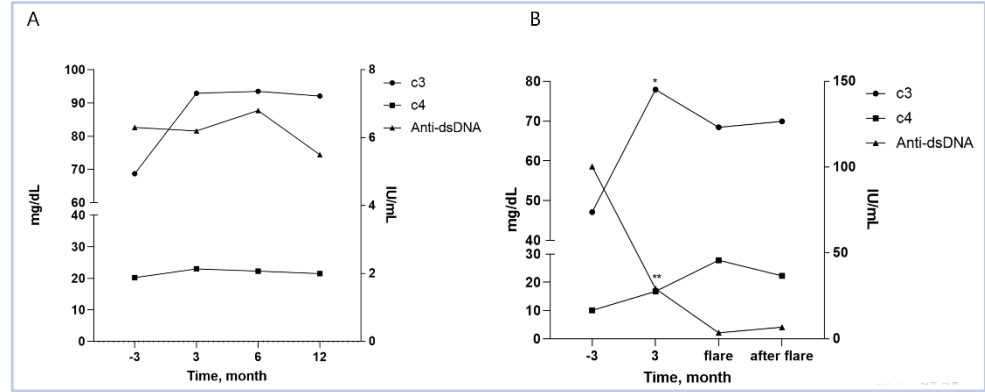
- **Assessment:** SLE disease activity assessed via SLEDAI score during follow-up.
- **Definition of Flare:** New onset or worsening symptoms or lab results, defined by an increase in the SLEDAI score by three points or more, and confirmed if symptoms improved after glucocorticoid treatment.
- **Recurrent LN:** Biopsy-proven recurrent LN was also considered as a disease flare.



Results

Lupus Flares After Kidney Transplantation

- **Incidence of SLE Flares:** 11.8% (11 out of 93 patients) experienced flares post-transplantation.
- **Risk Factors:**
 - **Higher anti-dsDNA Antibody Titer Before Transplantation:** Significantly associated with a higher risk of SLE flares (HR 1.030; 95% CI, 1.008–1.053; $P = 0.008$)
 - **Preemptive Transplantation:** Associated with a lower risk of flares (HR, 0.167; 95% CI, 0.035–0.805; $P = 0.026$).



Survival Outcomes

- **Overall Survival:** No significant differences in 5-year (93.1% vs. 95.8%) or 10-year survival rates (80.2% vs. 87.6%) between the flare and non-flare groups (log-rank test $P = 0.577$)
- **Death-Censored Graft Survival:** Significantly lower in patients with recurrent LN compared to those without recurrence ($P = 0.006$)



■ Anti-dsDNA Antibodies:

- Higher titers of anti-dsDNA antibodies before transplantation were significantly associated with an increased risk of SLE flares.
- Patients with higher pre-transplant anti-dsDNA antibody titers were more likely to experience post-transplant flares.

■ Kidney Transplantation as a Therapeutic Option:

- **Reduction in Mortality:** Kidney transplantation significantly reduces mortality in patients with end-stage renal disease (ESRD) due to LN.
- **Preemptive Transplantation:** Associated with better outcomes, including a reduced risk of SLE flares and improved graft survival.
- **Importance of Timing:** Shorter wait times before transplantation (less than 3 months) are associated with better graft outcomes.

Conclusion

- ❑ **SLE Flares Post-Transplantation:** Approximately 10% of patients with LN experienced SLE flares after kidney transplantation.
- ❑ **LN Recurrence:** A common and significant manifestation, with high pre-transplant anti-dsDNA antibody titers being a key risk factor.
- ❑ **Importance of Vigilance:** Continued monitoring for SLE recurrence, including LN, is crucial even after kidney transplantation.





THANK YOU

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