“Prophylactic interventions for focal segmental **glomerulosclerosis** recurrence after kidney transplantation: A systematic review and network meta-analysis”

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Detailed Summary

Background

* Primary FSGS recurs in approximately 30–50% of kidney transplant recipients.

* Recurrence is a major cause of early graft dysfunction and graft loss.

* Several prophylactic strategies have been proposed, but no universally accepted protocol exists.

Objective

To compare all available prophylactic interventions for preventing recurrent primary FSGS after kidney transplantation using both systematic review and network meta-analysis methods.

Methods

* Databases searched: PubMed and Embase through July 2025

* Included:

  * Randomized trials

  * Prospective studies

  * Retrospective studies

* Total studies included: 25

* Six prophylactic interventions were evaluated.

Primary outcome:

- Recurrence of FSGS after transplantation

Secondary outcomes:

* Proteinuria

* Time to recurrence

* Treatment-related adverse events

Interventions Evaluated

* Rituximab

* Plasma exchange (plasmapheresis)

* Rituximab + plasma exchange

* Belatacept

* Bleselumab

* Standard care/no prophylaxis

Major Findings

1. No prophylactic strategy significantly reduced recurrence
- None of the studied interventions demonstrated statistically significant superiority over standard care.
2. Rituximab + plasma exchange

* Produced numerically lower recurrence estimates than either therapy alone.

* However, the difference was not statistically significant.

3. Plasma exchange alone
- Did not significantly reduce recurrence.
4. Rituximab alone
- No convincing benefit over control.
5. Belatacept and Bleselumab

* Data came from only one study each.

* Results were promising but insufficient to recommend routine use.

6. Safety

* Adverse events were inconsistently reported.

* Overall safety evidence remains limited.

Authors' Conclusions

Current evidence does not support routine prophylactic therapy to prevent recurrent primary FSGS after kidney transplantation. Large, multicentre randomized trials with standardized definitions of recurrence and consistent safety reporting are needed before any prophylactic strategy can be recommended.

Clinical Implications

* Routine prophylactic rituximab or plasma exchange cannot currently be recommended for all patients with primary FSGS undergoing transplantation.

* Patients at particularly high risk (e.g., previous graft loss due to recurrent FSGS, rapid progression to ESRD, early recurrence in a prior transplant) should be managed individually in experienced transplant centers.

* Close surveillance with early detection of proteinuria and prompt treatment of recurrence remains the cornerstone of care.

Comparison with Previous Meta-analysis (2021)