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## **Post-operative recurrence of focal segmental glomerulosclerosis according to pre-transplant treatment after kidney transplantation**

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**Objectives:** Recurrent focal segmental glomerulosclerosis (FSGS) after kidney transplantation (KT) is a serious complication and a significant risk factor for graft failure. However, there is no clear evidence of the effectiveness of pre-transplant treatment using plasmapheresis (PP) or rituximab in preventing post-operative FSGS recurrence after KT.

**Methods:** This single-center retrospective study included 99 adult patients with biopsy-proven primary FSGS who underwent KT between 2007 and 2018. The patients were divided into the pre-treatment group (N = 53, 53.5%) and no pre-treatment group (N = 46, 46.5%). In the pre-transplant group, prophylactic PP was administered before KT in patients undergoing living donor transplantation and the day after KT in those undergoing deceased donor transplantation.

**Results:** The rate of immediate post-operative recurrence was significantly higher in the no pre-treatment group (16 [34.8%]) than in the pre-treatment group (5 [9.4%];  $P = 0.002$ ). There were three cases of graft failure due to recurrent FSGS, all of which were in the no pre-treatment group. After adjusting for possible confounding factors, age (per 10-year increase; OR = 0.61, CI, 0.42–0.90;  $P = 0.012$ ) and pre-transplant treatment (vs. no pre-transplant treatment; OR = 0.17, CI, 0.05–0.54;  $P = 0.003$ ) were identified as significant factors associated with FSGS recurrence. The rate of death-censored graft survival was significantly superior in the pretransplant treatment group ( $P = 0.042$ ).

**Conclusions:** Pre-transplant treatment with PP was associated with beneficial effects on preventing FSGS recurrence after KT.

Figure 1. Long-term (A) overall survival rate and (B) graft survival rate