SP754

Pre-transplant desensitization and the recurrence of IgA nephropathy in kidney transplantation

Yoshikawa M. 1), Kitamura K. 1), Nakai K. 1), Fujii H. 1), Ishimura T. 2), Fujisawa M. 2), Nishi S.1)

Division of Nephrology and Kidney Center, Kobe University Graduate School of Medicine, Kobe, Japan 1),

Division of Urology, Department of Surgery Related, Kobe University Graduate School of Medicine, Kobe, Japan 2)

OBJECTIVES

IgA nephropathy (IgAN) is the most common primary glomerulonephritis and up to 60% of the transplant patients will experience a histological recurrence of this disease. So far, there have been no available measures to prevent the recurrence of IgAN. And there have been no clear evidences that the selection of immunosuppressive agent or in particular desensitization procedure affected the recurrence of IgAN. The aim of this study was to analyze the effectiveness of pre-transplant desensitized procedure for IgAN recurrence.

CONCLUSIONS

Pre-transplant desensitized procedure may contribute to prevent the recurrence of IgAN and retard the onset of recurrence of IgAN. Further studies are necessary in larger scale of patients.

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METHODS

- **Kidney transplant recipient**
  20 pre-transplant biopsy-proven IgAN cases who received kidney transplantation at our center from April 2003 to August 2012.
  Exclusion: Secondary transplantation
- **Study design**
  Retrospective cohort study
- **Evaluation**
  Histological changes of protocol biopsies (3 mo, 1 yr, 3 yr, 5 yr) , Clinical course and data.
- **Definition of Recurrent IgAN Diagnosis**
  Histologically based on IgA deposition and clinically based on microscopic hematuria.

RESULT

- Recurrent IgAN was diagnosed in 7 cases in protocol biopsy and the incident rate of recurrent IgAN was 35.0%.
- Nine cases received desensitization procedure before transplantation because of ABO-incompatible or pre-transplant donor specific antibody positive kidney transplantation and received rituximab and plasmapheresis before transplantation.
- We could find no incidence of recurrent IgAN in pre-transplant desensitized group.
- The onset of recurrent IgAN was evaluated by Kaplan-Meier method, and there was a significant difference between pre-transplant desensitized and no-desensitized groups ($p < 0.05$).
- Prevention of IgA deposition was also significantly related with pre-transplant desensitization. (Kaplan-Meier method $P<0.05$)
- Post-transplant immunosuppressive agent regimens and CNI monitoring did not show significant differences between two groups.

Table 1. Patients characteristics.

Recipient sex (male)	45 % (9/20)
Recipient age (Yr)	38±12
Hemodialysis	70 % (14/20)
Pre-emptive transplantation (Tx)	5 % (1/20)
Tonsillectomy before Tx	0 % (0/20)
Glucocorticoid therapy before Tx	30 % (6/20)
Deceased Donor	10 % (2/20)
ABO-incompatible Tx	25 % (5/20)
DSA-positive Tx	25 % (5/20)
Desensitized procedure before Tx	45% (9/20)
Induction with CyA	35 % (7/20)
Recurrence IgAN	35% (7/20)
IgA deposition with and without hematuria	50% (10/20)
Acute/ chronic rejection	10% (2/20)
Duration of follow up (mo)	42.4 ±22.9 (3.0-85.0)

Table 2. Comparison of the patients characteristics between with and without pre-transplant (Tx) desensitization.

	No pre -Tx desensitized group n=11	**Pre-Tx desensitized group n=9**	**P value**
Male	45.5 % (5/11)	44.4 % (4/9)	1.00
Deceased donor	9.1 % (1/11)	9.1 % (1/9)	1.00
Hemodialysis before Tx	63.6 % (7/11)	88.9 % (8/9)	0.319
Recipient age (yo)	40+-15	35+-7	0.426
Glucocorticoid before Tx	18.2 % (2/11)	44.4 % (4/9)	0.161
Induction with CyA	54.5 % (6/11)	77.8 % (7/9)	0.374
Tac trough level (ng/mL)	5.5+-1.3	4.7+-1.7	0.319
CyA tough level (ng/mL)	132.0+-32.7	118.0+-1.8	0.592
MMF (mg/day)	1000.0+-500.0	1111.1+-220.5	0.442
mPSL (mg/day)	3.8+-1.9	2.9+-1.1	0.184
S-Cre (mg/dL) at the end of follow up	1.42+-0.42	1.23+-0.37	0.286
eGFR (mL/min/1.73m2) at the end of follow up	42.7+-15.5	50.4+-15.7	0.288
Acute/chronic rejection	9.1 % (1/11)	11.1 % (1/9)	1.00
Recurrence IgAN	63.6 % (7/11)	0 % (0/9)	0.005
IgA deposition with and without hematuria	81.8 % (9/11)	11.1 % (1/9)	0.005
Duration of follow up (mo)	43.8+-24.3	40.7+-22.4	0.767

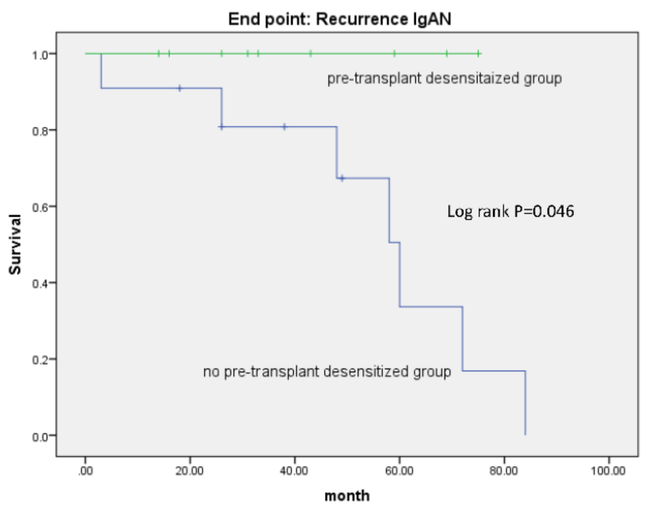


Fig1. Kaplan-Meier survival without recurrence IgAN after Tx.

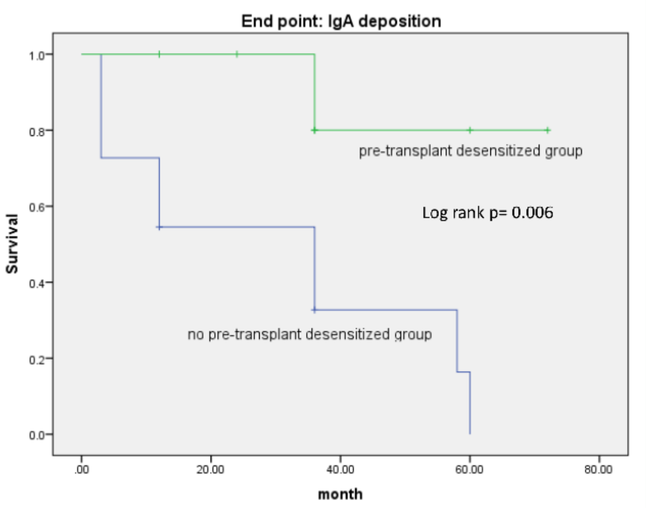
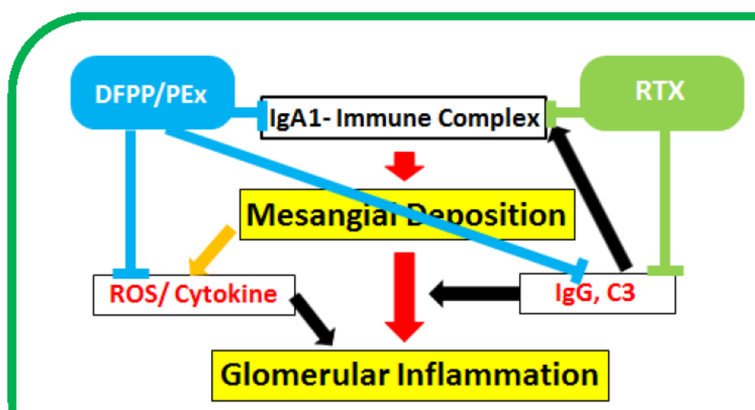


Fig 2. Kaplan-Meier survival without IgA deposition after Tx.



- **DFPP/PEx removes circulating galactose-deficient IgA1 (Gd-IgA1) , anti-Gd-IgA1 antibodies, immune complexes and ROS/Cytokine.**
- **RTX reduces the production of IgA1 and anti-Gd IgA1 antibodies.**

⇒ **Prevention of glomerular damage.**

Fig 3. A hypothesis about the effect of pre-Tx desensitization for recurrent IgAN.

I have no conflict interest to declaim have no conflict interest to declare for this presentation.re for this presentation.

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