

## ABO 혈액형 부적합 생체 신이식에서의 낮은 용량의 rituximab의 안전성

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### Lower Dose of Rituximab May Be Sufficient for ABO Incompatible (ABO-I) Living Donor (LD) Kidney Transplantation (KT)

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Due to serious organ shortage, ABO-I LD KT became an inevitable option. Recent literatures showed that under current immunosuppressive and antibody-reduction strategies, the graft outcome of ABO-I KT is excellent and equivalent to ABO compatible KT.

Rituximab, a B cell depleting antibody, has successfully substituted splenectomy in ABO-I transplantation, and therefore short and long term morbidity associated with splenectomy can now be avoided. The 'standard' dose of rituximab of 375 mg/m<sup>2</sup>, however, is the dose for the treatment of lymphoma patients with large B cell mass and can be more than sufficient in KT patients with no increase in B cell mass. Furthermore, as the risk of ABO antibody-mediated rejection (AMR) is almost exclusively restricted during the early posttransplant period, prolonged deletion of B cells for over 2 years as reported in KT patients treated with the 'standard' dose of rituximab may even be harmful with possible over-immunosuppression.

Thirteen patients have received a ABO-I LD renal allograft since Feb. 2007 in our center. Nine of these patients before Oct. 2008 were given 375 mg/m<sup>2</sup> of rituximab, while 4 patients thereafter were given 187 mg/m<sup>2</sup>. Initial ABO titers of 64 (median; 8-512) were successfully reduced to 2 (1-8) on transplant day by plasmapheresis. Median follow up was 7 (4-26) months. ABO titer remains low after transplantation [6 (1-16) at last follow up]. Peripheral blood B cells as determined by CD19 remain undetectable during 3 posttransplant months in both groups treated with 'standard' and reduced dose of rituximab. No patient or graft was lost to date. No patient developed AMR in both groups. Serum creatinine at last visit was 1.2±0.3 (0.6-1.6) mg/dL.

We conclude lower dose rituximab can be used for successful engraftment of ABO-I LD KT. Lower dose can save cost and also possibly may avoid over-immunosuppression.

**Key Words** : 혈액형 부적합 신장이식, Rituximab, CD19

ABO incompatible kidney transplantation, Rituximab, CD19