

Absolute lymphocyte count as an easy bedside tool to determine the dosage of induction agent in kidney transplant recipients

AIM

The present is a prospective study focussing on the use of absolute lymphocyte count in determining the dosage of induction agent in kidney transplant recipients.

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Methodology

- The present study was conducted in kidney transplant department of tertiary care centre over a period of 12 months. A total of 42 patients were enrolled in the study. The patients received rATG as induction agent. The patient received first dose (1 mg/kg) on the day of kidney transplant. Subsequent doses were determined according to absolute lymphocyte count. The mean absolute lymphocyte count of 500 was kept as cut off to determine the dose.
- Absolute lymphocyte count was followed until the stable graft function (Serum creatinine < 1.2). The patients were put on triple immunosuppressive regimen (Steroid + Tacrolimus + Mycophenolate Mofetil). The maintenance dosage were kept according to standard therapeutic levels. The patients were discharged on Post operative day 7 and subsequent followed on monthly basis till 6 months.



Results

- The mean age of KTR was 46+-4 years. The male to female ratio of KTR was 1.2:1.
- Out of 42 patients, 16 patients received dynamic rATG-1.8+-0.24 mg/kg and 26 patients received rATG-3 mg/kg as per the ALC counts.
- The patients receiving dynamic rATG dosage, 91.6% had stable graft function on discharge, 86.1% had stable graft function at 3 months follow up and 80.5% had stable graft function at 6 months follow up.
- The patients receiving rATG-3 mg/kg, 95.2 % had stable graft function on discharge and 92.8 % had stable graft function at 3 months follow up and 85.7% had stable graft function at 6 months follow up.
- The incidence of acute and chronic rejection was insignificant in both the groups.
- The patients were further assessed regarding the incidence of infections including urinary tract infection, pneumonia, CMV viremia and any other infection. The patient receiving dynamic rARG dosage have a lower incidence of infections as compared to those receiving rATG-3 mg/kg.





Discussion

In routine clinical practice, immunological risk profile based on HLA mismatch, exposure to blood products, multiple pregnancies, native kidney disease are used to categorize the KTR under high and low risk. The dosage of induction agent is further decide on the basis of risk profile. Absolute lymphocyte count is a hematological parameter determining the immunological status. ALC can be used as an effective marker to determine the immunological status in immediate KTR and hence, the dosage of induction agent.

