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Comparison of rabbit anti-thymocyte globulin and Jurkat cell-reactive anti-T lymphocyte globulin as a first-line treatment for children with aplastic anemia

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The purpose of this study was to investigate the effects of rabbit antihuman thymocyte globulin (R-ATG) and Jurkat cell-L reactive anti-T lymphocyte globulin (ATG-F) in the treatment of childhood aplastic anemia (AA) and compare their efficacy and side effects. A total of 53 children with AA were analyzed in the present study, including 32 cases of severe AA, 10 cases of very severe AA and 11 cases of transfusion-dependent non severe AA. While receiving immunosuppressive therapy (IST), 29 and 24 patients, all of whom received long-term oral supplement with cyclosporin A (CSA), androgen, and traditional Chinese medicines, were treated with R-ATG and ATG-F, respectively. If necessary, the patients were also given supportive care such as component transfusion and/or infection control. Absolute counts of peripheral blood lymphocyte at various time points were dynamically measured after ATG therapy. According to the International AA Treatment and effect standards, we found that there were no statistically significant differences in the response rate (70.83% vs. 68.97%, p=0.05) and the overall survive rate (83.33% vs. 82.76%, p=0.05) between the ATG-F and R-ATG groups. In addition, no obvious differences were observed between these two groups in the response time, efficacy in severe AA and very severe AA, or the incidence rates of ATG-related adverse reactions. After ATG treatment, the extent of peripheral blood lymphocyte reduction and duration in peripheral blood were similar between the ATG-F and R-ATG groups. The results of this study showed that ATG-F and R-ATG had similar efficacy and adverse reactions in the first-line treatment of childhood AA, despite being derived from different immunogens.

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