

THE RESULTS OF MONITORING THE B-CELL IMMUNITY IN PATIENTS AFTER KIDNEY TRANSPLANTATION

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Objective: *to study the features of humoral component of immune system in patients after kidney transplantation.*

Material and methods. The dynamics of the subpopulations of CD19⁺, CD19⁺IgD⁺CD27⁻, CD19⁺ IgD⁺CD27⁺, CD19⁺IgD⁻CD27⁺, CD19⁺CD5⁺, CD19⁺CD40⁺, CD19⁺CD86⁺, immunoglobulins G, M, A, and C3, C4-components of complements has been determined in 94 recipients of renal allograft at 0, 1, 3, 10, 30, 90, 180 days. All patients received induction therapy of anti-CD25 monoclonal antibodies and triple immunosuppressive therapy, including calcineurin inhibitors, antiproliferative drugs (mycophenolate or azathioprine) and corticosteroids.

Results. The levels of CD19⁺IgD⁺CD27⁺ (non-switched memory B lymphocytes) and CD19⁺CD40⁺ (activated lymphocytes) were found to be significantly lower in the group of recipients at the pre-transplant stage than in the comparison group ($p = 0.026$ and $p = 0.031$, respectively). The level of CD19⁺IgD⁺CD27⁻ naive B-lymphocytes for 6 months after kidney transplantation rose progressively: on the 10th and 180th days it was significantly higher than in the comparison group ($p_{10} = 0.022$; $p_{180} = 0.008$). In turn, the number of switched memory B-lymphocytes (CD19⁺IgD⁻CD27⁺) practically did not differ from the comparison group over the entire observation period, but on the 180th day of observation it significantly decreased ($p_{180} = 0.003$). The negative dynamics of the IgG content was observed throughout the whole observation period ($p_1 = 0.0003$; $p_3 < 0.00001$; $p_{10} < 0.00001$; $p_{30} = 0.033$; $p_{90} < 0.00001$; $p_{180} = 0.0001$). The level of IgA in kidney transplant recipients over 6 months was lower than in the comparison group ($p_1 = 0.044$; $p_3 = 0.03$; $p_{10} = 0.11$; $p_{30} = 0.035$; $p_{90} = 0.018$; $p_{180} = 0.034$). The IgM content did not significantly differ from the comparison group up to 180 days and became significantly higher ($p_{180} = 0.048$).

Conclusion. Determined changes in the immune status characterized by a decrease in the switched memory B-lymphocytes CD19⁺IgD⁻CD27⁺ and immunoglobulins A and G and characterized by an increase in CD19⁺IgD⁺CD27⁻ naive B-lymphocytes and immunoglobulins M in recipients of allotransplant in the post-transplant period are a positive prognostic factor and can be recommended for immunological monitoring in the post-transplantation period.