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Immunomodulation with rabbit anti-thymocyte globulin in solid organ transplantation

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Abstract

Rabbit anti-thymocyte globulin's manifold mechanisms of action may be attributed to its polyclonal nature. Its T-cell depleting effect on lymphoid cells is well established: occurring in the blood and secondary lymphoid tissues, depletion proceeds through complement-dependent lysis, opsonization and apoptotic pathways. Clinical studies have shown that rabbit anti-thymocyte globulin's immunomodulatory effect extends beyond the initial T-cell depletion and up to the period during which lymphocyte populations begin to recover. The drug is able to mediate immunomodulation and graft tolerance by functionally inactivating cell surface receptors involved in antigen recognition, leukocyte trafficking and leukocyte endothelium adhesion. The complex and prolonged immunomodulation induced by this drug contributes to its efficacy in solid organ transplantation, mainly by reducing the incidence of acute graft rejection.

Key words: Rabbit anti-thymocyte globulin; Induction therapy; Solid organ transplantation; Immunomodulation

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