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Basiliximab

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Triple drug therapy with cyclosporin, corticosteroids and azathioprine or mycophenolate mofetil is now the most frequently used antirejection drug regimen, at least in cadaveric kidney recipients. Long term experience with these older immunosuppressants, however, has provided ample evidence that the search for better tolerated and more effective agents should continue.

To sustain proliferation of T lymphocytes that have been activated by an alloantigen, lymphokines such as interleukin-2 (IL-2) have to be generated and specific receptors, such as the IL-2 receptor, must be expressed on the cell surface.

Basiliximab, a chimaeric mouse-human monoclonal antibody, belongs to a new class of immunosuppressive agents which uniquely target activated T lymphocytes bearing the IL-2 receptor. When complexed with basiliximab, IL-2 receptors on T lymphocytes are not available for IL-2 binding, and proliferation of T cells is inhibited. Basiliximab has recently undergone clinical trials in Europe and the US as a biological induction agent in low risk recipients of renal transplants in the context of limited combination regimens. Prophylaxis with basiliximab (20mg, 2 hours before and on day 4 after transplant) significantly reduced (18 to 20%) the incidence of acute rejection episodes in the first 6 months after transplantation as compared with placebo in cadaveric or living donor renal recipients who also were given cyclosporin microemulsion and corticosteroids. There were no clinically relevant safety or tolerability concerns.

Basiliximab is also being investigated for the prevention of rejection of liver transplants, but available data refer only to drug disposition and immunodynamics. In addition, the short administration schedule coupled with a favourable safety profile has given rise to hope that basiliximab will make minimal or subtractive antirejection strategies feasible.

While basiliximab is definitely of interest for transplant medicine, further studies are still needed to address the implications for long term safety and efficacy of this agent in the context of other traditional or novel antirejection therapies. ▲