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1: [Nutrition](#). 1999 Feb;15(2):130-4.

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Dietary amino acids as new and novel agents to enhance allograft survival.

[Alexander JW](#), [Valente JF](#), [Greenberg NA](#), [Custer DA](#), [Ogle CK](#), [Gibson S](#), [Babcock G](#).

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Dietary supplementation with arginine was previously found to enhance cardiac allograft survival in rats when given with a donor-specific transfusion and a short low-dose course of cyclosporine. This study was performed to determine further the role of amino acid supplementation in prolonging allograft survival. Standard isocaloric, isonitrogenous diets were modified to contain 2 or 4% of energy from arginine, 2 or 4% from glutamine, 4% from glycine or the following combinations: 2% arginine with 2% glutamine, 2% arginine with 4% glutamine, or 1% arginine with 2% glutamine. These diets were started along with a donor-specific transfusion and a 7-d course of cyclosporine the day before cardiac transplantation from an ACI to Lewis strain rat. Median survival times in days for the groups were as follows: control without amino acids, 19.0; 2% arginine, 68.0; 4% arginine, 35.5; 2% glutamine, 28.5; 4% glutamine, 53.5; 4% glycine, 31.5; 2% arginine with 2% glutamine, 39.5; 2% arginine with 4% glutamine, 42.5 and 1% arginine with 2% glutamine, 35.5. Each experimental diet except 2% glutamine and 4% glycine significantly enhanced allograft survival ($P < 0.05$) with the 2% arginine diet being the best (91.6 +/- 32.3 d [mean +/- SEM] versus 20.1 +/- 3.2 d for control). It is concluded that both arginine and glutamine enhance the immunosuppressive effects of donor-specific transfusion and cyclosporine.

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