Treatment of Fulminant Myocarditis With Rabbit Antithymocyte Globulin: A Pilot Study

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Objectives: To evaluate possible efficacy of rabbit antithymocyte globulin (RATG) to treat biopsy proven myocarditis.

Background: In a murine model, antithymocyte serum improved survival in T-cell and humorally mediated viral myocarditis. RATG, an analogous drug used in human transplantation may have a role in treating myocarditis.

Methods: From Jan. 93 to Oct 02, all patients referred with biopsy proven myocarditis, (Dallas Criteria) were given RATG, either locally manufactured (200mg IM) or commer-

cially prepared (Thymoglobuline 1.5 mg/kg IV), for a three-day course and then rebiop-

sied. Patients with active myocarditis on the repeat biopsy were given a second three-day course and rebiopsied. Adjunctive steroids were given in conjunction with RATG except in two patients on cardiac assist devices where steroids were contraindicated. Echocar-

diograms (echo) were obtained before RATG, at discharge and last follow-up.

Results: Of the 31 patients in the study; all had normal fraction (EF) by echo. Two patients did not require IV inotropes, two required IV inotropes and two required assist devices and inotropes. All patients had improvement in heart biopsies after RATG but one required a second course. One patient died of multisystem failure while on an assist device. The five survivors had improvement in EF at the time of discharge over admission EF. Long-term follow-up, (mean 1466 days) showed the EF stayed the same or improved compared to the discharge EF in four patients but decreased in one.

Conclusion: RATG may be beneficial in the treatment of myocarditis. RATG causes a profound lymphopenia, inhibits cytokines, blocks co-stimulation molecules and may induce self-tolerance. A multicenter trial is needed to assess efficacy and safety.

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Monday, March 08, 2004, 11:00 a.m.-12:15 p.m. Morial Convention Center, Room 217

813-1 Cytomegalovirus Infection Is Proportional to Cardiac Allograft Vasculopathy in Heart Transplant Recipients

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Background Cytomegalovirus (CMV) infection is a risk factor for cardiac allograft vasculopathy (CAV) in heart transplant (HT) recipients. However few human studies have addressed the question of infectious burden and its direct role in CAV severity. The aim of this analysis was to determine whether increasing viral burden was predictive of CAV.

Methods Forty-six consecutive HT recipients enrolled at Bologna (n=40) and Stanford (n=6 HT units [81±13 year; 78% males) were monitored for CMV activation, either by PCR or antigenemia testing of peripheral blood obtained weekly during the initial month, and then at monthly intervals after HT. CMV management consisted of either prophylaxis with ganciclovir for 4 weeks after HT, or pre-emptive treatment with ganciclovir only when CMV replication exceeded 50 cells/mm3 of leukocytes. Patients were divided into 3 groups based on viral burden: 1) CMV negative throughout follow-up (n=14); 2) asymptomatic positive PCR or antigenemia below 50 cells (n=16); 3) high CMV levels requiring treat-

ment (n=16). CAV progression was quantified by coronary intravascular ultrasound (IVUS) performed at 1 and 12 months after HT.

Results Overall, coronary internal area (IA) increased by 70% (P<0.01) during the follow-up. IA increased by 30% in Group 1 recipients, by 90% in Group 2 and by 115% in Group 3 (P=0.01 for trend; P<0.05 for Group 1 vs. Group 3 and for Group 2 vs. Group 3, after correction for prophylaxis vs. pre-emptive strategy, recipient's and donor's age, lipid levels and rejection score index.

Conclusion These data suggest that severity of CMV infection, as reflected by viral bur-

den, is proportionally associated with the progressive increase in CAV, regardless of prophylactic vs. pre-emptive strategy. These results strengthen the hypothesis of a direct involvement of CMV in CAV pathophysiology.

11:15 a.m.

ORAL CONTRIBUTIONS

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