

Antibeta1 adrenergic antibodies in acute miocarditis in children: Immunoabsorption treatment

*Gil N., Panadero E., Morales M.D., Alvarez R., Camino M.
 HGU Gregorio Marañón. Madrid. Spain.*

Introduction: Remarkable advances in understanding the pathophysiology of acute myocarditis have been gained, but no standard immunological treatment has as yet been defined.

Antibeta1- adrenergic antibodies (Antiβ1) and their pathogenic effect have been described in DCM. Their elimination by immunoabsorption has been associated with better prognosis.

Our aim was to detect Antiβ1 antibodies in children with acute myocarditis and check their hemodynamic evolution after immunoabsorption treatment.

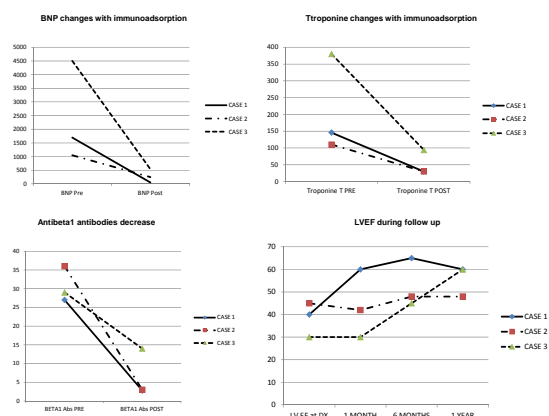
Methods: We reviewed 3 cases of acute myocarditis with positive Antiβ1. Antibodies were determined by Celltrend laboratory (positive titers>15 U/ml). Immunoabsorption was performed daily 4 times with IgG columns (Therasorb®). We analyzed clinical evolution and changes in BNP, Ttroponine, LVEF and Antiβ1.

Results: CASE 1: 3 year old boy with Kawasaki disease who developed cardiogenic shock with LV severe dysfunction. Mechanical ventilation and inotropic support was required. He received one cycle of immunoabsorption. After treatment LV function improved and mechanical ventilation and inotropic support were withdrawn. Currently the patient is asymptomatic.

CASE 2: 4 year old girl with 3 episodes of myocarditis treated with milrinone and diuretics. PCR Parvovirus B19 (in blood and endomiocardial biopsy) and Antiβ1 were positive so treatment with immunoabsorption and immunoglobuline perfusion was decided. During the last 4 years she presented several episodes of recurrent myocarditis partially controlled with periodic immunoglobulin and immunoabsorption (3 cycles). She continues in a good functional class (NYHA II), receives IECAS and betabloquers oral treatment and has a moderate LV dilatation with mild disfunction.

CASE 3: Infant(16 months) with cardiogenic shock. Requiring mechanical ventilation and inotropic support. In etiologic study CMV, VHH6 and Parvovirus PCR in blood were positive. Treatment was: ganciclovir, 2 cycles of immunoabsorption and gammaglobuline. The patient improved allowing inotropic and oxygen suppression. Currently, one year after, receiving IECAS treatment and with good functional class.

In our patients immunoabsorption was well tolerated. This technique decreases BNP, Ttroponine, antibodies and improves clinical status. The changes in echo appear later in time. (GRAPHIC)



Conclusions: Antibeta1-adrenergic antibodies could be present in acute myocarditis as a marker of immune response. We believe that immunoabsorption, in these patients is a secure technique and its use is associated with good hemodynamic evolution.