

Evaluation of Cardiac Functions in Brucellosis Patients without Overt Cardiac Involvement

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Objectives:

Brucellosis is an important systemic infectious disease, especially in developing countries. Every organ and system of the human body can be affected in brucellosis. Cardiovascular complications of brucellosis are rare. This study aimed to assess cardiac functions in acute brucellosis patients without endocarditis.

Methods:

This cross-sectional study enrolled 67 children with brucellosis and 40 healthy children. We performed detailed echocardiography in individuals with in brucellosis patients without overt cardiac involvement. Diagnosis was established by the Rose-Bengal test, positive Brucella standart tube agglutination test, and Coombs STA and/or isolation Brucella species from blood.

Results:

Both groups were similar in terms of age, sex, and body mass index. Echocardiography revealed no difference among the two groups regarding ejection fraction, mitral and tricuspid annular plane systolic excursion, Pulsed-wave Doppler derived E/A ratios in mitral and tricuspid valves. Deceleration time of early mitral inflow was prolonged in patients with brucellosis. Mitral and tricuspid annulus Ea velocity were significantly lower in children with brucellosis. Ea, Aa, and Ea/Aa ratios in the interventricular septum, left ventricle (LV) posterior wall, and right ventricle (RV) free wall were lower in patients with brucellosis than in the control group. The E/Ea ratio was greater in patients with brucellosis than in the control group. Isovolumic relaxation time and RV and LV myocardial performance indices (MPIs) were greater in patients with brucellosis. There was also significant correlation between the inflammatory parameters and MPIs.

Conclusion:

This study showed the diastolic dysfunction in patients with acute brucellosis patients without overt cardiac involvement. In addition, we detected increased LV and RV MPI.