

JOURNAL OF CARDIAC FAILURE

14(7), S161-S161, Supplement: Suppl. 1, SEP 2008 Title:

Elevated Levels Of Serum Interleukin-12p40 May Reflect Disease Severity Of Patients With Chronic Congestive Heart Failure

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Interleukin(IL)-12p40 is a linchpin immunoregulatory cytokine to promote the development of a Th1 type immune response. To examine whether serum levels of IL-12p40 are increased in patients with CHF and to determine whether a correlation exists between disease severity and serum levels of IL-12p40 of patients with chronic CHF, we assessed the serum levels of IL-12p40 in 56 patients with CHF (LVEF<40%, NYHA II-III) and age-matched 20 healthy volunteers using enzyme-linked immunosorbent assay. Results: The serum levels of IL-12p40 were significantly higher in CHF patients than in healthy volunteer (81.3±8.1 vs 25.7 ±2.9 ng/ml, p<0.01). The serum levels of IL-12p40 showed significant positive correlations with NYHA functional class, serum levels of tumor necrotic factor-alpha, IL-1beta, IL-6, and BNP in patients with CHF. Cardiac death and rehospitalization due to worsening heart failure occurred more frequently in a high serum levels of IL-12p40 group (>54.0ng/ml,n=28) of CHF patients than in a low serum levels of IL-12p40 group (<54.0ng/ml,n=28) for a mean follow-up period of 27.5 months. Furthermore, serially measured serum levels of IL-12p40 decreased significantly along with improvement in NYHA class under medication with carvedilol in 12 patients. Conclusions: Our data showed that the circulating IL-12p40 levels may relate to severity of patients with heart failure syndrome.