

Usefulness of cell-mediated immune function in risk stratification for patients with advanced heart failure(Article)

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[Abstract](#) [View references \(22\)](#)

Although heightened inflammation and autoimmune responses have been well described in patients with heart failure, the role of cell-mediated immune function in the pathogenesis and progression of heart failure is unclear. The aim of our study is to evaluate the prognostic role of cell-mediated immune function in patients with advanced heart failure. **Methods** We studied patients with advanced heart failure referred for evaluation of candidacy for advanced heart failure therapies between 2007 and 2010. Cell-mediated immune response was categorized into 3 groups—low or poor immune response (≤ 225 ng/mL), moderate or normal immune response (226-524 ng/mL), and strong immune response (≥ 525 ng/mL)—using a phytohemagglutinin-stimulated T-cell response assay. **Results** Out of 368 patients, 41 patients (11.1%) had poor immune function, 258 patients (70.1%) had normal immune function, and 69 patients (18.7%) had strong immune function. The primary outcome of all-cause mortality or cardiac transplantation occurred in 63.4%, 45.3%, and 34.8% in the poor immunity, normal immunity, and strong immune function groups, respectively. In univariate analysis, cell-mediated immune function was strongly associated with the primary outcome ($P = .014$). Poor immune function portended worse prognosis (hazard ratio = 2.18, 95% CI 1.01-4.70, $P = .047$), and strong immune function was associated with better survival (hazard ratio = 0.67, 95% CI 0.43-1.04). However, when adjusted for multiple variables in multivariate analysis, immune function status lost its overall significance to predict primary outcome ($P = 0.11$), but the direction to an increased risk of primary outcome was maintained in the poor immune function group. **Conclusions** Poor cell-mediated immune function measured by a clinically available assay could be

associated with more adverse long-term prognosis in patients with advanced heart failure. © 2016 Elsevier Inc.

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Indexed keywords

EMTREE drug terms: acetylsalicylic acid, angiotensin receptor antagonist, beta adrenergic receptor blocking agent, carboxypeptidase inhibitor, hydralazine, nitric acid derivative, phytohemagglutinin, spironolactone

EMTREE medical terms: adult, article, cardiac patient, cardiovascular mortality, cellular immunity, female, heart failure, transplantation, human, major clinical study, male, medical record review, priority journal, procedure, risk assessment, failure, immunology, Kaplan Meier method, middle aged, mortality, procedures, risk assessment

MeSH: Adult, Aged, Heart Failure, Humans, Immunity, Cellular, Kaplan-Meier Estimate, Male, Middle Aged

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acetylsalicylic acid, 493-53-8, 50-78-2, 53663-74-4, 53664-49-6, 63781-77-1; clopidogrel, 113665-84-2, 120202-66-6, 90055-48-4, 94188-84-8; hydralazine, 304-20-1, 86-54-4; phytohemagglutinin, 9008-97-3; spironolactone, 52-01-7

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