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Heart Failure and Cardiomyopathies

PROGNOSTIC POWER OF COMBINED ASSESSMENT OF RED CELL DISTRIBUTION WIDTH AND B-TYPE NATRIURETIC PEPTIDE IN PATIENTS WITH CHRONIC HEART FAILURE

Poster Contributions
Hall C
Saturday, March 29, 2014, 10:00 a.m.-10:45 a.m.

Session Title: Heart Failure and Cardiomyopathies: Role of Biomarkers in Heart Failure
Abstract Category: 12. Heart Failure and Cardiomyopathies: Clinical
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Background: Increased red cell distribution width (RDW) was reported to be associated with adverse outcomes in patients with chronic heart failure (CHF). The purpose of this study is to evaluate prognostic power of combined measurement of RDS and B-type natriuretic peptide (BNP) in CHF patients.

Methods: We analyzed 116 hospitalized patients with CHF (mean age 63.7±14.3 years). RDW and BNP were measured at admission. These patients were followed and cardiovascular death was defined as a primary end point. **Results:** Mean RDW, BNP, and left ventricular ejection fraction were 14.4±1.9%, 626±593 pg/ml, and 30.7±10.7%, respectively. During 1046 median follow up days, 24 patients died of cardiovascular disease. In univariate Cox proportional hazard analysis, RDW (p=0.0063) and BNP (p=0.0018) were both significant prognostic indices for survival. Furthermore, in multivariate Cox proportional hazard analysis, RDW and BNP could be used to identify the prognosis. In receiver operating characteristic curve analysis, the area under the curve showed the optimal cut-off values of RDW and BNP for cardiovascular death were 14.9% and 686 pg/ml, respectively. Kaplan-Meier survival curve revealed the survival rate of patients with both RDW>14.9% and BNP>686 pg/ml could demonstrate the poor prognosis more clearly compared to only RDW>14.9% or BNP>686 pg/ml (Figure).

Conclusions: We demonstrated that combined evaluation of RDW and BNP was a useful predictor of mortality in patients with CHF.