



# Association of NT-proBNP and interleukin-17 levels with heart failure in elderly patients

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**ABSTRACT.** Pro-B-type natriuretic peptide (NT-proBNP) and interleukin-17 (IL-17) are involved in the pathophysiological processes of heart failure; however, the exact role of IL-17 is not clear. We explored the relationship between IL-17 and NT-proBNP, as a clinical parameter, in heart failure. The whole blood IL-17 and NT-proBNP levels and the readmission rates in 70 patients with chronic heart failure class III or IV according to the New York Heart Association and 35 patients with normal heart function (control group) were measured and compared. The left ventricle ejection fractions (LVEFs) and NT-proBNP and IL-17 levels in cardiac functional class III ( $40.38 \pm 4.76\%$ ,  $7780 \pm 6393$  pg/mL,  $8.65 \pm 3.05$  pg/mL, respectively) and class IV ( $31.59 \pm 4.31\%$ ,  $13,704 \pm 10,945$ ,  $21.10 \pm 10.60$  pg/mL, respectively) were higher than those in the control group ( $61.27 \pm 5.66\%$ ,  $420 \pm 256$  pg/mL,  $3.53 \pm 2.05$

pg/mL, respectively). Compared to the cardiac functional class IV, class III showed significantly higher values for LVEF and NT-proBNP and IL-17 levels ( $P < 0.05$ ). The readmission rates of the patients in cardiac functional class III at 3 and 6 months (15.7 and 34.4%, respectively) and cardiac functional class IV at 3 and 6 months (39.5 and 76.3%, respectively) were significantly higher than those in the control group (0 and 5.7%, respectively) ( $P < 0.05$ ). The NT-proBNP and IL-17 levels increased as the heart function worsened. NT-proBNP and IL-17 may play essential roles in the process of heart failure.

**Key words:** Congestive heart failure; Interleukin-17; N-terminal pro-brain natriuretic peptide