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| Table J-19. Studies evaluating independent predictive value of NT-proBNP for the outcome of cardiovascular mortality - admission and discharge (all time periods) in patients with decompensated heart failure | | | | | | | | |
| **Author**  **Year**  **Companion** | **Study Design**  **Population** | **n**  **Mean Age (SD)**  **% male** | **BNP Levels (pg/mL)** | **Prognostic Markers** | **Followup**  **Outcomes**  **(#events, #risk)** | **Model** | **Adjusted/Non-adjusted Covariates** | **Measure(s) of Risk**  **(95% CI,)** |
| Davutoglu59  2010 | Cohort  Acute decompensated HF | n=100  mean age:  65y (10)  % male: 41 | ADM mean:  no pleural effusion=6,640.8 (13,368.6) g/dl  pleural effusion)= 6,737.1 (161,108.2) g/dl  D/C mean: NR  Cutpoint: elevated NT-proBNP (1,000 pg/dl) | NT-proBNP, pleural effusion, CA125 | 6m  Cardiac mortality  (27, 100) | Multivariable cox regression | Pleural effusion, CA125 | ADM: RR=1.049 (0.988-1.113), p=0.119 |
| Marcucci51  2006 | Cohort  HF patients | n=214,  mean age:  71.9y (9.8)  % male: 79 | ADM mean: NR  D/C mean: NR  Cutpoint: NR | NT-proBNP, DD, TAT, IL-6, CRP | 8.5m\*\*  CV mortality  (13, 214) | Multivariable stepwise cox | Age, gender, NYHA, EF, renal failure, HT, hypercholesterolemia, smoking, DM, Hb, Na | ADM: HR=NR, p=NS |
| Bayes-Genis53  2005  Bayes-Genis, 2004 | Cohort  Acute HF with ventricular dysfunction | n=69  mean age:  deceased =73.7y (7.5)  survivors = 71.4y (10.4)  % male: 61 | ADM mean: NR  D/C mean: NR  Cutpoint: 30% decrease | NT-proBNP reduction >30% during hospitalization, 7d NT-proBNP concentration, age, gender, patient history | 12m  CV mortality  (12, 69) | Multivariable stepwise logistic regression | Age, gender, patient history | Reduction by 30%: OR=4.4 (1.12-17.4), p=0.03 |
| Petretta69  2007 | Cohort  Patients with chronic HF admitted to hospital | n=153,  mean age:  64y (19-87)\*\*  % male: 72 | ADM mean:  survivors =1,167 (1,694)  dead = 3,333 (2,791)  D/C mean: NR  Cutpoint: NR | NT-proBNP, GFR, age, DM, NYHA class, iron, hematocrit | 456d\*\*  CV mortality  (32, 153) | Multivariable cox regression | GFR, age, DM, NYHA class, iron, hematocrit | ADM: HR=1.002 (1.001-1.003), p=0.001 |
| log NT-proBNP (tertiles), GFR, age, DM, NYHA class, iron, hematocrit | 456d\*\*  CV mortality  (32, 153) | Multivariable cox regression | GFR, age, DM, NYHA class, iron, hematocrit | ADM: HR=2.27 (1.61-3.19), p=0.001 |

**Abbreviations:** ADM = admission; BNP = B-type natriuretic peptide; CA125 = carbohydrate antigen 125; 95% CI, = confidence interval; CMP = cardiomyopathy; CRP = C-reactive protein; CV = cardiovascular; d = day(s); DD = D-dimer; D/C = discharge; DM = diabetes mellitus; ED = emergency department; EF = ejection fraction; GFR = glomerular filtration rate; Hb = hemoglobin; HF = heart failure; HR = hazard ratio; HT = hypertension; ICU = intensive care unit; IL-6=interleukin-6; ln=natural log; m = month(s); MI = myocardial infarction; n=number; Na = sodium; NR = not reported; NS = non-significant; NT-proBNP = N-terminal pro-B-type natriuretic peptide; NYHA = New York Heart Association; OR = odds ratio; pg/mL = picograms per milliliter; RR = relative risk; SD = standard deviation; TAT = thrombin antithrombin III complex; y = year(s)