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| Table J-3. Studies evaluating independent predictive value of BNP for the outcome of all-cause mortality (2 to 3 months) | | | | | | | | |
| **Author**  **Year** | **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,)** |
| Maisel1  2004  REDHOT study | Cohort  Patients presenting in ED with CHF | n=464  mean age:  64y(51-76)\*\*  53.9% male | ADM Mean: 766  D/C Mean: 976  Cutpoint: 200 | logBNP, NYHA, ED disposition (initial intent, actual disposition) | 90d  All-cause mortality  (36, 452) | Multivariable logistic regression | NYHA, ED disposition (initial intent, actual disposition) | ADM: logOR=1.537 (SE = 0.42), |
| Peacock44 2011  BACH | Cohort  Patients with acute HF | n=466  mean age:  70.8y(14)  58.7% male | ADM Mean: BNP 764 (402-1,415)  D/C Mean: NA  Cutpoint: NA | logBNP, logNT-proBNP, BUN, MR-proANP, systolic BP, pulse oximetry, creatinine, age, troponin, MR-proADM, copeptin, copeptin and MR-proADM | 90d  90d mortality  (NR) | Cox proportional hazards | logNT-proBNP, BUN, MR-proANP, systolic BP, pulse oximetry, creatinine, age, troponin, MR-proADM, copeptin, copeptin and MR-proADM | ADM: log BNP: Chi-square 12.5 p<0.001 c index 0.636 |
| Maisel40  2010  BACH | Cohort  Patients with acute HF presenting at ED with dyspnea | n=568  mean age:  71.2y(13.8)  62.5% male | ADM Mean: NR  D/C Mean: NR  Cutpoint: NR | log BNP, age, gender, BMI, creatinine | 90d  All-cause mortality  (65, 568) | Multivariable cox regression | age, gender, BMI, creatinine | ADM: HR=1.3 (0.9-1.9) per increase of 1 IQR |
| log BNP, logMR-proADM, troponin | 90d  All-cause mortality  (65, 568) | Multivariable cox regression | logMR-proADM, troponin, age, gender, BMI, creatinine | ADM: HR=0.9 (0.6 -1.4) (p=NS) per increase of 1 IQR |
| Boisot41  2008 | Cohort  Patients admitted to hospital with a diagnosis of acute decompensated HF | n=150  mean age:  NR  99% male | ADM Mean: 635 (304, 1,501)\*\*  D/C Mean: 399 (174, 400)\*\*  Cutpoint: decrease of <10% | Decrease BNP<10%, age>65, BUN, ST2 decrease, EF, rales, wheezing murmurs, CAD, MI, AF | 90d  All-cause mortality  (24, 150) | Multivariable logistic regression | Age>65, BUN, ST2 decrease, EF, rales, wheezing murmurs, CAD, MI, AF | Change decrease 10%: OR=1.15 (0.36-3.63), (p =0.817) |

**Abbreviations:** ADM = admission; AF = atrial fibrillation; BACH = Biomarkers in Acute Heart Failure; BMI = body mass index; BNP = B-type natriuretic peptide; BP = blood pressure; BUN=blood urea nitrogen; CAD = coronary artery disease; CHF = congestive heart failure; 95% CI, = confidence interval; d = day(s); D/C = discharge; ED = emergency department; EF = ejection fraction; HF = heart failure; HR = hazard ratio; IQR = interquartile range; MI = myocardial infarction; MR-proADM = midregional pro-adrenomedullin; n=number; NR = not reported; NT-proBNP = N-terminal pro-B-type natriuretic peptide; NYHA = New York Heart Association; OR = odds ratio; pg/mL = picograms per milliliter; REDHOT = Rapid Emergency Department Heart Failure Output Trial; SD = standard deviation; y = year(s)