Abstract: P311

**Co-morbid conditions and their relationship with mortality in elderly heart failure patients**

**Authors:**
VN Larina¹, DG Karpenko¹, VG Larin¹, ¹Pirogov Russian National Research Medical University, Outpatient Medicine - Moscow - Russian Federation,

**Topic(s):**
Chronic Heart Failure – Epidemiology, Prognosis, Outcome

**Citation:**
In recent years, there has been growing evidence that multimorbidity is associated with the poor prognosis of chronic heart failure (CHF), but less is known about how these conditions impact outcomes in elderly patients.

Aim. To assess the co-morbid conditions and their relationship with mortality in elderly CHF outpatients.

Methods. Eighty outpatients suffering from CHF (44% F/56% M, age 60-89 years) due to coronary heart disease (CHD) or arterial hypertension entered the study. Forty subjects with cardiovascular diseases but without CHF (45% F/55% M, age 60-88 years) were selected as sex- and age-matched controls. All patients provided written informed consent and had clinical, laboratorial evaluation, Echo CG measurements. Frailty was identified according to the score 3 or greater due to questionnaire FRAIL. Validated Charlson comorbidity index (CCI) was calculated. Bone mineral density (BMD) in the femoral neck (FN) were examined using dual-energy X-ray absorptiometry. Statistical analysis was made using software packages SPSS 21.0, Stata 15.

Results. Co-morbidity (2 or more chronic conditions) was present in all patients with CHF and in 92.5% of control group. The most common comorbid conditions in CHF were chronic kidney disease (CKD, 66%), osteoporosis (58.6%), falls (48.5%), frailty (42.5%), obesity (35%); in control group - obesity (42%) or CKD (40%). The prevalence of osteoporosis (26.1%, p=0.005), falls (25%, p=0.039), frailty (5%, p=0.001) was less in control group compared to patients with CHF. The most common comorbid conditions combinations in CHF were osteoporosis and CKD (28%), obesity and CKD (23%), in control group – obesity and CKD (28%), obesity and diabetes (18%). Frailty associated with age of 75 years or higher (p=0.001, OR 6.0, 95% CI 2.1-17.5), CKD (p<0.001, OR 18.9, 95% CI 5.2-20.2), osteoporosis (p=0.019, OR 4.5, 95% CI 1.3-15.8) and past myocardial infarction (p=0.001, OR 6.8, 95% CI 2.2-20.8). During the mediana of follow-up 24.1±13.0 months the mortality rate was the same in the CHF patients with ≥3 diseases or <3 diseases (p=0.164). Patients with CHD (p=0.016), history of myocardial infarction (MI, p=0.016), osteoporosis (p=0.018) appear to have aggravated mortality. The relationship of mortality with male gender (p<0.001, OR 7.9, 95% CI 2.3-27.2), CHD (p<0.039, OR 8.3, 95% CI 1.1-62.4), history of MI (p<0.027, OR 3.5, 95% CI 1.2-10.5), low BMD in FN region (p<0.016, OR 4.3, 95% CI 1.3-17.2), CCI (p=0.012, OR 1.2, 95% CI 1.04-1.4) was confirmed. Conclusion. Co-morbidities are prevalent in elderly patients with CHF. The presence of CHD, osteoporosis and complex of co-morbidities defined by CCI was independently related to increased mortality.