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Title: BNP can be an all-cause mortality predictor in sarcoidosis

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Body: Introduction: Although plasma BNP level is considered to be a useful biomarker for identifying cardiac involvement in patients with Sarcoidosis (Sarc) few data exist for its predictive role in mortality. Our aim was to investigate the predictive role of BNP on all-cause mortality. Methods: 174 consecutive patients (mean age, 48.95+/- 12. 66 years; male/female, 66/108) with biopsy proven sarcoidosis were prospectively studied. Baseline evaluation included BNP, echocardiography, Holter monitoring with ability to calculate heart rate variability indices and whether was needed cardiac MRI. Also, pulmonary function tests included total lung capacity (TLC) and diffusion lung capacity of oxygen (DLCO) were performed. Results: BNP level of all patients was 24.58±28.2 pg/dl. The baseline BNP was significantly correlated with the age (p=0.0001, r=0.341),left atrium(p=0.0001, r=0.309), interventricular septum(p=0.0001, r=0.280), posterior wall(p=0.001, r=0.240), transmitral A wave(p=0.003, r=0.228), systolic pressure of pulmonary artery(p=0.0001, r=0.382), Forced Expiratory Volume at 1 second(p=0.044, r=-0.153), DLCO(p=0.012, r=-190), the presence of premature ventricular beats(p=0.0001,r=0.281) and the 24hour derived standard deviation of NN, an index of HRV(p=0.001, p=-0.258). During a mean follow-up of 54±20 (range 1-101) months, 15 Sarc patients (36.7%) died. Their baseline BNP was significantly elevated compaired to the alive{ 69.00±48.58 vs 21.45±22,69, p<0.00001). BNP at a cutoff value of 28.35 pg/ml predicted all-cause mortality with a sensitivity of 85,8% and a specificity of 78.1% (area under the ROC curve, 0.857). Conclusion: BNP can be used as an additive predictor of all-cause mortality in patients with sarcoidosis.