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Valvular Heart Disease

INCREMENTAL PROGNOSTIC UTILITY OF BRAIN NATRIURETIC PEPTIDE IN PATIENTS WITH SIGNIFICANT MYXOMATOUS MITRAL REGURGITATION AND PRESERVED LEFT VENTRICULAR EJECTION FRACTION

Moderated Poster Contributions
Valvular Heart Disease Moderated Poster Theater, Poster Hall B1
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Background: We sought to study the prognostic utility of serum brain natriuretic peptide (BNP) in patients with significant myxomatous mitral regurgitation (MMR) & normal left ventricular ejection fraction (LVEF).

Methods: 548 patients (age 62±13 years & 66% men) with ≥3+ MMR & normal LVEF on resting echo, evaluated at our center between 2005-8 were studied. Baseline clinical & echo data was recorded & Society of Thoracic Surgeons (STS) score was calculated. Primary outcome was cardiac death.

Results: Mean STS score was 4±1%. 42% were in functional class (FC) I &36% in FC II; 30% had atrial fibrillation (AF). Mean LVEF, mitral effective regurgitant orifice, indexed LV end-systolic diameter (LVESD) & right ventricular systolic pressure (RVSP) were 60±4%, 0.50±0.2 cm2, 1.6±0.3 cm/m2 & 38±15 mm Hg; 43% had flail. Mean log transformed BNP (lnBNP) was 4.2±1.2 (13% had an absolute BNP value>250 pg/ml). At 7.4±2 years, 493 patients (90%) had mitral surgery (92% repair) & death occurred in 53 patients (10%). On stepwise multivariable Cox analysis, STS score (HR 1.50 [1.20-1.88]), baseline RVSP (HR 1.17 [1.02-1.35]), mitral surgery (HR 0.17 [0.09-0.30]) & lnBNP (HR 2.51 [1.86-3.39], also figure) predicted death (all p<0.01). Addition of ln-BNP to STS score, mitral surgery & RVSP resulted in net reclassification improvement (0.3 [0.17-0.44], p<0.001). 89% deaths occurred in patients with lnBNP >4.1.

Conclusion: In patients with ≥3+ MMR & normal EF, higher BNP predicted reduced survival & improved risk stratification