**PROGNOSTIC SIGNIFICANCE OF MINOR TROPONIN ELEVATION IN PATIENTS WITH NEW ONSET ATRIAL FIBRILLATION**

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Background: Elevated troponins are known to predict adverse outcomes in patients presenting with atrial fibrillation (AF). However, the significance of indeterminate troponin levels below the upper reference limits (URL) is unknown.

Methods: Retrospective observational study of patients with new onset AF admitted between 2003 and 2008. Exclusion criteria: Troponin not assessed or positive (>0.5 ng/ml) and no follow up. Troponin cut offs in our lab: negative: ≤ 0.04 ng/mL, indeterminate: 0.05-0.50 ng/mL, and positive: > 0.5 ng/mL. Primary outcome was a composite of allcause mortality and re-hospitalization for acute coronary syndrome, congestive heart failure, stroke, or atrial fibrillation.

Results: 307 patients were included in the final analysis. Older age, coronary artery disease, peripheral vascular disease, congestive heart failure, troponins, BNP, and lower ejection fraction were univariate predictors of the primary endpoint. Low ejection fraction, and congestive heart failure were independent predictors on multivariate analysis. There was a trend towards increased mortality in older patients.

Conclusions: In patients with new-onset atrial fibrillation, troponin elevation below the threshold for positivity is frequent and is a predictor of adverse outcomes. However, this is solely a marker of underlying risk and the effect is negated after adjustment for baseline risk factors.

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|  | Troponin≤0.04ng/mL (179) | Troponin 0.04-0.5 (128) | Total (307) | p |
| Age in years ± SD | 69.3±13.5 | 73.7±11.4 | 71.2±12.8 | 0.003 |
| Male n (%) | 94 (53) | 69 (54) | 163 (54) | 0.81 |
| Diabetes n (%) | 42 (24) | 40 (31) | 82 (27) | 0.12 |
| Hypertension n (%) | 128 (72) | 83 (65) | 211 (69) | 0.21 |
| Hyperlipidemia n (%) | 83 (46) | 51 (40) | 134 (44) | 0.25 |
| Coronary artery disease n (%) | 58 (32) | 56 (44) | 114 (37) | 0.04 |
| Peripheral vascular disease n(%) | 14 (8) | 20 (16) | 34 (11) | 0.03 |
| Congestive heart failure n(%)  | 54 (30) | 66 (52) | 120 (39) | <0.001 |
| Aspirin n (%) | 69 (39) | 53 (41) | 122 (40) | 0.42 |
| Coumadin n (%) | 70 (39) | 46 (36) | 116 (38) | 0.57 |
| Beta blocker n (%) | 89 (50) | 60 (47) | 149 (49) | 0.59 |
| ACE inhibitors/ARB’s n (%)  | 88 (49) | 65 (51) | 153 (50) | 0.78 |
| Statins n (%) | 66 (37) | 40 (31) | 106 (35) | 0.30 |
| Antiarrhythmics n (%) | 19 (11) | 13 (10) | 32 (10) | 0.89 |
| Creatinine (mg/dL) ± SD | 1.2 1±1.05 | 1.54±1.05 | 1.37±1.06 | 0.01 |
| BNP (pg/mL) ±SD | 408 | 855 | 624 | 0.002 |
| Troponin (ng/mL) ±SD | 0.02±0.01 | 0.12±0.09 | 0.06±0.08 | <0.001 |
| EF (%) ± SD | 51.8±12.7 | 45.8±15.7 | 49.4±14.3 | <0.001 |
| Death  | 10 (6) | 18 (14) | 28 (9) | 0.01 |
| Hospitalization(CHF,AF,ACS) | 45 (25) | 36 (28) | 81 (26) | 0.5 |
| Composite endpoint | 51 (28) | 53 (41)  | 104 (34) | 0.01 |