COVID-19 OUTCOMES AND CLINICAL CORRELATION WITH MYOCARDIAL INJURY ON ADMISSION TO HOSPITAL

Moderated Poster Contributions
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Session Title: Markers to Measure Mortality: Biomarkers, Inflammatory Markers and Other Markers of Outcomes in Patients with COVID-19 Infection
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Background: Risk stratification in COVID-19 is crucial to optimise treatment strategies. We evaluated the use of biomarkers on admission to hospital and the impact on mortality and morbidity.

Methods: Consecutive patients with COVID-19(PCR+) were included in this retrospective, observational study.1675 patients were PCR+ and 1036 had a high sensitivity troponin T(hsTropT) on admission. 371 patients were hsTropT-(<15ng/L), 664 were in the myocardial injury group(MIG; hsTropT ≥15ng/L). Baseline data was compared, as were primary outcomes of death, ICU admission and COVID severity. Secondary outcomes included ARDS, myocardial infarction (MI); comparison with biomarkers: NT- proBNP, d-dimer, CRP,LDH and ferritin.

Results: MIG patients were older(75±14v55±14yrs;p<0.001), had more comorbidities eg. diabetes(37v13%), hypertension(34v29%), ischemic heart disease(16v2%)[p<0.01]. Mortality was higher in the MIG(46v8%;p<0.001), as was critical COVID (47v19%;p<0.001), ARDS(20v4%;p<0.001), and Type1 MI(1.6v0.01%;p<0.01). Analysis of biomarkers on admission (Fig 1.) demonstrated hsTropT and NT-proBNP (AUC 0.75 CI 0.69-0.81) sensitvity 83;85% and specificty 52;58%, respectively at predicting death.

Conclusion: Early detection of elevated hsTropT and NT-proBNP predicts mortality and morbidity in patients with COVID-19. Routine measurement of cardiac biomarkers should be considered in these patients at the time of admission in order to optimise risk stratification and monitoring .

Figure 1. ROC curve analysis of admission biomarkers against death.

Biomarker	Area Under the Curve
Troponin	0.749
NT Pro-BNP	0.752
D-Dimer	0.643
CRP	0.658
Creatinine	0.706
LDH	0.634
Ferritin	0.544

Diagonal segments are produced by ties.