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Summer Aldrugh
University of Massachusetts Medical School

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PREDICTORS OF CARDIAC MORTALITY IN THE CCU: A RETROSPECTIVE STUDY IN A TERTIARY CENTER

Summer Aldrugh[1], Aditya Vaze[1], Adedotun Anthony Ogunsua[2], Gloria Shan[1], Amrit Vinod[3], Modupeola Diyaolu[3], Craig Smith[2]
[1]Department of Medicine, [2]Division of Cardiovascular Medicine, [3]School of Medicine, University of Massachusetts Medical School

Background: Although prior studies have linked troponin I (TnI) elevation, serum sodium (Na) fluctuation, and reduced ejection fraction (EF) with an increased mortality in the medical/surgical critical care units, this has not been validated in the CCU. We aim to identify clinical and laboratory factors to predict cardiac related length of survival (LOS) in the CCU.

Methods: We retrospectively analyzed 134 consecutive patients who were admitted to the CCU from December 2012 to March 2015, and who died during that admission. We used student T-test, correlation matrices, and Framingham risk factors adjusted multivariable logistic regression models to examine the role of TnI, serum Na, EF and other clinical covariates on LOS in cardiac death (CD) and non- cardiac death (NCD) group.

Results: The average age of the study population was 70.0 ±14.3 (39.0% women). The prevalence of CD and NCD were 63% and 59%. LOS was statistically shorter in the CD vs. NCD group (5.3 days vs. 8.2 days, p=0.012). LOS negatively correlated with initial TnI (p= 0.05). LOS was not statistically affected by EF or Na level. Our regression models identified BMI and diabetes mellitus (DM) as strong predictors of CD (p= 0.04 and p=0.01).

Conclusion: Our results validate prior studies showing that TnI, BMI, and DM are predictors of cardiac related mortality in the CCU. Patients with a cardiac etiology had a higher mortality rate and a shorter LOS. Future studies are needed to develop a scoring system specific for predicting mortality in the CCU.

Contact:
Summer Aldrugh
UMass Memorial Medical Center
Summer.Aldrugh@umassmemorial.org