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Risk of mortality post-coronary artery bypass grafting in Pakistani population using EuroSCORE model**Muhammad Hassan Mushtaq¹, Ali Naeem¹, Muhammad Akib Warraich², Filza Hussain³ and Amjad Khan¹**¹University of Veterinary and Animal Sciences, Pakistan²University of Rennes, France³Rennes School of Business, France

Statement of the Problem: Coronary artery bypass grafting is one of the major and continuously conducting surgeries in Pakistan. To evaluate the use of the EuroSCORE as a predictor of postoperative mortality post-coronary artery bypass grafting in Pakistani population.

Methodology & Theoretical Orientation: We retrospectively analyzed the charts of 100 patients operated on and admitted to the intensive care unit postoperatively at the Hospital in Lahore. We included all patients with complete medical records excluding those who were not patients undergoing coronary artery bypass surgery during the specified time. We evaluated either EuroSCORE predicts operative mortality in Pakistani patients with same accuracy as for European population or not? Using Mann-Whitney test, the calibration model for predicting the mortalities being studied was evaluated using the test set of Hosmer-Laemeshow goodness. The accuracy of model was assessed using the area under the ROC curve (AUROC).

Findings: A total of 18 variables included in EuroSCORE were evaluated and entered into database for analysis. The results showed 9 patients in medium risk group (3-5), where expected mortality was 3.95% and observed mortality was 0%. Total of 91 patients were recorded in high risk group (6 and 6+), with expected mortality of 17.7% and observed mortality of 9.9% comparable to the international standards. The expected and observed overall mortality recorded was 7.21% and 3.3%, respectively. Here, EuroSCORE test only determined 9 deaths and 23 low risk cases correctly with an accuracy of 32%. ROC area under the curve value was 0.85 indicating the test not enough sensitive and only 85% patients were accurately predicted in high risk while 15% Euro score test not accurately detect the patients with low risk.

Conclusion & Significance: The EuroSCORE test evaluated here for screening purpose was found insignificantly suitable for predicting mortality in high risk patients undergoing coronary artery bypass grafting in Pakistani patients.

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