Frailty is a predictor of short- and mid-term mortality after elective cardiac surgery independently from age

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Objectives: Assessment of the perioperative risk of elderly patients in cardiac surgery is difficult and most of the common risk scores show over- or underestimation. Two frailty scores were developed: the Comprehensive Assessment of Frailty (CAF) Score and the Frailty predicts death One yearR after Cardiac Surgery Test (FORECAST) as additional tools to predict the preoperative mortality risk, taking into consideration the frailty status of elderly patients.

Methods: Four-hundred and fifty patients referred for elective cardiac surgery were included. All patients were assessed with the CAF and the FORECAST. Thirty-day and one-year mortality were assessed by telephone interview. To assess the relation between the scores and mortality, logistic regression was performed. Correlation of the scores with age was calculated with Spearman ranks. All analyses were performed for STS and EuroSCORE accordingly.

Results: Two-hundred and twenty-seven male and 223 female patients were assessed. Thirty-day mortality was 7.3%. One-year mortality was 13.5%. Logistic regression showed that both scores are able to predict 30-day as well as one-year mortality. Bivariate logistic regression showed that both frailty scores give relevant additional information to the STS score for the prediction of one-year mortality. The frailty scores did not correlate with age in contrast to the STS and EuroSCORE and therefore can be used as indicators of the biological age of patients along with the numerical age.

Conclusions: CAF and FORECAST are additional tools to evaluate elderly patients adequately before elective cardiac surgery and show good correlation with mortality independently from age. Further analysis on a larger patient population is ongoing to validate the test.