Euroscore II is reliable tool for estimating mortality in octogenarians undergoing OPCAB - based on the KROK Registry



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Background: Octogenarians are the fastest growing part of the contemporary cardiac surgical population, however accurateris stratification in this group remains uncertain. We aimed to assess the reliability of EuroSCORE II in octogenarians undergoing isolated coronary artery surgery, and create a formula adjusting the original score, if it proves necessary.

Results: Among 4328 octogenarians, 2026 (46.8%) were operated on-pump and 2302 (53.2%) were operated off-pump. EuroSCORE II was accurate in patients operated off-pump (AUC: 0.71, O/E ratio: 1.0) and underestimated mortality in patients operated on-pump (AUC: 0.72, O/E ratio 1.55). The worst performance of the EuroSCORE II was noted among patients with the lowest predicted mortality (0.50%-1.82%). Adding a coefficient and creating a nomogram accurate calibration was obtained.

Methods: All octogenarians who underwent isolated coronary surgery in Poland between January 2012 and December 2018, enrolled in the Polish National Registry of Cardiac Surgical Procedures (KROK Registry), were retrospectively analyzed. EuroSCORE II reliability was estimated by the area under the ROC curve and the observed to predicted mortality ratio, separately for patients operated on-pump and off-pump. The original score was adjusted by creation of a nomogram to obtain an optimal predictive power.

Conclusions: EuroSCORE II was reliable in a Polish population undergoing isolated coronary surgery. Following on-pump surgery, the observed mortality was much higher than expected, but was made accurate by adding a coefficient to the initially calculated EuroSCORE II.