STS Risk Classification: A Better Predictor than the EuroSCORE for COPD Patients' Operative Risk?

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Objective: We hypothesized that the severity of COPD estimated by the pulmonary function test (PFT) should have a correlation with the patient's EUROscore calculated risk.

Methods: From January 2007 until August 2010, 1541 patients underwent open heart surgery at our institute, 204 (13%) of whom were elective patients who underwent a pre-operative PFT examination due to a previous diagnosis of COPD or a history of smoking. A propensity score matching group of 101 patients with similar cardiovascular parameters and comorbidities was selected as a control group.

Results: Of the 204 patients who performed PFT, 101(49%) had a pathological PFT. Mortality in the moderate-to-severe airway obstruction group was higher compared to patients defined as mild or no airway obstruction, 8.7% vs 0.9% (p<0.008).

Conclusions: Pre-operative moderate-to-severe pulmonary obstruction was found to be a better predictor of post-cardiac surgery. A previous diagnosis of COPD alone with no PFT conformation or a diagnosis of COPD with normal or mild obstructive PFT is not a risk factor for higher morbidity and mortality. Furthermore, a misdiagnosis of COPD in patients undergoing cardiac surgery may incorrectly increase the calculated surgery risk. This may imply a possible advantage of the STS score as compared to the EuroSCORE.