Title of the Contribution: Predictors and consequences of postoperative atrial fibrillation following robotic totally endoscopic coronary bypass surgery.

Abstract: Postoperative atrial fibrillation (AFib) is common in patients undergoing coronary artery bypass grafting. Little information is available concerning AFib following minimally invasive cardiac surgery. The aim of our study was to assess the incidence of AFib after totally endoscopic coronary artery bypass (TECAB) grafting and to investigate the factors influencing its occurrence. Between 2001 and 2010, we performed TECAB in 384 patients, 73% male, aged 60 (37-90) years. Single-vessel bypasses were performed in 280 patients, and 104 received multivessel coronary revascularization. Procedures were performed on the beating heart in 80 cases, and 164 patients underwent a hybrid intervention. A total of 59 patients (15.4%) developed AFib after TECAB. Univariate analysis showed hypertension (P=0.005), increased age (P=0.007), body weight (P=0.006), body mass index (P=0.005), EuroSCORE (P=0.035) and total TECAB operation time (P=0.01) to be significantly associated with AFib. We also found an increased incidence of AFib in patients undergoing hybrid interventions (P=0.036) and beating heart TECAB (P=0.003). Age (P<0.001) and higher body weight (P=0.003) were the only predictors found to be significant in multivariate analysis. Hospital mortality was 1.7% (1 of 59) in the group of patients with AFib and 0.6%
(2 of 325) in the group that showed no AFib after operation (P=n.s.). Hospital stay was 7 (4-54) days in patients with AFib and 6 (2-33) days in those without AFib (P=n.s.). There was no significant 5-year survival difference in patients with and without postoperative AFib (94 vs 94%, P=n.s.). We conclude that the incidence of postoperative AFib in TECAB is relatively low. Age and body weight are the most important predictors of postoperative AFib following TECAB. Short-term clinical outcome and intermediate-term survival are similar in patients with and without postoperative AFib.