MODERN ANESTHESIA FOR OPCAB SURGERY
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Introduction: A wide variation of surgical and anesthesia techniques are used in OPCAB surgery and very few are based on hard scientific evidence. Also selection criteria differ between institutes and performance rates for OPCAB may vary from 5 % to more than 95 % of all coronary bypass procedures. It thus appears that OPCAB surgery is not yet a standardized procedure and published data on outcome should be interpreted with caution. In this lecture I will discuss current controversies, reflect on the potential benefits of OPCAB from our own experience in 2600 patients and share our point of view on anesthesia management.

Methods: Five years ago we decided to apply OPCAB to all patients scheduled for coronary artery bypass surgery excluding only those in cardiogenic shock. A discussion between surgeons and anesthesiologists on key points in the management of global hemodynamics, myocardial protection and anticoagulation led to a consensus statement. For example, routine use of thermodilution catheters and echocardiography, proactive temperature management and aggressive anticoagulation were included in the anesthesia strategy. The surgeons’ strategy includes placement of a deep pericardial stitch to support exposure of distal anastomotic sites, routine placement of intracoronary shunts and a no-aortic-touch approach with maximal use of arterial grafts.

Results: Performance rate of OPCAB surgery as a percentage of the total CABG population has consistently been over 95 % with acute conversions to cardiopulmonary bypass occurring in less than 5 per thousand patients. The number of distal anastomoses is similar to historical controls. In the total population of 2600 patients including the entire risk spectrum, observed mortality is 50 % lower than predicted by Euroscore. Particularly stroke (0.8 %) and renal failure requiring dialysis (1.4 %) have decreased significantly with OPCAB.

Discussion: In OPCAB surgery, the role of the anesthesiologist in replacing the safety-net of cardiopulmonary bypass is crucial and implicates a thorough understanding of the procedure. In our experience clear communication between the surgical and anesthesiological teams is a prerequisite to successful implementation of OPCAB.