

KEY REFERENCES

Coronary Artery Bypass Surgery and Stroke

The reported incidence of stroke after coronary artery bypass graft (CABG) surgery is variable and depends on the selection of the study population. The etiology of stroke is multifactorial and includes hypoperfusion, hemorrhage, embolization of air or atheroma, or the presence of extracranial carotid stenosis. There has been a significant change in the demographics of patients undergoing CABG, with elderly patients, patients with significant atherosclerotic burden, and patients requiring redo procedures accounting for the majority of this change in referral pattern. Cardiac surgeons have met this challenge by altering and individualizing the surgical approach in patients at high risk for developing postoperative stroke after CABG. Innovative techniques have been used to minimize manipulation of the aorta and alter cannulation and cross-clamping techniques on cardiopulmonary bypass. In addition, there have been increased efforts to use arterial conduits with "no touch" aortic techniques with or without cardiopulmonary bypass (CPB). The Society of Thoracic Surgeons National Adult Cardiac Surgery Database has reported significant reduction of neurologic events when CABG was performed off-pump (OP) compared to when CABG was performed using CPB and cardioplegic arrest of the heart.

Needless to say, the dreadful complication of stroke has a significant impact on CABG mortality, intensive care unit length of stay, hospital length of stay, hospital cost, and cost related to inpatient and outpatient rehabilitation. These Key References highlight the articles that have made significant contributions to patient care and the scientific literature. It is hoped that surgeons individualize surgical strategy and technique to reduce neurologic complications. Such efforts will surely improve surgical outcome and quality of life issues after CABG in patients at high risk for stroke.

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