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Twenty-years of experience with robotic-assisted Coronary artery bypass grafting with post-operative angiography

Objective: Minimally Invasive coronary artery bypass grafting (CABG) is a rapidly evolving technology that has been shown to increase patient satisfaction and to reduce surgical morbidity and recovery times. Therefore, we present our institutional experience with minimally invasive robotic-assisted CABG with post-operative cardiac catheterization.

Methods: The study cohort includes all patients who underwent robotic-assisted CABG between September 1998 and March 2018. Anastomoses were manually constructed through a small anterior non-rib spreading incision or closed chest robotic assistance without cardiopulmonary bypass on the beating heart and all internal thoracic arteries were harvested with robotic assistance. Angiographic confirmation of graft patency was performed either immediately within the same operative suite equipped with angiographic equipment or next day in the cardiac catheterization lab.

Results: Since 1998, a total of 645 patients underwent robotic-assisted minimally invasive CABG. Total of 484 patients were males and mean age was 60 years. There were two deaths (0.4%) secondary to respiratory complications and six wound infections (1.2%). Seven (1.4%) patients required re-exploration for bleeding. Median length of stay in the intensive care unit was one day and length of hospital stay was four days. The patency rate of left internal thoracic artery (LITA) grafts to the left of the anterior descending artery (LAD) was 97% with eight occluded grafts, which underwent revision.

Conclusion: Robotic-assisted CABG is a safe and feasible alternative approach to surgical revascularization. It has the potential of reducing morbidity of surgery by reducing infection and bleeding. Post-operative assessment with cardiac catheterization enables the achievement of a very high post-operative patency rate.

Biography

Bob Kiaii is working as a Professor in the Department of Surgery and Chair of the Division of Cardiac Surgery in the Schulich School of Medicine at the University of Western Ontario. He is a Cardiac Surgeon and the Chief of the Division of Cardiac Surgery and Director of the Minimally Invasive Robotic Cardiac Surgery Program at the London Health Sciences Centre. He is also one of the Founding Members of Canadian Surgical Advanced Technology and Robotics (CSTAR) of the Lawson Health Research Institute. He has performed ground-breaking minimally invasive robotic-assisted cardiac procedures including the first North American simultaneous integrated coronary artery revascularization procedure on September 1, 2004.

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