INTRAOPERATIVE TRANSESOPHAGEAL ECHOCARDIOGRAPHY IN ISCHEMIC HEART DISEASE

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The intraoperative echo examination for patients undergoing myocardial revascularization is guided by principles related to the unique demands of the environment and the potential for sudden changes in the patient’s cardiovascular function.

The purpose of the intraoperative echo is not to replace the patient’s preoperative assessment, but to confirm and refine it. Due to the clinical dynamic associated with ischemic heart disease, it is always possible that new ventricular or valve dysfunction may occur as a consequence of intervening ischemia or infarction. In addition to providing and outgoing method of monitoring the patients cardiovascular function, intraoperative echocardiography is used to address a number of critical issues that may influence the outcome of coronary bypass surgery. These critical issues include the diagnosis of previously unrecognized cardiovascular abnormalities requiring additional unplanned surgical intervention or altering patient’s hemodynamic management, development of cannulation-perfusion strategy to prevent neurological dysfunction, and assessment of the results of surgical procedure and complications. The complications of ischemic heart disease would include left ventricular aneurysms requiring LV remodeling surgery, pseudoaneurysms, ventricular septal defects and left ventricular thrombi.

We have made great advances in the intraoperative management of our patients, with the increasingly older population and associated comorbidities. Future daily applications of intraoperative echo in coronary revascularization are likely include the assessment of myocardial viability, monitoring of myocardial protection, prevention of neurological dysfunction, more accurate assessment of renal perfusion and prediction of long term patency of grafts.