TRANSESOPHAGEAL ECHOCARDIOGRAPHY IN CORONARY ARTERY BYPASS GRAFT SURGERY

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Coronary artery bypass graft surgery (CABG) is a relative indication for transesophageal echocardiography (TEE). CABG can be successfully performed without TEE in the majority of cases. Nevertheless, TEE is often used in the CABGs performed in the United States. Its growing popularity can be explained by several reasons.

In the pre-cardiopulmonary bypass period, TEE helps to confirm preoperative findings, to rule out structural cardiac abnormalities such as valvular heart disease and patent foramen ovale, and to assess global and regional ventricular function.

It has an important value in the detection and stratification of aortic atherosclerosis. Any signs of intraoperative ischemia can be readily confirmed with TEE. TEE is extremely beneficial and widely underused in the monitoring of heart protection during cardiopulmonary bypass.

TEE also helps insure correct placement of the coronary sinus catheter. It is useful in monitoring, both antegrade and retrograde, of cardioplegia delivery to the heart. During weaning from cardiopulmonary bypass, TEE allows complete assessment of the left and right ventricular preload, afterload, and contractility. TEE can also assist in diagnosing new regional wall motion abnormalities resulting from air embolism, vasospasm, or inadequate revascularization. Hemodynamic impact of protamine reaction can be readily sorted out with TEE. Thus, acute right ventricular failure secondary to sudden increase in pulmonary artery pressure can be distinguished from systemic arterial vasodilatation. If blood pressure decreases during or soon after chest closure, a quick look with TEE can help determine the cause: decrease in preload, tamponade, or myocardial ischemia.