Echocardiographic Assessment of Prosthetic Valves

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As population aging is a global phenomenon, the incidence and prevalence of prosthetic heart valve replacement continue to increase. Patients with prosthetic heart valves need to be followed up with the same care as those with native valvular disease. A comprehensive approaches which integrates information assessed with echocardiography would be important to evaluate prosthetic valvular function.

Transthoracic two-dimensional and Doppler echocardiography is recommended as first line imaging modality for assessing prosthetic valve function. It allows us to evaluate prosthetic valve hemodynamic profiles and discriminating between intra and/or periprosthetic regurgitation. However, complete evaluation by transthoracic echocardiography is sometimes challenging because of acoustic shadowing. In this case, transeshophageal echocardiography (TEE) can provide additional information especially in the patients with suspected prosthetic valve dysfunction. Baseline echocardiography after valve implantation is indicated to fingerprint the prosthesis as a baseline for future follow-up. Serial comparison of two-dimensional imaging with Doppler findings is important to assess prosthesis accurately. When echocardiography is inconclusive, additional imaging modalities such as cinefluroscopy, cardiac CT and/or cardiac MR may be warranted.

Reference


of Echocardiography's Guidelines and Standards Committee and the Task Force on Prosthetic Valves, developed in conjunction with the American College of Cardiology Cardiovascular Imaging Committee, Cardiac Imaging Committee of the American Heart Association, the European Association of Echocardiography, a registered branch of the European Society of Cardiology, the Japanese Society of Echocardiography and the Canadian Society of Echocardiography, endorsed by the American College of Cardiology Foundation, American Heart Association, European Association of Echocardiography, a registered branch of the European Society of Cardiology, the Japanese Society of Echocardiography, and Canadian Society of Echocardiography. J Am Soc Echocardiogr. 2009;22:975-1014