Transapical Aortic Valve Replacement Aided by Cardiopulmonary Bypass in a Patient with a Left Ventricular Thrombus

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Abstract

Aortic stenosis is one of the most common degenerative valvular diseases in the elderly. Transapical aortic valve implantation (TAVI) is an innovative technique for high-risk patients with severe, symptomatic aortic stenosis and multiple comorbidities. However, potential obstruction to the left ventricular outflow tract, from a left ventricular thrombus, poses significant patient risk and challenge for the anesthetist. An 82-year-old man with these conditions underwent TAVI and intracardiac thrombectomy under general anesthesia, combined with cardiopulmonary bypass. We abandoned traditional surgical aortic valve replacement and thrombectomy; a fast-track cardiac anesthesia strategy was adopted. No complications were observed during recovery. Cardiac function was normal upon follow-up 1 year, post-operatively. Transapical aortic valve replacement aided by cardiopulmonary bypass, implemented under Enhanced Recovery After Surgery (ERAS) strategy, is suitable for high-risk patients under similar conditions. Strategies and equipment should be maximized for analgesia, organ protection, and circulatory homeostasis for perioperative safety and enhanced prognosis.

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