

The Role of Angiovac System for Debulking Vegetation Burden for a Large, Tricuspid Valve Vegetation in Infective Endocarditis

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Clinical Presentation: A 66-year-old man with a history of heart failure with recovered ejection fraction, status-post cardiac resynchronization therapy-defibrillator implantation (CRT-D), end-stage renal disease on hemodialysis, and coronary artery disease presented with fevers and generalized malaise. Blood cultures grew *Enterococcus faecalis*. Initial trans-thoracic echocardiogram (TTE) showed a large mobile echodensity on the tricuspid valve (TV) concerning for infective endocarditis (IE). A transesophageal echocardiogram (TEE) revealed multiple, hypermobile, supralvular vegetations on the TV. Given the severity of disease, a percutaneous approach for vegetation debulking using the AngioVac System was successfully performed with vegetation removal (Figure 1) with vast improvement in patient condition.

Imaging Findings: TTE showed a large, mobile echodensity measuring 2.8 cm by 1.2 cm and moderate TV regurgitation with a valve velocity of 2.48 m/s. TEE revealed a dilated right atrium with a mobile echodensity predominantly on the atrial aspect of the anterior and posterior leaflets of the TV measuring 3.0 cm x 2.1 cm. Post-procedural TEE showed a remaining 1.2 cm x 1.1 cm mobile echodensity following debulking.

Role of Imaging in Patient Care: Initial imaging with TTE followed by TEE allowed for a prompt diagnosis of IE in a febrile patient with bacteremia. Given the large vegetation burden and patient co-morbidities, percutaneous debulking was chosen over surgical intervention. Using the AngioVac system, debulking and extraction was performed under TEE guidance. Patient clinical course improved significantly after debulking and continued antibiotic therapy.

Discussion: Typically an indolent infection initially, IE can be life-threatening even with prompt and appropriate treatment. Though non-native valves confer a higher risk, native valves do not preclude risk for infection. Implantable intracardiac devices, indwelling catheters, and frequent venipuncture all increase the risk for bacteremia and seeding of valves. A high index of suspicion, prompt recognition, and potentially source control is necessary for adequate treatment. Our case presents the use of AngioVac as a minimally invasive means for vegetation debulking to expedite treatment.