

Use of AngioVac Vacuum Aspiration for Refractory Endocarditis in a Postoperative Mustard Patient

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AngioVac (Vortex Medical, Inc) is a safe alternative to surgical intervention for treatment of right-sided infective endocarditis (IE).¹ A 41-year-old female patient with D-transposition of the great arteries status post–Mustard procedure was referred for AngioVac treatment of refractory subpulmonic left ventricular (LV) IE. Previously, she required device closure of a baffle leak, superior vena cava (SVC) baffle stenting, and transvenous implantable cardioverter-defibrillator (ICD) for ventricular tachycardia and sinus node dysfunction. She was admitted for methicillin-susceptible *Staphylococcus lugdunensis* endocarditis. Initial transesophageal echocardiogram (TEE) demonstrated large vegetations adherent to ICD leads that required laser lead extraction and temporary pacemaker placement via the right internal jugular to the subpulmonic LV. Serial echocardiograms demonstrated persistent vegetation burden despite appropriate intravenous antibiotic therapy.

Preprocedure TEE demonstrated echodensities in the LV (Fig. 1A), left atrium (Fig. 1B), and SVC baffle (Fig. 1C). The Generation III AngioVac system was advanced through a 26F sheath in the right femoral vein to the LV (Fig. 2A), left atrium, and SVC baffle (Fig. 2B). Vegetations were removed and collected in the AngioVac filter (Fig. 3). Repeat TEE demonstrated significant improvement in the vegetation burden (Fig. 4A and 4B).

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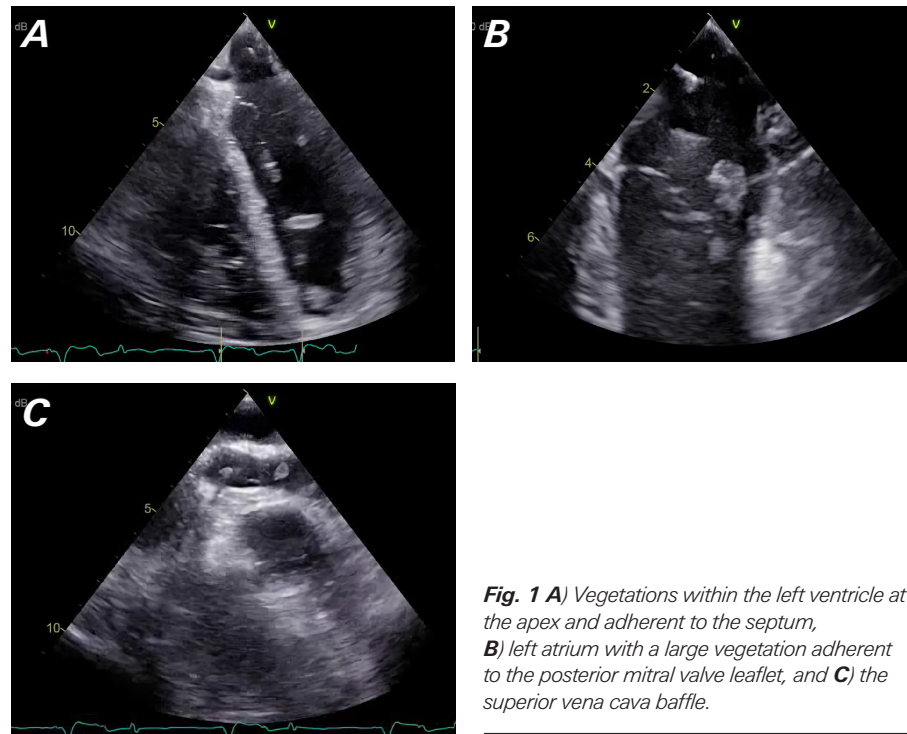


Fig. 1 A) Vegetations within the left ventricle at the apex and adherent to the septum, **B)** left atrium with a large vegetation adherent to the posterior mitral valve leaflet, and **C)** the superior vena cava baffle.

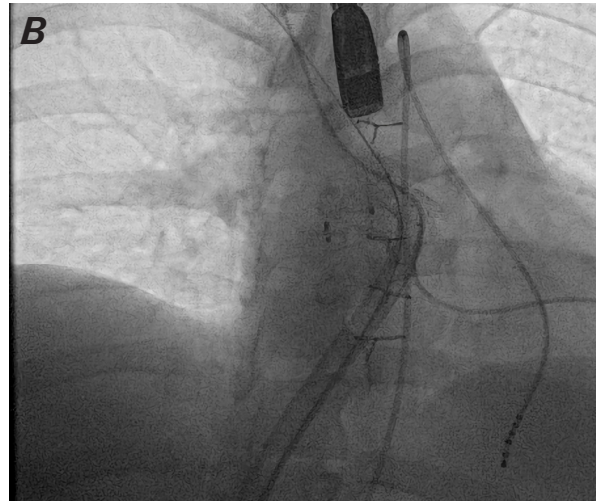
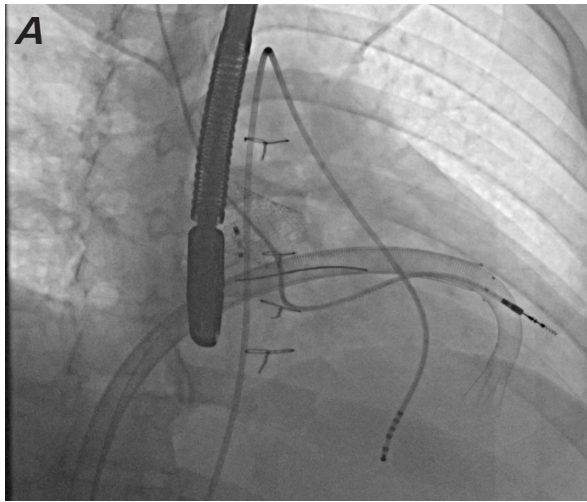


Fig. 2 AngioVac fluoroscopy. The AngioVac cannula was positioned via fluoroscopy in the **A)** left ventricle and **B)** superior vena cava baffle.

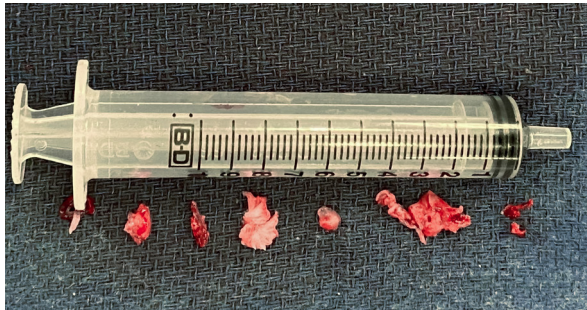


Fig. 3 Numerous vegetations recovered from the AngioVac collection filter.

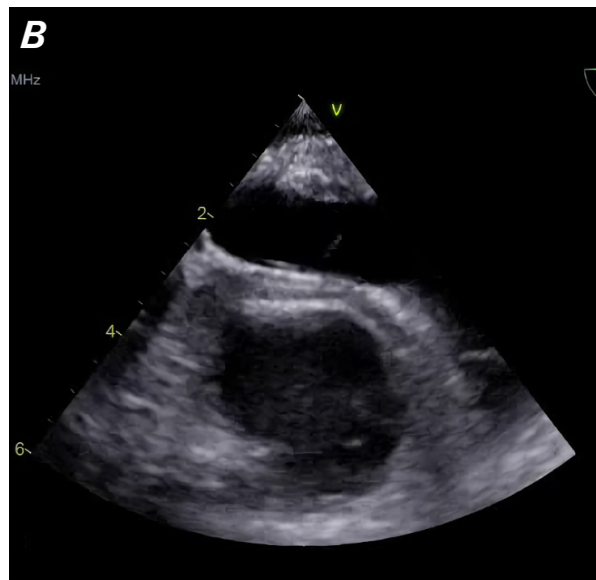
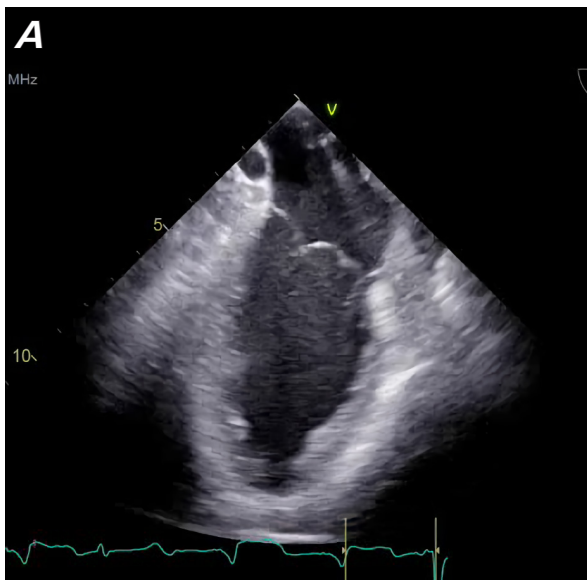


Fig. 4 Vegetation resolution. Postsuction transesophageal echocardiography demonstrates resolution of vegetations in **A)** the left ventricle and left atrium and **B)** the superior vena cava.

The procedure was without complication. The patient underwent reimplantation of a dual-chamber ICD 3 weeks after her AngioVac procedure and was discharged home.

Comment

Infective endocarditis in adult patients with congenital heart disease is a significant complication with associated morbidity and mortality. The risk is approximately 1.3 cases/10,000 person-years, with right-sided IE presenting more commonly.² Transesophageal echocardiogram is the imaging modality of choice for diagnosis as well as a useful adjunctive imaging method during an AngioVac procedure.

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References

1. Chakravarthy M, Lasorda D, Bhanot N, et al. TCT-568 effectiveness and safety of vacuum-assisted thrombectomy device (AngioVac) for extraction of vegetations on intracardiac devices and valves prior to device removal: a single center experience. *J Am Coll Cardiol*. 2019;74(suppl 13):B560. doi:10.1016/j.jacc.2019.08.675
2. Iserin L. Critical care management of the ACHD patient with endocarditis. In: da Cruz E, Macrae D, Webb G, eds. *Intensive Care of the Adult with Congenital Heart Disease*. Springer Cham; 2019:323-335. *Congenital Heart Disease in Adolescents and Adults*.