

## A novel approach to vegetation aspiration in native valve infective endocarditis with the AlphaVac System

Luke Sharrock, DO; Sepehr Sadeghi, DO; Fernanda Correa, MD; Walter B. Rentrop, MD; Scott Laura, MD; Frank Smart, MD

LSU Health Science Center, New Orleans, LA/ Department of Cardiology

Vegetative valvular endocarditis from non-sterile injections in opioid-dependent patients presents a challenging dilemma in healthcare. Even when meeting guideline criteria, these patients are often not deemed an appropriate candidate for valvular replacement/repair. Therefore, these patients are often treated conservatively with long-term intravenous antibiotics alone. Alternatively, with the advancement of endovascular aspiration thrombectomy, providers have been able to use this more novel approach to remove vegetations without the need for surgical intervention.

A middle-aged female presented with fever and chills for one week. The patient had opioid dependence and self-reported receiving a non-sterile dose of intravenous heroin the week prior. She was septic on arrival and blood cultures were positive for methicillin sensitive staph aureus (MSSA). CT of her chest was suspicious for bi-apical septic emboli (Figure 2), and Trans-thoracic echocardiogram (TTE) revealed a 1.7 cm mobile vegetation on the anterior leaflet of her native tricuspid valve (TV) (Figure 1). She was evaluated by cardiothoracic surgery which deemed she was not an appropriate surgical candidate due to history of IV drug abuse. Without the possibility for surgical intervention, the patient was informed of her options including endovascular aspiration of the vegetation. She ultimately consented to procedural removal of the vegetation via the novel AlphaVac system.

Our case study demonstrates a novel application of the AlphaVac system in extracting large, right-sided valvular vegetations from a patient diagnosed with infective endocarditis. Its distinct features, including targeted aspiration without the need for extracorporeal bypass, result in minimal blood loss and allow for large amounts of material to be suctioned; these features make it a promising alternative to both open heart surgery and AngioVac for right-sided valvular vegetations.

The AlphaVac system mitigates the risks associated with open-heart surgery while offering a more efficient and reliable method for vegetation removal compared to its predecessor, AngioVac. Although FDA approved for the extraction of venous thrombi/emboli, this case demonstrates the distinct advantages of the AlphaVac system in regards to removing valvular vegetations.

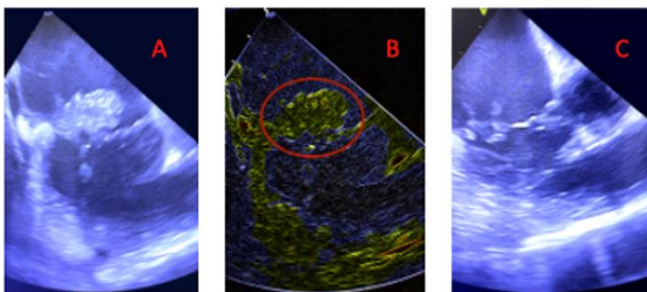


Figure 1

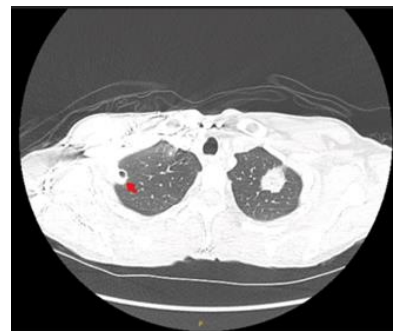


Figure 2