Alphavac Mechanical Aspiration
A Viable Option for Endocarditis and Tumor Debulking in Poor Surgical Candidates: A Two-Case Series

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Background

Many patients presenting with right heart masses that require debulking are not good surgical candidates due to comorbidities[1]. This case series highlights the Alphavac mechanical aspiration system as a viable, minimally invasive alternative for endocarditis and tumor mass debulking in patients who are poor surgical candidates[2]. Alphavac offers percutaneous aspiration without the need for a perfusionist, providing a viable and efficient, minimally invasive alternative in regard to patients who are considered poor surgical candidates.

Methods

In both cases, the Alphavac system was introduced via large-bore venous access, with real-time imaging guidance. Debulking was guided by transesophageal echocardiography (TEE) and fluoroscopy.

Results

Case 1: A 36-year-old female with a history of IV drug use, hepatitis C, and syphilis presented with fatigue, lower back pain, and fever. Diagnostic workup revealed positive MSSA bacteremia. Echocardiogram revealed two tricuspid valve vegetations, measuring 3.7 x 2.1 cm and 2.0 x 0.99 cm. This patient was declined surgery due to chronic IV drug use. Debulking with Alphavac system was successful with near resolution of the vegetations (figure 1). The patient responded to IV and oral antibiotic therapy and was discharged with negative cultures.

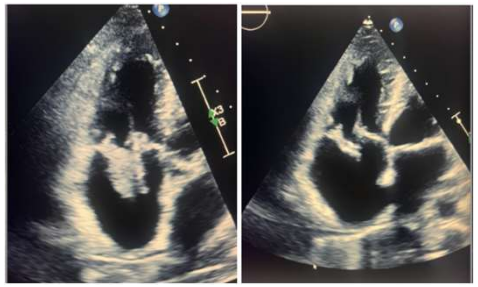

Figure 1. TEE imaging before (left) and after (right)

Results

Case 2: A 74-year-old male with hepatocellular carcinoma and diabetes presented with chest pain and body aches for several months. A chest CTA revealed bilateral pulmonary embolisms and 2D echo revealed a large right atrial mass extending from the IVC. He was deemed a prohibitive risk for surgical intervention due to stage 4 cancer. Alphavac aspiration retrieved two large tumor masses (4.5 x 2.5 x 1.2 cm and 3.5 x 3.0 x 1.2 cm). Post-procedure TEE showed successful debulking with minor residual IVC mass. Pathology confirmed metastatic hepatocellular carcinoma.

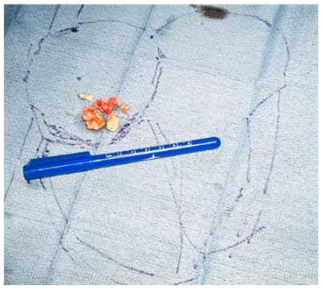

Figure 2. Gross appearance of sample aspirated in case 1

Conclusion

Alphavac enables effective percutaneous debulking for endocarditis or tumors, serving as a critical alternative when surgery is not an option in high-risk patients. This innovative approach facilitates the efficient removal of obstructive material, which directly contributes to achieving microbiological clearance and promoting clinical stabilization. By effectively debulking these masses, Alphavac helps to restore normal cardiovascular function and improve patient outcomes.

References

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