

AngioVac – invasive thrombus removal

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Introduction: The AngioVac system is a catheter-based device used for percutaneous thrombus removal. It provides a method for extracting thrombotic material using a vacuum system while minimizing the risk of embolization. The aim of this case study is to report the successful use of the AngioVac system in conjunction with veno-venous extracorporeal membrane oxygenation (VV-ECMO) for the removal of a large thrombus located at the junction of the superior vena cava (SVC) and the right atrium in a critically ill patient.

Case report: 80-year-old patient underwent a lung computerized tomography (CT) due to suspected pulmonary embolism, which revealed a thrombotic mass in the SVC extending into the right atrium. SVC thrombosis can lead to significant hemodynamic instability and severe complications, such as pulmonary embolism or right heart failure. The patient had previously been treated for colorectal adenocarcinoma, sepsis, and acute abdomen. Given the complexity and location of the thrombus, conventional surgical intervention posed a high risk. The AngioVac system, designed for minimally invasive thrombus removal, was chosen as an alternative to surgery.¹

Conclusion: This case demonstrates the effective use of the AngioVac system in combination with VV-ECMO for the safe and successful removal of a large thrombus located in the SVC extending into the right atrium. The use of AngioVac minimized the need for surgery and reduced the risk of embolization, while maintaining hemodynamic stability with ECMO support.

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LITERATURE

1. Basman C, Rashid U, Parmar YJ, Kliger C, Kronzon I. The role of percutaneous vacuum-assisted thrombectomy for intracardiac and intravascular pathology. *J Card Surg.* 2018 Oct;33(10):666-672. <https://doi.org/10.1111/jocs.13806>