

Percutaneous Suction Thromboembolectomy Improves Right Ventricular Function

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Abstract Id: 11 Submitted: August 25, 2016 Event: Controversies and Advances in the Treatment of Cardiovascular Disease: The Sixteenth in the Series Topic: Endovascular Surgery

PURPOSE: Venous thromboembolism is a leading cause of cardiovascular mortality. Historically, the role of surgical intervention was limited due to high morbidity. Pharmacologic treatment alone can be inadequate for patients with significant hemodynamic compromise, leading to interest in less invasive procedures to reduce clot burden. Here, we describe our initial experience using the AngioVac System to percutaneously remove thromboemboli with a suction cannula and filtered extracorporeal circuit.

METHODS: All suction thromboembolectomies 2013-2015 were retrospectively reviewed. Outcomes included demographics, hemodynamics, cardiac function by TTE and survival to discharge.

RESULTS: Thirteen patients (mean age 56 ± 15 , 77% male) underwent suction thromboembolectomy. Ten (77%) survived to discharge; median follow-up was 74 [IQR 23-221] days. Preoperatively, 8 (62%) had severe right ventricular dysfunction, while postoperatively 10 (83%) had normal-to-moderate dysfunction and only 2 (17%) had severe dysfunction (Wilcoxon signed rank test $p=0.031$). Non-significant reduction in CVP was observed from 16 [IQR 5-23] to 13 [IQR 9-18] ($p=0.719$).

CONCLUSION: Percutaneous suction thromboembolectomy is a promising new therapeutic option for patients with venous thromboembolism that appears safe and improves right ventricular function.