

## Case Study: PCCS with RVAD BVS 5000

### Patient Data

**Indication for Use:** Post-cardiotomy cardiogenic shock (PCCS)  
**Type of Support:** RVAD BVS 5000  
**Age:** 37      **Sex:** Male  
**Weight:** 83 kg      **Height:** 67 inches      **BSA:** 1.8 m<sup>2</sup>  
**Blood Type:** O positive

### Surgical Data

**Surgical Procedure:** Mitral valve replacement,  
RVAD BVS 5000 implantation  
**CPB Time:** 84 minutes  
**Cross Clamp:** 68 minutes

### Patient Hemodynamics

	Pre-Implant	On-Support	Explant (PO Day #9)
<b>MAP:</b>	109/69	118/70	94
<b>CVP:</b>	15	19	14
<b>PAP:</b>	27/16	64/39	30/15
<b>CO (L/min):</b>	—	5.1	4.25
<b>CI (L/min):</b>	1.6	2.8	2.3
<b>EF (RV):</b>	<10%	—	>35%
<b>Creatinine:</b>	1.2	1.7	1.7

### Anticoagulation

Heparin therapy started 21 hours after implant of RVAD  
aPTT: 63-88 seconds

**Implanting Surgeon:** Dr. Barry Davis,  
Greenville Memorial Hospital  
**Explanting Surgeon:** Dr. John Ikonomidis,  
Medical University of South Carolina

**Clinical Consultant:** Barbara Battle

### History

On June 28, 2006, Mr. Andrew Sarricchio, Jr., was admitted to Greenville Memorial Hospital (GMH) in Greenville, South Carolina with complaints of chest pain and shortness of breath. The patient had a history of mitral and tricuspid regurgitation and evidence of mild heart failure.

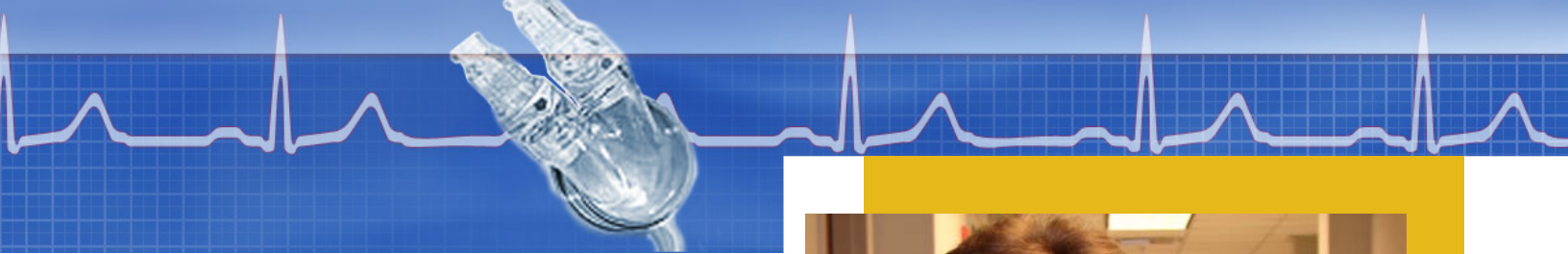
### Clinical Course

On July 2, 2006, the patient was taken to the Operating Room (OR) by Dr. Barry Davis where a mitral valve repair was performed. Following several unsuccessful attempts to wean from bypass, including placement of an intra-aortic balloon pump (IABP), the patient was placed on BVS<sup>®</sup> 5000 right ventricular assist device (RVAD) support.

### Operative Summary

A 32Fr atrial cannula was placed in the mid-free wall of the right atrium and a 10 mm arterial cannula was anastomosed end to side to the anterior surface of the main pulmonary artery (PA). Total bypass time was 84 minutes with a cross clamp time of 68 minutes. Heparin was completely reversed with Protamine and the IABP was removed in the OR. Patient received 4 units of packed red blood cells, 10 units of platelets, 4 units of fresh frozen plasma and 2 units of cryoprecipitate. The RVAD flow was stable at 5.1 L/minute. The patient was transferred to the cardiovascular intensive care unit (CVICU) hemodynamically stable on Levophed<sup>®</sup> and Epinephrine with the sternum open.

*For additional information, please refer to the Instructions for Use (IFU) found at [www.abiomed.com/products/ifus.cfm](http://www.abiomed.com/products/ifus.cfm).*



## ***Post-Operative***

### **Post-Operative (PO) Day #2**

Dr. Davis contacted the Medical University of South Carolina (MUSC) for consultation concerning transfer. The sternum was closed in anticipation of transport. Heparin was started 21 hours after RVAD implantation. The patient's pO<sub>2</sub> was 40. Due to difficulty with oxygenation, the perfusion team spliced a Medtronic carmeda coated oxygenator into the BVS outflow blood tubing. Oxygenation was improved. The patient's cardiac flows remained stable on 2mcg/kg/min of Levophed® and .05mcg/kg/min of Epinephrine.

### **POD #3**

The patient arrived at MUSC under the care of Dr. John Ikonomidis. RVAD flows were poor, chest X-ray revealed venous cannula tip in the superior vena cava (SVC). The patient was taken the OR for cannula re-positioning and hematoma evacuation. Flows improved and remained stable at 4.4 L/minute, mean arterial pressure (MAP) 118/70, central venous pressure (CVP) 19 and pulmonary pressure elevated at 64/39. Oxygenator remained inline on low doses of Epinephrine and renal dose Dopamine.

### **POD #7**

The oxygenator was discontinued and patient remained stable.

### **POD #9**

Patient was returned to the OR and was successfully weaned following explant of the RVAD. Patient remained at MUSC for an additional week and was transferred to the step down unit at GMH for rehabilitation including walking on a treadmill.

### **POD #39**

Patient was discharged with native heart recovery from GMH. Today he is back at home with his family.



*Andy Sarricchio and his daughter, Allyson*

***“I am grateful to Abiomed and all the medical staff for giving me a second chance at life, now I'm able to still be here for my wife and daughter. I am thankful that this technology was there when I needed it,” says Andy Sarricchio.***