Sudden Blood Loss During Exploratory Laparotomy Case Study

INTRODUCTION

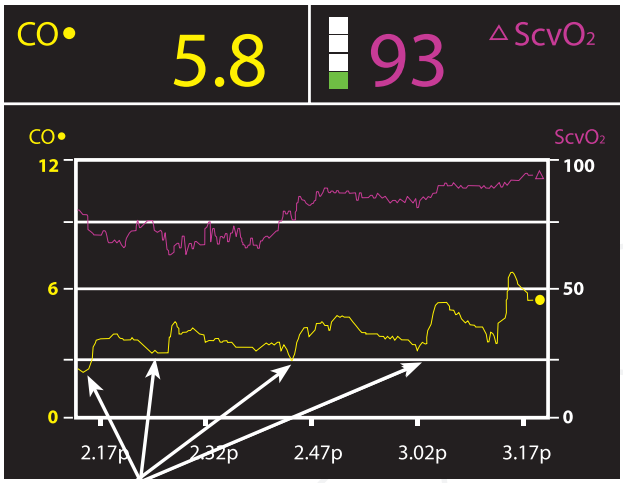
New minimally invasive monitoring tools can be extremely valuable when guiding fluid resuscitation in cases with anticipated or sudden unexpected blood loss. Arterial pressure-based cardiac output (APCO) monitoring and central venous oximetry enable clinicians to manage patients oxygen delivery more precisely than traditional vital signs alone. Stroke Volume Variation (SVV), a parameter available with APCO monitoring, has been shown to be a sensitive indicator of a patient s preload responsiveness.

Clinical Events

Patient Details:	72-year-old female, 5 2 , 72.7 kg
Medical History:	Previous medical history revealed hypertension

CASE NOTES

The patient experienced a sudden 2-liter blood loss due to intraoperative complications during the removal of a large peri-vaginal mass. Minimally invasive monitoring was initiated with a left radial arterial line and arterial pressure-based cardiac output (APCO) sensor (Edwards FloTrac sensor, Edwards Lifesciences, Irvine, CA, USA) along with a right internal central venous oximetry catheter (Edwards PreSep catheter, Edwards Lifesciences, Irvine, CA, USA) and monitored using a dedicated monitor (Edwards Vigileo monitor, Edwards Lifesciences, Irvine, CA, USA). Stroke Volume Variation (SVV) was used to monitor the patient s preload responsiveness and guide blood and saline resuscitation. Normal saline and blood were infused rapidly through the PreSep catheter to achieve SVV values of less than 13% during duration of the patient s surgery. Total volume replacement included 6 units of packed red blood cells and 4 liters of normal saline.



Points of Volume Infused

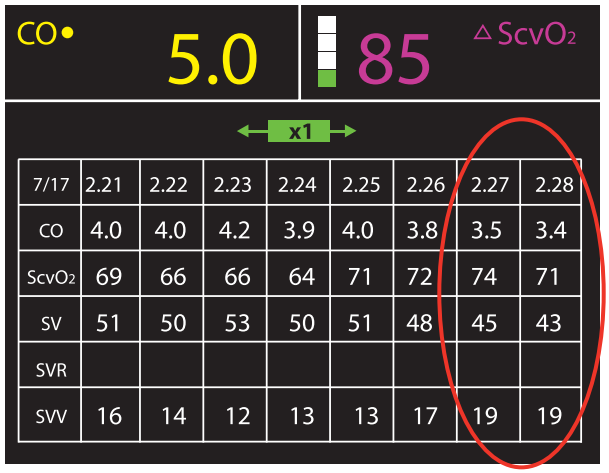
For additional case studies visit www.Edwards.com/FloTrac

Edwards

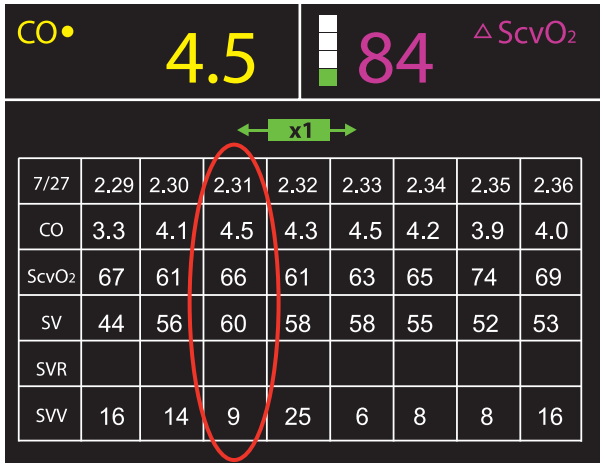
DISCUSSION

The application of this less-invasive, easy-to-use hemodynamic monitoring device allowed the clinician to appropriately manage fluid resuscitation in the face of large and ongoing blood loss. SVV was used to establish the patient s preload responsiveness and guide fluid resuscitation throughout the surgical procedure preventing over or under resuscitation. One aberrant SVV value of 25% was noted at 2:32 secondary to an arrhythmia. Cardiac output was optimized as the primary component of DO_2 and the adequacy of delivery was confirmed with $ScvO_2$.

Submitted by:
John Frazier RN, RRT
Clinical Marketing
Edwards Lifesciences
Irvine, California USA



SVV Increased to 19%



SVV Decreased to 9 -8% after volume

Edwards Lifesciences
Irvine, USA | Nyon, Switzerland | Tokyo, Japan | Singapore, Singapore | São Paulo, Brazil
edwards.com

Edwards