



NEW EVIDENCE AGAINST INVASIVE METHOD

Thursday, 13 October, 2005: Significant new studies have been released in the United States, further challenging the current “gold standard” for the measurement of Cardiac Output.

The October edition of the prestigious Journal of the American Medical Association has presented 2 substantial new studies questioning the usefulness of the Pulmonary Artery Catheter (PAC) and in an editorial, calls for a review of practice associated with its use.

USCOM Limited (ASX Code: UCM) manufactures and distributes a completely non-invasive alternative to the PAC.

The first of the two US studies, The ESCAPE trial, was prematurely halted when the National Heart, Lung, and Blood Institute data safety monitoring board cited concerns about excess adverse events. The authors of the study stated, *“Based on ESCAPE, there is no indication for routine use of pulmonary artery catheterization to adjust therapy during hospitalization for decompensation of long-term heart failure.”*

The study found that the use of PAC significantly increased in-hospital adverse events; 47 versus 25 (P=0.04), and did not increase survival, improve exercise tolerance, or improve quality of life. The study concluded that the PAC does more harm than good when used in patients who are hospitalized for severe congestive heart failure. Additionally the Authors felt that *“Future trials should test non-invasive assessments with specific treatment strategies.... To better tailor therapy for both survival time and survival quality...”*

In an editorial accompanying the two new studies, Dr Jesse B. Hall, M.D. of the University of Chicago wrote that the data *“collected to date certainly do not support the routine use of the catheter in any patient group, and the currently available information could be viewed as justifying ‘pulling the pulmonary artery catheter’ from routine use, a suggestion made almost 10 years ago.”*

This publication comes in the same month that an USCOM trial was published in another important US journal, the Annals of Thoracic Surgery, concluding that *“Using USCOM, it is possible to determine non-invasive ...CO in post cardiac surgical patients without the possible complications of PAC.”*

In the second JAMA study, a meta-analysis of 13 randomised clinical trials using the PAC, found that routine use *“neither improves outcomes in critically ill patients nor increases mortality or days in the hospital.”* The take home point, according to Dr. Shah and colleagues, is that pulmonary artery catheterization *“should not be used for the routine treatment of patients in the ICU, patients with decompensated heart failure, or patients undergoing surgery.....”*

Commenting on the JAMA publications, the Chief Executive of USCOM Limited, Mr Rob Phillips said, *“This is a very important global health issue and these publications certainly endorse the USCOM position that non-invasive CO assessment is the goal. We have always believed in non-invasive care. Our current collaborative research is exciting with preliminary results confirming that USCOM is a more accurate and sensitive measure of haemodynamics than the PAC and is non-invasive. In combination with the JAMA publications, this has important ramifications for future clinical practice and supports the adoption of USCOM as a global standard of care.”*