

Transpulmonary thermodilution: Uses and limitations

Introduction of the transpulmonary thermodilution technique has made it possible to measure several important hemodynamic and pulmonary variables in the clinical setting. The system requires the use of a central venous catheter and thermistor-tipped arterial catheter. A 15-ml bolus of iced normal saline was injected through a central venous catheter, and the thermodilution curves were recorded from the thermistor of the arterial catheter to allow for estimation of the variables. The system provides data on the cardiac output and global end-diastolic volume for hemodynamic variables. It also provides data on extravascular lung water (which allows us to assess the degree of pulmonary edema) and pulmonary vascular permeability index (which can be used to differentiate between cardiogenic and non-cardiogenic pulmonary edema).

In this talk, I will discuss the basic applications and limitations of this system. In addition, I will introduce a novel quantitative diagnostic framework for evaluating pulmonary edema.