

## **ABSTRACT**

Hemodynamic instability occurs very often in critically ill patients and during the perioperative period. Insufficiency in the preload, contractility and afterload contribute in major part to this phenomenon. Hemodynamic monitoring allows clinicians to recognize and to intervene early the underlying cause. Due to new technologies development in recent years it is possible to provide continuous monitoring of hemodynamic parameters with diminished invasivity. Hemodynamic optimization and goal directed therapy show treatment benefit in some groups of critically ill patients and mainly during the perioperative period. Aim of hemodynamic optimizations is to attain the best obtainable hemodynamic conditions with use of fluid loading and inotropic support. In many studies in recent years goal-directed therapy was associated with morbidity and mortality reduction. According to the results of our clinical research hemodynamic optimization using stroke volume variation and minimally invasive device based on the pressure wave analysis is feasible and show the same results as other works with more invasive devices.

## **Key words**

Hemodynamic monitoring, goal-directed therapy, hemodynamic optimization, critical illness, perioperative care, fluid loading, stroke volume variation, pulse wave analysis