Category :**Cardiovascular: Monitoring**

A54 - ***Personalized hemodynamics - influence of underlying disease on hemodynamic parameters***

J Steibl [1] ; S Rasch [1] ; S Schmid [2] ; T Lahmer [1] ; R Schmid [1] ; W Huber [1]

[1]Klinikum Rechts der Isar der Technischen Universität München, Klinik und Poliklinik für Innere Medizin II, München, Germany, [2]Universitätsklinikum Ulm, Klinik für Anästhesiologie und Intensivmedizin, Ulm, Germany

Introduction:

Sepsis and ARDS remain pathologies with high mortality in ICUs, despite decades of advancement. We exploratively investigated hemodynamic monitoring parameters derived from transpulmonary thermodilution (TPTD) and their interrelation among 3 distinct groups of patients with multiorgan failure.

Methods:

We analyzed data of a prospectively maintained database including 1495 TPTD-measurements (PiCCO;Pulsion;Germany) of 81 ICU-patients in 3 groups: 30 Sepsis(SEP) patients, 18 with Pneumonia/ARDS (PUL) and 33 with HRS, GI-bleeding, pancreatitis or other (HBPO).Primary endpoints: TPTD parameters of hemodynamic profile(HI,GEDVI,ELWI), mortality.To create a total PiCCO predictive probability of death score (T3PDS; Min 0, max 15), the last 5 TPTD measurements of HI>3, GEDVI >700 and ELWI <10 in ICU were analyzed.

Results:

Patients: 55.6% female, age 67±13.4y; APACHEII 20.4±7.9, SOFA 10±4.7, SAPSII 43.6±17.In-ward mortality 39.4%HBPO, 50%PUL, 30%SEP, add. postICU mortality in SEP of 13.3% (p=.084). SEP group showed a significantly elevated heart rate (p=.019), a decreased MAP(p<.036) and lower CVP(p<.004). PUL and SEP groups showed decreased GEF(p=.009) and prolonged ICU stay(p <.025). A median split dividing short and long term ICU stays failed to prove a significant difference in mortality among the groups (p < .914).The established T3PDS showed a 1.21x increase for SEP(p=.028) and a 1.24x increase of probability for PUL(p=.023) to die with higher scores.The T3PDS cut-off analysis showed a probability of death increase with >6.4 pts (AUC:0.86±0.1, 95%, p=.021).

Conclusion:

The study shows that the commonly used algorithms in achieving hemodynamic stability provide a solid therapeutic concept irrespective of the underlying cause. In case of septic patients we recommend early and continuous monitoring in case of typical signs of tachycardia, hypotension and high CVP. We advise to consider a prolonged stay for septic patients. The T3PDS has to be validated in a larger patient population.