The Multicenter, Prospective COSMOS (CytOSorb® TreatMent Of Critically Ill PatientS) Registry: Preliminary outcome after first 100 patients

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Background

The International COSMOS Registry tracks utilization patterns and clinical outcomes of the CytoSorb® hemoadsorption device in real-world critical care settings.

Methods

The International COSMOS Registry has enrolled patients since July 2022 gathering prospective data from consecutive critically ill patients, including children, who receive CytoSorb® as part of their standard care. Data is collected at various points: before and during CytoSorb®, 24 hours after treatment, at Intensive Care Unit and hospital discharge, and day 90.

Results

A total of 100 patients were included in this analysis. CytoSorb® was applied for various critical care indications (Figure 1), mean number of used adsorbers was 2.5 ± 2.14.

Mean APACHE II was 23.5 and SOFA score 12.0 over the whole cohort with an actual ICU-mortality rate of 40.4% and a median ICU stay of 17 days. In the sepsis sub-cohort median SOFA score before CytoSorb® Therapy was 13.0 whereas actual ICU-mortality was 41.5%, lower than expected according to SOFA score. Compared to baseline significantly lower plasma levels for lactate ($p<0.0001$) and creatinine ($p<0.0001$) were observed after CytoSorb® treatment whereas albumin did not change . Mean norepinephrine (NE) dosage went down significantly from 0.909 to 0.386 µg/kg/min ($p=0.030$) and NE/MAP ratio from 0.012 to 0.005 ($p=0.033$).

Conclusions

The International COSMOS Registry delivers real world data and depicts a broad variety of indications and platforms for integration of the device. Lactate, creatinine and need for norepinephrine decreased significantly during CytoSorb® treatment.