

## **Additional File 2: Secondary outcomes**

### Safety

#### *Renal function*

- Serum creatinine (SCr)
- Serum blood urea nitrogen (BUN)
- Estimated glomerular filtration rate (eGFR) (calculated)
- Need and indication of renal replacement therapy (RRT)
- Urine output
- Kidney Disease Improving Global Outcome (KDIGO) score (calculated) [1]

#### *Coagulation*

- Prothrombin time (PT)
- Activated partial thromboplastin time (aPTT)
- International norm ratio (INR)
- Site specific measurements (Austria):
  - Fibrinogen
  - Antithrombin (AT)
  - Platelets absolute

#### *Hepatic function*

- Bilirubin

#### *Adverse Events*

- (Serious) adverse events ((S)AEs) / reactions ((S)ARs)

#### *Need for blood products*

- Number of red blood cell (RBC) units
- Number of fresh frozen plasma units
- Number of other blood products

#### *Concomitant therapies / medication*

- Vasopressor therapy
- Inotropic therapy
- Antibiotic therapy
- Nephrotoxic therapy
- Contrast agents
- Anticoagulation therapy

## Efficacy

### *IP and background medication*

- Volume needed to achieve first / initial haemodynamic stability (HDS)
- Total volume until 48 h after randomization
- Number of administered bottles

### *Crystalloids for further volume treatment*

- Type of crystalloid and volume

### *Fluid balance*

- Fluid intake
- Fluid output
- Fluid balance

### *Haemodynamics*

- Volume responsiveness (mean arterial pressure (MAP) and stroke volume index (SVI) upon passive leg raising (PLR) or exogenous fluid challenge, respectively)
- Haemodynamic parameters (if available)

### *Tissue oxygenation and acid base balance*

- Arterial (preferably) blood gas analysis (BGA)
  - Partial pressure of carbon dioxide (pCO<sub>2</sub>)
  - Partial pressure of oxygen (pO<sub>2</sub>)
  - Bicarbonate
  - Arterial oxygen saturation (SaO<sub>2</sub>)
  - Haemoglobin
  - Haematocrit
  - Potentia Hydrogenii (pH)
  - Base excess
  - Lactate
  - Serum electrolytes (Sodium, Potassium, Calcium, Chloride)
  - Central venous oxygen saturation (ScvO<sub>2</sub>)
- Lactate decrease
- Arterial oxygen content (calculated)
- Oxygen delivery (calculated)

## Clinical outcome

- Fulfilment of intensive care unit (ICU) discharge criteria
- Length of stay (LOS) in the ICU
- Hospital LOS
- Patient on RRT (Indication for RRT, Days on RRT)

- Patient on invasive mechanical ventilation (Number of ventilator free days)
- Number of infection free days
- Number of antibiotic free days
- Number of vasopressor free days
- Study termination

### Follow-up

- Colloid therapy retrospectively from ICU discharge until hospital discharge or day 28, whatever occurs first
- Retrospectively, last available SCr value documented from ICU discharge until day 28 or hospital discharge
- Mortality & cause of death (if applicable)
- Health-related quality of life (HRQoL questionnaire, EQ-5D-5L™, EuroQol Group [2])
- New RRT / kidney disease

### Demographics and Anamnesis

#### *Demographic data*

- Age
- Gender
- Height
- Weight
- Body surface area (BSA)
- Ethnicity
- Type of patient (e.g. trauma patient, surgical patient)

#### *Anamnesis*

- Fluid input in the 24 h prior to randomization
- RBC treatment prior randomization
- Origin of sepsis
- Causative organism of infection
- Medical history

#### *Morbidity scores and temperature*

- Acute Physiology And Chronic Health Evaluation (APACHE) II [3]
- Sequential Organ Failure Assessment (SOFA) [4]
- Temperature

#### *Sepsis*

- Procalcitonin (optional)
- Severe sepsis / septic shock (2<sup>nd</sup>, 3<sup>rd</sup>, ... episode)

## References:

1. KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. 2013;3(1), 1-150. <https://www.sciencedirect.com/journal/kidney-international-supplements/vol/3/issue/1>. Accessed 17 March 2021.
2. Herdman M, Gudex C, Lloyd A, Janssen M, Kind P, Parkin D, et al. Development and preliminary testing of the new five-level version of EQ-5D (EQ-5D-5L). *Qual Life Res.* 2011;20:1727-36.
3. Knaus WA, Draper EA, Wagner DP, Zimmerman JE. APACHE II: a severity of disease classification system. *Crit Care Med.* 1985;13(10):818-29.
4. Vincent JL, Moreno R, Takala J, Willatts S, De Mendonça A, Bruining H, et al. The SOFA (Sepsis-related Organ Failure Assessment) score to describe organ dysfunction/failure. On behalf of the Working Group on Sepsis-Related Problems of the European Society of Intensive Care Medicine. *Intensive Care Med.* 1996;22(7):707-10.