Category :**Sepsis/septic shock: management**

A59 - ***Neutralization circulation histone with sodium-β-o-methyl cellobioside sulphate in sepsis (a prospective randomized double-blinded placebo-controlled preclinical trial)***

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Introduction:

High circulation levels of histones was correlated to sepsis severity and worse outcome. Our hypothesis was that the neutralization of histones with Sodium-β-O-Methyl cellobioside sulphate (STC3141, from Grandpharma, China) in sepsis might improve sepsis outcome.

Methods:

Sepsis was induced by fecal peritonitis in twenty-four mechanically ventilated, hemodynamically monitored female sheep. Animals were randomized to three groups control, concurrent treatment (CuT) and post treatment (PT) group (N=8 each) after surgical preparation and stabilization. STC3141 was given as bolus (1mg/kg) + continuous (1ml/kg/h). It was started at sepsis inducement in the CuT group and 4 hrs after in the PT group. During the first 4 hrs, fluid was maintained at 2ml/kg/h. 4 hrs after sepsis, fluid resuscitation (maintain pulse pressure variation <13%), antibiotics and peritoneal lavage were administrated, and norepinephrine was given to maintain mean arterial blood pressure>65mmHg if necessary. Experiment lasted for 24 hrs.

Results:

During the first 4 hrs, MAP was maintained in the CuT group, while dropped significantly in the PT and Control group. Significantly lower dose of NE and lactate levels was observed in the two treatment groups compared to the control group. Impaired sublingual microcirculation significantly improved at 6hrs in the two treatment groups at 18 hrs in the PT group. Survival benefit tended to be longer in the two treatment groups (P = 0.075).

Conclusion:

Neutralization histone with STC3141in sepsis quickly stabilized hemodynamics with less NE utilization, ameliorated impaired microcirculation and improved tissue perfusion, which might provide a new therapeutic approach for sepsis.