Category :**Liver disease**

A211 - ***Cytokine adsorption in patients with acute-on-chronic liver failure (cytohep) – a clinical trial protocol of a single center, open-label, randomized, controlled intervention trial***

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Introduction:

During recent years the evolution of systemic inflammation in patients with progressing hepatic decompensation and acute-on-chronic liver failure (ACLF) has been recognized and identified as an important trigger of extrahepatic organ failures [1-3]. In theory one assumes that reduction of pro-inflammatory cytokines helps to gain control over the systemic inflammation process, hereby preventing further progress of ACLF and improve survival.

Methods:

The CYTOHEP study is designed to assess the benefit of extracorporeal hemoadsorption using the CytoSorb (CytoSorbents Corporation, Monmouth Junction, NJ, USA) device in patients with ACLF. The CytoSorb device will be used in addition to continuous renal replacement therapy (CRRT) for 72 hours and will be compared to a control group treated with CRRT alone. For safety assessment, a third group will be assessed without CRRT and extracorporeal hemoadsorption. All patients will be randomized in a 1:1:1 fashion in one of the study groups.

Results:

Our primary endpoint of the study is that extracorporeal hemoadsorption using the CytoSorb adsorber in combination with CRRT in patients with ACLF is a safe and efficient method to reduce bilirubin. In order to gain more insight into the pathogenesis of ACLF and to better understand the mode of action of the CytoSorb device a broad array of inflammatory parameters are examined.

Conclusion:

The extracorporeal hemoadsorption with CytoSorb is clinically widely applied but lacks reliable evidence. Its application in ACLF is not justifiable since randomized controlled studies are non existent. The CYTOHEP study attempts to elucidate the role of extracorporeal hemoadsorption in the systemic inflammation process and progress of ACLF and represents an innovative and novel approach in the therapy of ACLF.

References:

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[2] Claria J et al. Hepatology. **69**(4):1686-1701, 2019.
[3] Moreau R et al. J Hepatol. **72**(4):688-701, 2021.