

Hemoperfusion EXPERIENCE IN SARS-COV-2 PATIENTS

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Objective: Demonstrate that Hemoperfusion (HP) is effective to relieve the covid-19 Hyperinflammatory syndrome (cHIS). To assess the role of convective and adsorptive therapies as organ support in COVID-19 patients. Compare the effectiveness of continuous (CHP) vs intermittent (IHP).

Method: Cohort prospective study in 24n COVID-19 critical ill patients. IHP (JAFRON HA 330 cartridge) 2-1-1 scheme was used and CHP scheme consisted of 48h treatment (CYTOSORB cartridge), 24h each one. The outcomes were IL-6, ferritin, LDH, D-Dimer, lymphocyte seric levels pre and post intervention and finally mortality. T-student test was developed for median difference. Therefore length of ICU stay, ventilation mechanical and vasoactive drugs dependence were analyzed. In AKI patients who start continuous renal replacement therapy (CRRT), the dialytic modality and prescribed dose was continuous venovenous hemodiafiltration (CVVHDF) 35 ml / kg / h with HP on series.

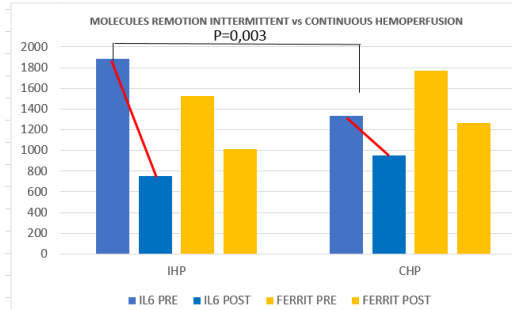
Results: Age mean 65y, MCI 30,21 (SD 4,5) CALL score 9,96 (SD 2,25), SOFA mean 11,7 (SD 1,8), Mellitus Diabetes 25%, Cardiovascular disease 41,7%, Chronic Respiratory Diseases 4%, Neoplasia 4%. Comparing IHP group vs CHP the IL-6 mean decrease 60% vs 29% (p=0,003), Ferritin decrease 33% vs 29%; LDH 32% vs 2%. All patients met criteria for cHIS, The total mortality was 42,8% (IHP 38%) (CHP 50%)

Conclusion: Based on SARS-CoV-2 pathophysiology, a rationale emerges for HP in order to remove inflammatory mediators; The HP efficacy to combat cytokine storm is better evidenced with intermittent HP than continuous HP. The mortality is understandably high in critically ill patients with severe mortality scores. However the results are encouraging and apparently show more efficiency in Intermittent HP technique.

Variable (median) 24n	PRE TREATMENT	POST TREATMENT	Discharge
Lymphocytes	1132	1247	1788
Ferritin (ng/ml)	1624	1106	904
D-Dimer (ng/ml)	2216	2172	1571
IL-6 (pg/ml)	1532	856	671
LDH	525	425	310
Creatinine (mg/dl)	2	1	1
PEEP	11	9	

Table 1. General group

VA (ug/ml/min) <u>máx</u> / <u>dependence days</u>	0,6 / 9,5
ICU <u>stay days</u>	19,5
MV <u>days</u>	15,8
Total <u>Mortality</u>	42%
IHP <u>Mortality</u>	38%
CHP <u>Mortality</u>	50%



Vicenza Course on AKI&CRRT
a week of virtual meetings

2-6 November 2020