# LABORATORY PARAMETERS (PROCALCITONIN, INTERLEUKIN-6 AND CRP) DYNAMICS DURING THE TREATMENT WITH CYTOKINE ADSORPTION (HA-330 ADSORBER)

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**Objective:** to evaluate the dynamics of procalcitonin, IL-6 and CRP during the treatment with cytokine adsorption.
**Methods**. The investigation included COVID-19 patients with multiple organ failure, subtotal lung injury with ARDS and received CRRT due to acute kidney injury. Patients were categorized into 2 groups according to exctracorporeal hemocorrection treatment regimen. The 1st group received conservative therapy, CRRT and 3 hemoadsorption (HA) with cytokine adsorber HA-330. The indication for starting HA was sepsis. The second group received conservative therapy and CRRT. HA regimen with cytokine removal Hemoadsorber – HA-330: duration 6 hours with interval between procedures12 hours.
**Results:**

| Parameters | Before HA, Median [25 %'s-75 %'s] | HA1, Median [25 %'s-75 %'s] | HA2, Median [25 %'s-75 %'s] | HA3, Median [25 %'s-75 %'s] | P-value (Friedman ANOVA) |
|---|---|---|---|---|---|
| Procalcitonin (normal range 0.0-0.5 ng/ml) | 3.6 [1.65-33.3] | 4.61 [1.38-11.61] | 2.33 [1.15-4.2] | 0.493 [0.15-1.44] | 0.029 |
| IL-6 (normal range 0.0-6.4 pg/ml) | 417 [166-980] | 155.4 [97.74-2816] | 63.14 [17.61-127] | 73.16 [21.96-224.9] | 0.04 |
| CRP, mg/dl | 21.7 [8.58-125.9] | 28.97 [9.84-121.4] | 23.2 [11.2-166] | 70.5 [10-161.5] | 0.42 |

Comparison of these indicators by Friedman ANOVA showed statistically significant decrease in procalcitonin and IL-6 levels after the 2d HA. After the 3d HA IL-6 slightly icreased againg. Then 4 groups were compared with each other by Wilcoxon test, which revealed statistically significant decrease in the levels of procalcitonin (p=0.04) and interleukin after 2 hemoadsorption procedures (p=0.04). Changes in the CRP level in both cases remained statistically insignificant.
**CONCLUSIONS:** Therapy with the cytokine adsorber HA-330 showed statistically significant decrease of procalcitonin and IL-6 levels in dynamics after the second procedure. So, it is necessary to consider the issue of continuous cytokine adsorption for the 1st 24 hours or more, possibly in combination with CRRT, since one of the indications for CRRT is an acute respiratory distress syndrome in adults.