Introduction:
Cytokines Hemoadsorption (HA) might improve outcomes of patients undergoing cardiac surgery with cardiopulmonary bypass (CPB). However, the effect of HA on coagulation factors remains unknown. This sub study nested within a randomized control trial comparing HA device with standard of care (NCT02775123) aims at evaluating the effect of a cytoadsobent device on coagulation factors activity.

Methods:
A Cytosorb® (Cytosorbents, New Jersey, USA) HA device was inserted within the CPB circuit in ten patients undergoing elective cardiac surgery. One hour after CPB onset, the activity of coagulation factors (Antithrombin (AT), von Willebrand Factor (vWF), factors II, V, VIII, IX, XI, and XII) were measured before and after the device. Pre and post device measurements were compared using student t-test, a p value <0.05 was considered statistically significant.

Results:
Patients’ mean age was 60.6 ± 21.4 years, 20% were female, the mean EuroSCORE II was 6.2 ± 8.1. Procedures were: coronary artery bypass graft (CABG) (2/10), aortic root replacement (6/10) and CABG combined with aortic valve replacement (2/10). Mean CPB duration was 161.8 ± 52.3 min. Pre and post HA measurements of coagulation factors activity are presented in Figure 1. There was no statistically significant difference between pre-and post- HA measurements for any of the coagulation parameters

Conclusion:
The activity of coagulation factors was not different before and after a HA Cytosorb® device inserted in a CPB circuit. Further analyses accounting for CPB fluid balance, the entire study population and timepoints are pending.
Comparison of mean activity levels of coagulation parameter factors pre and post device. Error bars correspond to standard deviation.